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Issue(s): Operational Review of Storm Uri

Performance

Witness: John P. Olsen

Type of Exhibit: Direct Testimony Sponsoring Party: The Empire District

Electric Company

Case No.: EO-2022-0040

Date Testimony Prepared: January 2022

Before the Public Service Commission of the State of Missouri

Direct Testimony

of

John P. Olsen

on behalf of

The Empire District Electric Company

Case No. EO-2022-0040



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DIRECT TESTIMONY OF JOHN P. OLSEN THE EMPIRE DISTRICT ELECTRIC COMPANY BEFORE THE MISSOURI PUBLIC SERVICE COMMISSION CASE NO. EO-2022-0040

1 I.	INTRODUCTION
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- 2 Q. Please state your name and business address.
- 3 A. My name is John P. Olsen and my business address is PO Box 38 in Kirkland,
- 4 Washington.
- 5 Q. By whom are you employed and in what capacity?
- 6 A. I am employed by Utilicast as a Consultant.
- 7 Q. On whose behalf are you testifying in this proceeding?
- 8 A. I am testifying on behalf of The Empire District Electric Company ("Liberty" or the
- 9 "Company").

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- 10 Q. Please describe your educational and professional background.
- 11 A. I received a Bachelor of Science in electrical engineering from the University of 12 Nebraska – Lincoln and a master's in business administration from the University of 13 Phoenix. I joined Utilicast in January of 2021 after retiring from Evergy in October of 14 2020. During part of my tenure at Evergy, I was in charge of the energy marketing and 15 trading efforts. These efforts included the economic dispatch, natural gas, coal, and 16 fuel oil procurement, and energy trading operations to manage a 5,000 MW generation 17 fleet fueled by nuclear, coal, natural gas, fuel oil, and wind to serve our native load. I 18 led this team when the SPP launched its energy imbalance services market and the 19 current integrated market. I was very involved with multiple committees at the

Southwest Power Pool (SPP) serving continually on the Markets and Operating Policy

Committee (MOPC) from 2005 until my retirement from Evergy. During my tenure

1	on the MOPC, I served as the vice-chair and chair. I also served various terms on other
2	SPP committees and task forces, namely the Strategic Planning Committee, the
3	Economic Studies Working Group, the Competitive Transmission Planning Task
4	Force, and chaired the Schedule 1A task force. My resume is attached as Schedule JO-
5	1 to this testimony.

- Q. Have you previously testified before the Missouri Public Service Commission
 ("Commission") or any other regulatory agency?
- A. I have not testified before this Commission, but I have testified and provided written testimony on behalf of Westar in front of the Kansas Corporation Committee and provided written testimony to the FERC for various rate proceedings.
- 11 Q. What is the purpose of your Direct Testimony in this proceeding?

A. The purpose of my testimony is to outline and explain the independent operational review conducted by Utilicast relating to Liberty's actions before, during, and after the three severe winter storm events that occurred in February 2021 ("Winter Storm Uri"). Specifically, my testimony explains and supports Utilicast's findings and conclusions that "EDE operated proactively, prudently, and in compliance with its emergency operations and winter preparedness procedures" and that "EDE demonstrated operations proficiency that meets and at times exceeds prudent utility practices." My specific testimony and opinions are set forth in the written report attached as Schedule JO-3 entitled "Review of Empire District Electric Company's Operations During the Winter Storm Event" ("Utilicast Report"). My testimony and the Utilicast Report establish that Liberty acted reasonably and in accordance with prudent utility practices in responding to and addressing Winter Storm Uri. That report addresses and explains

all of our findings, conclusions and recommendations relating to Liberty's operational responses to Winter Storm Uri.

3 Q. Who is Utilicast?

A.

4 A. Utilicast was founded in 2000. Our consultants average more than 10 years of industry
5 experience and have a breadth of contextual knowledge of the electric utility industry
6 trends and leading technologies to improve operations, security, and reliability.

7 Q. What was Utilicast tasked with performing for Liberty?

Liberty retained Utilicast to perform a comprehensive review of Liberty's generation, transmission and distribution operations and communications during Storm Uri, including evaluation of the Company's internal processes and procedures, emergency preparedness, fuel procurement, and other actions that would impact production and/or downtime. Put simply, Utilicast provided a comprehensive and detailed assessment of Liberty's operational performance as compared to industry best practices and prudent utility industry standards, including an assessment for continued improvement. Our analysis and report covered all aspects of Liberty's operations during Storm Uri, including generation operations, transmission and distribution operations, fuel procurement, power marketing, and customer communications. Due to the highly technical nature of this review, Utilicast created a team of industry professionals from the organization with specific expertise to thoroughly evaluate all of these operational areas. In addition to myself, the team consisted of the following individual experts in their fields:

1) Carl Monroe – Mr. Monroe provides quality and targeted expert advice, leadership, and consultation in the fields of general corporate strategy and operations, bulk power system operations, reliability standards, wholesale energy markets, planning, strategic

planning, process improvement, FERC tariffs, corporate governance, regulatory principles, and other areas associated with Electric Bulk Power System. Mr. Monroe has worked in North America and served for a time on the international board of operators of power exchanges. Mr. Monroe is also the former Chief Operations Officer of the Southwest Power Pool. 2) Andrew Hanson – Dr. Hanson has thirty years of experience in power system engineering, operations and consulting with significant experience in Advanced Distribution Management Systems (ADMS), Distribution Automation (DA), Field Area Communications, T&D Analytics, regulatory advice, and T&D system planning. His expertise is focused on power delivery system operations and planning, having led the development and implementation of systems, processes, deployment plans for a variety of utility clients. He has taught courses on forecasting and planning, as well as fundamental engineering. His work has been focused in North America and is a registered Professional Engineer several states. 3) Vikki Harper – Ms. Harper is an executive-level adviser with specialized expertise working across regional markets. She has 20+ years of experience in energy restructuring and has engaged with regulators, senior executives, and market participants. Ms. Harper has provided extensive assistance in project coordination, vendor management, contract negotiation, training, cost estimation, business processes documentation, and building functional specifications to meet regional market and regulatory mandates. 4) Frank McCamant – Mr. McCamant is an expert business and strategy development partner for organizations involved in energy resource management and smart grid development. Over the past 40 years, he has assisted both the public and private sectors

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to develop a strategic focus for their business development efforts and translate that
strategy into action. Mr. McCamant brings a wealth of executive-level relationships
and experience negotiating tough deals while crafting sound public policy, including
analysis of fuel procurement, emergency preparedness, wholesale power supply PPAs,
load resources, ERCOT market monitoring and analytics, off-take agreements and
other aspects of the electric industry.
5) Kiamran Radjabli – Dr. Radjabli is registered Professional Engineer in Ontario,
Canada and has over 30 years of experience in EMS/SCADA and real-time
applications, software integration, power network analysis, power system modeling,
and system simulation. In addition, he has experience in various commercial software
applications, implementation of modern technologies, feasibility studies, procurement
and bid evaluation processes, commissioning and performance testing of electrical
equipment and software, software development, large databases, software integration,
and control systems design.
6) Mike Viesca - Mr. Viesca is an experienced Public Affairs, Media Relations, and
Crisis Communications subject matter expert. He began his career as a TV journalist
and served as spokesman for three state government agencies, including the Texas
Attorney General's Office. Mr. Viesca has worked with Fortune 500 companies,
providing counsel on using various communication techniques to navigate legal and
regulatory hurdles. Mr. Viesca also worked for the nation's largest electric distribution
cooperative where he oversaw the communications/marketing, legislative affairs, and
community relations function while serving as a key member of the executive team.
The resumes of the Utilicast team members listed above is included as Schedule JO-2
to this testimony.

1 II. <u>UTILICAST WINTER WEATHER EVENT REVIEW</u>

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2	Q.	Provide an	overview	oi tne	iinaings	oi Utilicasi	review.

As explained above, Utilicast conducted an extensive and comprehensive review relating to Liberty's actions before, during and after Winter Storm Uri. Based upon on our analysis and review, Liberty operated proactively, prudently, and in compliance with its emergency operations and winter preparedness procedures and Liberty met and exceeded prudent utility practices relating to Winter Storm Uri

Q. Can you please explain in detail your findings and analysis.

A.

Yes, absolutely. Our detailed findings are set forth in the Utilicast Report. After our extensive review, we conclude that Liberty's overall performance during Winter Storm Uri was in line with prudent utility industry standards, demonstrated resiliency during a severe winter storm event and should be found to be prudent by the Commission. The following is a high-level summary of some of the key findings of the report.

Overall, Utilicast found that Liberty's operations team performed well during the extreme weather conditions presented by Storm Uri. Liberty did a good job of executing the cold weather plans the Company had in place in advance of the storm and the Company responded well to the adversity the storm presented, particularly given the extreme magnitude of the event. The generation operations team worked diligently to address weather impacted devices, keeping the plants operating, and working with Southern Star pipeline operations to address pipeline pressures outside of the Company's control to stabilize gas operations to the greatest extent possible under the circumstances.

The load shed events went well, except for one load restoration event on a circuit that had additional load caused by an abnormally switched circuit. The

communications team did a very effective job of keeping customers informed during these adverse operating conditions through use of multiple communication channels, including the Company website, traditional media, social media and other platforms. In no uncertain terms, Liberty's external communications were robust before, during, and after Winter Storm Uri. Those communications encouraged energy conservation and provided anticipated timing of service interruptions as well as duration of those outages. Information was duplicated on multiple channels to reach a variety of external parties. As conditions worsened, additional information was shared with the public through the Company website, traditional and social media, and with contact center representatives and field team members so they could accurately respond to customer questions. Emails were also sent to electric customers who had email addresses on file.

Q. Please Continue.

A.

Liberty management demonstrated the ability to actively learn and adjust processes in the midst of Winter Storm Uri, which positively impacted the Company's response. Our report describes how the Company used its prior experiences to effectively prepare for Storm Uri. For example, the Company purchased additional fuel oil before the storm began which was a direct result of experiences from the 2014 polar vortex and supply chain concerns during the unprecedented COVID pandemic. The Company's coordination with a neighboring utility to use winter ratings for a known transmission flow gate is another good example of a proactive measure related to current events.

The Southern Star pipeline operations proved to be the biggest challenge for Liberty-Empire during the extreme weather conditions. Pipeline and gas production issues created supply uncertainties that drove natural gas prices to unprecedented levels. Liberty proactively acquired natural gas supply to meet the projected plant needs

so that the Company was ready to serve customers. The Company also did a good job of working with suppliers to cancel some purchases as the negative impacts of the pipeline operations became better known, events that were outside of the Company's control and could not have been foreseen.

A.

Liberty also undertook best efforts to look out for customer's interests. Our report provides details about how Southern Star's responses to Winter Storm Uri were a source of great frustration to the Company, particularly given its position at the end of the Southern Star pipeline and thus subject to the impact of upstream consumers. The Company actively protested the request by Southern Star to waive all penalties and charges related to pipeline operational issues at FERC because the Company was significantly adversely impacted by the actions/inactions of others, which the penalty provisions were intended to address. In addition to the challenges at FERC regarding Southern Star, the Company is actively working with SPP on several disputes regarding market settlements and fighting for additional costs recovery for customers.

Q. Did the Company comply with prudent utility practices and standards in responding to Winter Storm Uri?

Absolutely. Our report outlines all the prudent and reasonable actions taken by the Company before during and after Winter Storm Uri. As stated in our Report, the Liberty "operations team performed well during the extreme conditions related to the Winter Storm Event. The Company revisited its cold weather plans, reviewed local shed plans and critical load lists and redeployed key operations personnel to secure operating locations." Based on our review of EDE's plant availability, when compared to other SPP market participants for February 15 and 16, the Company did exceed the

SPP average. The biggest impact to EDE's plant availability during Winter Storm Uri was caused by pipeline operational issues.

We do recommend areas of improvement in our report. Liberty should actively advocate for changes through the SPP stakeholder process regarding resource adequacy, market protocol changes, and SPP MMU activity regarding offer caps. The generation operations area can improve winter preparations by finalizing its draft winter preparation guides for each plant and then ensure the appropriate work orders are included in the Maximo system. The transmission, distribution, and corporate communications teams can develop a more comprehensive approach to ensuring critical loads are identified and appropriately documented for future load shed events. All teams should adopt an after-action review process and standard template to memorialize the lessons learned during the event and then create action plans to address areas for improvement.

I would emphasize, however, that those areas of improvement do not change or alter our conclusion that Liberty acted reasonably and in accordance with prudent utility practices in responding to Winter Storm Uri. As I stated above, Liberty's overall performance was in line with industry standards. We were also encouraged to see that most of our recommendations for continuous improvement were already being addressed prior to our report or were in the process of being addressed as our report was being constructed. Although the results for many affected by Winter Storm Uri were not desirable, based on the unique circumstances Liberty faced, and further detailed in our report, it is our opinion that the Company responded well to this situation. The Company purchased natural gas in January for delivery in February that was very favorably priced. The Company worked with counterparts to cancel portions

JOHN P. OLSEN DIRECT TESTIMONY

- of multiday natural gas purchases after pipeline issues became known. The Company also facilitated a call with Southern Star, Southwest Power Pool, and various Liberty-Empire operations team to manage the pipeline pressure issues, deliver power to the grid when needed by SPP, and keep all the plants running to the maximum extent possible. A thorough review of the Utilicast Report clearly demonstrated that Liberty acted as a prudent and responsible utility relating to Winter Storm Uri.
- 7 Q. Does this conclude your testimony?
- 8 A. Yes.

VERIFICATION

I, John 1	P. Olsen, unde	er penalty of per	jury, on this	19 th day o	of January,	2022,	declare
that the foregoing	ng is true and	correct to the b	est of my kno	wledge a	nd belief.		

/s/ John P. Olsen



SUMMARY

Mr. Olsen has over 30 years of diverse utility background, having worked for both investor owned and public power vertically integrated utilities. Mr. Olsen held various senior leadership positions responsible for leading the energy related trading activities, transmission and distribution operations, transmission development, and transmission construction. He has a proven background of growing leaders with several of his former direct reports now holding key leadership positions.

Mr. Olsen provided executive direction for the regulated and proprietary trading activity in PJM, MISO, and SPP competitive markets. He has extensive experience with SPP RTO operations and activity having served on and chaired multiple SPP committees. Mr. Olsen also helped set up and manage a joint venture for competitive transmission activity in the MISO and SPP regions.

Mr. Olsen actively participated in the negotiations of wholesale and retail contracts and marketing services agreements. He is also familiar with the retail ratemaking process and routinely interacted with state utility commission staff.

PROJECT EXPERIENCE

Aug 2017 Evergy, Kansas City MO

- Oct 2020 Executive Oversight, Energy Management System

Provided executive direction during the initial selection process and then transitioned to executive oversight for combining two companies on to one energy management system platform.

Oct 2012 Westar Energy, Topeka KS

- Sep 2013 Executive Sponsor, Integrated Market Software

Executive sponsor for the selection and configuration of a trading platform to interface with the SPP two settlement market.

Jun 2006 Westar Energy, Topeka KS

- Jul 2007 Executive Sponsor, SPP Energy Imbalance Market

Executive sponsor for the selection and installation of a market interface system to fully integrate the utility generation portfolio and energy management operations into the SPP energy imbalance market (EIM).

Jan 2006 Westar Energy, Topeka KS

- Jun 2007 Executive Oversight, Transmission Accounting System

Provided executive direction and oversight of new transmission system accounting integration efforts.

Jun 2005 Westar Energy, Topeka KS

- Dec 2005 Executive Sponsor, Generation Portfolio Management

Executive sponsor for the selection and installation of a software platform to optimize a 6,000 MW regulated generation portfolio.

Apr 2004 Westar Energy, Topeka KS

- Dec 2005 Executive Sponsor, Energy Trading and Risk Management

Executive sponsor for the specification, purchase, and configuration of a trading and risk management platform for the trading floor involved in proprietary and regulated trading activity.

OTHER EXPERIENCE

Apr 2019 Evergy, Topeka KS

- Oct 2020 Sr. Director, Large Transmission and substation construction

Lead a team of project managers, real-estate professionals, and analysts responsible for an annual capital budget of \$200 million. Team worked closely with engineering and purchasing staff to ensure projects were completed on time and on budget. Also worked with internal accounting and regulatory staff to ensure all costs tracked appropriately and that transmission formula rates were updated accurately.

Jun 2015 Westar Energy, Topeka KS

- Oct 2020 Executive Director, DSO Consolidation

Develop the plan to consolidate the distribution operators from two locations with two different classifications to one location and one classification. Worked with bargaining unit leadership and staff to develop transition plan and training program.

Aug 2016 Evergy, Kansas City MO

- Jun 2018 Merger Integration Team Lead

SKILLS

Contract Negotiations

Competitive energy markets
Transmission operations
Transmission development
Transmission construction
Distribution operations
Executive leadership and management

LANGUAGES

Native English

HOBBIES

Fishing Playing guitar Golfing Working with team lead from other company, developed plans to merge various parts of the two organizations. Area of responsibility was for the transmission and distribution operations, emergency response, fleet, and vegetation management. Developed recommended staffing levels, reporting structures that factored in larger geographic footprint, and IT road map for software systems needed to support future operations.

Jun 2015 Westar Energy and Berkshire Transmission

- Dec 2017 President, Competitive Transmission

Working with VP Transmission, was responsible for company's formation of separate entity to participate in the SPP Order 1000 competitive transmission solicitations. Also worked on formation of joint venture with Berkshire Transmission Company to create compete in both the SPP and MISO competitive transmission solicitations. Held the role of president for the two joint ventures, reporting to the manager managed board.

Jun 1999 Westar Energy, Topeka KS

- Jan 2015 Origination, Energy Management Services

Instrumental in the development of the energy services business line for our trading activity. Grew business to a portfolio of over 2,000 MW with multiple customers.

May 2012 Westar Energy, Topeka KS

- Feb 2014 Executive Director, SPP Two-Settlement Market

Responsible for structuring team, trading limits, and software installation necessary to participate in the SPP two settlement market. Worked with team to develop strategies to optimize diverse generation portfolio for both the regulated utility and our energy management customers. Put targets in place for trading and scheduling staff to incent work product that benefited customers while ensuring compliance with various tariffs.

May 2007 Westar Energy, Topeka KS

- Jan 2013 Wind farm PPA and equity owernship

Responsible for overseeing the RFP development, evaluation, and contract execution for various wind farms, which included both long-term power purchase and equity ownership agreements.

Mar 2006 Westar Energy, Topeka KS

- Apr 2007 Executive Director, Capacity Planning Margin

Worked with internal regulatory staff, senior leadership, and state regulatory staff to change decades old approach to capacity planning obligation. Historic way used weather-normalized peaks, which meant the utility could routinely be short capacity reserves. New approach utilized statistical forecasting of peaks to develop capacity planning targets that ensured compliance with regional capacity planning requirements while keeping costs prudent for customers.

Jun 2005 Westar Energy, Topeka KS

- Feb 2007 Executive Director, SPP EIM Market

Responsible for structuring team, trading limits, and software installation necessary to participate in the SPP energy imbalance market. Worked with team to develop strategies to optimize diverse generation portfolio for both the regulated utility and our energy management customers.

EDUCATION

University of Nebraska, Lincoln

B.S. Electrical Engineering

Specialized in high voltage power systems studies.

University of Phoenix

Master of Business Administration

University of Idaho, Moscow

Utility Executive Course

Provides comprehensive analysis of the industry's top challenges and opportunities, and of its general business environment, as well as training for executives to enhance industry knowledge, leadership abilities, and professional effectiveness.



SUMMARY

Mr. Monroe provides quality and targeted expert advice, leadership, and consultation in the fields of general corporate strategy and operations, bulk power system operations, reliability standards, wholesale energy markets, planning, strategic planning, process improvement, FERC tariffs, corporate governance, regulatory principles, and other areas associated with Electric Bulk Power System.

He also fosters collaborative and facilitated discussions and solutions for these areas as well as any general strategy, policy, or process concerns or issues.

Mr. Monroe has worked in North America and served for a time on the international board of operators of power exchanges.

SKILLS

Project and Vendor Management **Utility Operations Executive Management Executive Oversight** Governance Design **NERC Standards** Power System Operations **Power System Operations** Implementation **Power System Operations Processes** Power System Transmission Planning Wholesale Electric Energy Market Design Wholesale Electric **Energy Implementation** Wholesale Electric

PROJECT EXPERIENCE

Mar 2020 Munro Advisors, LLC

- Sep 2020 Principal

Providing Quality and Targeted expert advice, leadership, and consultation in the fields of general corporate strategy and operations, bulk power system operations, reliability standards, wholesale energy markets, planning, strategic planning, process improvement, FERC tariffs, corporate governance, regulatory principles, and other areas associated with Electric Bulk Power System.

Foster collaborative and facilitated discussions and solutions for these areas as well as any general strategy, policy, or process concerns or issues.

Mar 2020 Southwest Power Pool

- Apr 2020 Review of Comments on Western Market Design

Provided oversight to review all the comments required for the Western Market Design.

Sep 1997 Southwest Power Pool, Little Rock, AR

- Mar 2020 Executive Vice President and Chief Operating Officer

Responsible for all operations of the corporation, 24X7 operations center, long-term forecasting and planning of power system, information technology, market design, and interregional coordination. Includes markets with revenues of \$15B, peak load of 50GWs, compliance to national reliability standards. Also, responsible to coordinate with accounting/settlement of markets transactions.

Lead on strategy and marketing of SPP functions, instrumental on addition of new transmission owners and expansion of SPP footprint by 20%. Instrumental in design of real-time energy market with transactions of \$1.5B. Chairman of national group for power system Balance Authority operations. Serve on Board of international group for Power System Markets.

Other positions included:

- Vice President, Operations Operations for reliability and transmission tariff services and information technology of the corporation.
- Manager, Information Technology All information technology personnel and systems for corporation.

Nov 1983 Entergy Service, Inc, New Orleans, LA

- Sep 1997 Manager, Forecasting

Responsible for the long-term forecasting of energy and demand for the Entergy Corporation power system retail customers. Included testifying in state regulatory proceedings. Directing analysis for econometric and other forecasting methods. High level executive support and interactions expected.

Instrumental in development of power system operations and analysis capability for company. Published IEEE paper on Security Constrained Economic Dispatch. Implemented software based on concepts in the paper.

Other positions included:

 Manager, Advanced Applications – Support of real-time Energy Management System for power system operations and control. Sophisticated engineering software for State Estimation, Energy Operations Strategic Planning

LANGUAGES

Native English

Contingency Analysis, and Optimal Power Flow.

 Engineer - Specification and evaluation of Request for Proposal, testing, and maintenance of Energy Management System

Jun 1978 Ameren, St. Louis, MO

- Nov 1983 Engineer

Responsible for the development and evaluation of the Energy Management System request for proposal, resident engineer at vendor, testing, installation and maintenance of the EMS. Training other engineers on the functions and maintenance of the EMS. On-call support. Developed first power system model for System Operations. Purchasing and selling energy between utilities.

EDUCATION

Harvard Business School, Boston, MA

Advanced Management Program

Executive Management Business Administration program. Covered all aspects of Business Management, international economics, accounting and economics, business strategy, marketing, business efficiency, executive leadership, etc.

Auburn University, Auburn, AL

Bachelor, Electrical Engineering

World renowned engineering program. Worked in development of computer interface for Agriculture department for soil sample data recording, scoreboard for swimming and track meets. Cooperative Education with Huntsville Utilities, Huntsville, AL as a regional engineer responsible for distribution planning.



SUMMARY

Dr. Hanson has thirty years of experience in power system engineering, operations and consulting with significant experience in Advanced Distribution Management Systems (ADMS), Distribution Automation (DA), Field Area Communications, T&D Analytics, regulatory advice, and T&D system planning. His expertise is focused on power delivery system operations and planning, having led the development and implementation of systems, processes, deployment plans for a variety of utility clients. He has taught courses on forecasting and planning, as well as fundamental engineering. His work has been focused in North America, and is a registered Professional

SKILLS

Smart Grid, Project
Management,
Requirements Definition,
Vendor Management,
Operating Procedure
Development, Regulatory
Filings, Technical Writing,
MS Project, Visio,
Microsoft Office, Data
Analysis, Reporting
Metrics, Electric Power,
Advanced Distribution
Management Systems

Engineer several states.

LANGUAGES

Native English

HOBBIES

Running Hiking Snow Skiing

PROJECT EXPERIENCE

Mar 2020 Maui Electric, Maui, HI

- Present Subject Matter Expert - Non Wires Alternatives

Developed business case for switchyard and plant generator conversions to address transmission planning criteria violations under contingency forecast to occur following retirement of the Kahului Power Plant. Effort included review and validation of system planning studies, review of project costs and documentation of alternative comparisons.

Aug 2019 Portland General Electric, Portland, OR

- Present ADMS Delivery Lead/Subject Matter Advisor

Provided overall system integration project leadership for ADMS (Phase 1) implementation including regular engagement with project sponsors and ADMS system vendor. Implementation included DSCADA, Distribution Power Flow, FLISR, Fault Protection Analysis and Switch Order Management. Integrations included: GIS, EMS (ICCP and DAN), Load Profiles, CIS, and Enbala. Project also included defining business processes to accommodate use of ADMS.

Nov 2020 Idaho Power

- Apr 2021 Subject Matter Advisor - Grid Modernization Roadmap

Provided subject matter expertise regarding OT (SCADA/EMS/ADMS/OMS) vendor capabilities for Grid Moderinzation benchmarking and vendor consolidation road map. Supported development of road map and high level timeline for consolidation of OT platforms to a single vendor.to improve platform management efficiency.

May 2018 San Francisco Public Utility Commission, San Francisco, CA

- Dec 2020 Subject Matter Advisor, Bay Corridor T&D Project

Provided subject matter expertise regarding distribution system planning, design and construction for Bay Corridor Transmission & Distribution project. Effort included review and advisory regarding design and specification duct bank, cabling, equipment and substation specification. Reassessment of forecast loads, including magnitude and timing. Coordination between project team and Power Enterprise division.

|u| 2018 Portland General Electric, Portland, OR

- Apr 2019 Subject Matter Advisor / Delivery Lead, ADMS Requirement Development and Vendor Selection

Provided subject matter advice, delivery leadership and overall project direction for the development of and ADMS project charter, benefits analysis, business case development, functional and technical requirements, evaluation and vendor selection.

Additionally, led development of ADMS implementation plan, including personnel and business process changes.

Feb 2018 Portland General Electric, Portland, OR

- Mar 2018 Consultant/Subject Matter Advisor - Operational Process Improvement Planning

Developed process assessment and process (re)design methodology to support evaluation of Operational Processes. Effort included engagement with process owners to inventory processes and systems, development of coherent "sets" of processes for scheduling staged process assessments and (re)designs in alignment with

Reading Historic Preservation corporate strategy and planned transition to Integrated Operations Center.

lan 2018 Westar, Topeka, KS

- Mar 2018 Distributions Operation Lead - T&D Operations Future State Design

Developed future state design for Westar Distribution Operations including evaluation of present state systems and operations and development of roadmap for future system deployment coordinated with future Transmission Operations and Communications roadmaps. Future state design included recommendations regarding ADMS, line of demarcation between transmission and distribution, integration of AMI data into distribution operations functions, and continued DA deployment to improve operator visibility.

Mar 2010 OG&E, Oklahoma City, OK

- Dec 2017 IVVC Deployment Co-Lead and Subject Matter Expert

Co-led DA team through automation deployments on over 100 circuits. Deployments included Integrated Volt VAR Control (IVVC) and feeder recloser automation deployments. Involvement spanned all aspects of DA deployment including equipment selection, circuit selection, scoping, job creation, DMS deployment and integration, IVVC application acceptance testing, telecommunication deployment, performance validation and regulatory reporting. Provided ongoing subject matter advice for latter year deployments.

Jul 2015 Maui Electric, Maui, HI

- Dec 2017 Subject Matter Expert, Non-Transmission Alternative Evaluation

Developed business case evaluation of non-transmission alternatives to planned Central Maui T&D projects, evaluating utility scale and distributed generation and energy storage, including evaluation of hourly production dispatch simulation to determine required sizing and costing of alternatives.

Oct 2013 Baltimore Gas & Electric, Baltimore, MD

- Dec 2017 Project Manager, Subject Matter Expert

Led measurement and verification effort for conservation voltage reduction (CVR) pilots including development of forecast impacts for regulatory purposes. Provided subject matter advise for VVO system deployment. Recommended measurement and verification approach(es) and incorporated secondary voltage monitoring. Developed regulatory reporting process for forecast and actual savings.

Nov 2013 PG&E, San Francisco, CA

- Dec 2016 Subject Matter Expert, VVO and Smart Grid Pilots

Provided technical and organization guidance to smart grid pilot team regarding technical specification for Volt Var Optimization (VVO), line sensor and fault location pilots, including requirements definition, vendor evaluation and implementation of VVO pilots and associated regulatory reporting.

Aug 2014 Edison Electric Institute, Washington, DC

- Mar 2015 Project Manager, Regional Mutual Assistance Tool Development

Led requirements definition, RFP development, vendor selection, implementation and testing for national and regional mutual assistance tool for dispatch of crews in event of regional and national response events. Web based application led to improved coordination of mutual assistance crews.

May 2011 Arizona Public Service, Phoenix, AZ

- Dec 2013 Project Manager, Subject Matter Advisor

Provided deployment and performance assessment subject matter expertise for IVVC and feeder automation (recloser) pilot implementations. Developed performance validation/test plan and IVVC performance assessment, assessed equipment operation performance to determine operational/maintenance impacts, assisted client with AMI metering verification of customer voltages on IVVC circuits and developed Operating Procedures and Emergency Response Plans for utility smart grid installations.

Apr 2013 Exelon, Chicago, IL

- Nov 2013 Project Manager, Subject Matter Advisor

Led project to develop roadmap, gap analysis, business case for utility-wide DA Communications as project manager and lead Subject matter expert. Led client workshops to determine as-is state, future state and gap analysis, including FTE requirements. Incorporated historic performance of different "shoe boxed" communication systems in gap analysis. Delivered business case analysis for field area communication system.

Mar 2013 PECO, Philadelphia, PA

- Jun 2013 Project Manager, Subject Matter Advisor

Provided subject matter expertise to facilitate client rollout of DA radio communication infrastructure to meet DOE commitments and retire leased phone line communication channels. Bridged IT and business stakeholders to ensure coordination and appropriate escalation of issues. Guided re-prioritization of radio communication rollout, identified critical path items and escalated to ensure visibility and resolution, scoped "proof of concept" testing with DMS team to meet required commitments.

Nov 2010 Sacramento Municipal Utility District, Sacramento, CA

- Feb 2012 Subject Mater Expert, Var Optimization/CVR and Fault Location and Isolation

Assisted client utility with deployment planning, control logic development, logic implementation, operator training and impact assessment for reactive power control, Conservation Voltage Reduction (CVR) and recloser deployment programs across 67 substations.

OTHER EXPERIENCE

Apr 2015 Accenture

- Jan 2018 Principal Director

Led North American Distribution Operations practice within Accenture Smart Grid Services. Responsible for full project life cycle for all DMS/DSCADA/ADMS projects including personnel management and staffing, delivery and client acceptance. Provided subject matter expertise and oversight for deployments including roadmap and business case development, specification, RFP, selection, procurement and contract negotiation, implementation/deployment, performance evaluation and ongoing operation. Responsible for leveraging intra-corporate expertise to ensure appropriately skilled teams deployed to projects.

Mar 2010 The Structure Group

- Apr 2015 Senior Manager / Practice Area Executive

Key leader in the Generation, Transmission and Distribution consulting segment providing technical and project management support for DMS/ADMS/OMS projects as well as leading all Distribution Automation work. Led successful implementations of multiple DMS/ADMS/DA systems at multiple client through entire project life

cycle including roadmap and business case development, specification, RFP, selection, procurement and contract negotiation, implementation/deployment, performance evaluation and ongoing operation. Provided regulatory support related to client implementations of energy efficiency and reliability enhancements associated with DMS/ADMS/DA deployments including measurement & verification and reporting.

Oct 2004 PowerComm Engineering, Inc.

- Feb 2010 Consulting Practice Lead

Developed Raleigh office and electric consulting business from ground up, serving on the leadership team as the firm doubled in size. Mr. Hanson guided clients through the development of practical load forecasting, weather adjustment and planning processes as well as supporting the telecommunications (cellular tower engineering) portion of the business on an as needed basis. He led teams in the development of documentation to support customer compliance with NERC Beyond Zone Three requirements and line rating methodologies. Additionally, he led model verification efforts to meet customer regulatory directives following extensive system outages.

Apr 1998 ABB, Inc.

- Sep 2004 Executive Consultant - Electric Systems Consulting / Distribution System Solutions

Led teams from proposal through project execution for major utilities in the areas of load forecasting and distribution planning process improvement. Performed power flow and dynamic analyses to assess transmission expansion options and system stability with proposed transmission and generation additions. Led multiple customer implementations of revised planning processes, including weather criteria definition, load / weather adjustment, short term load forecasting, project development and ranking. He supported equipment divisions with customer specific equipment application including development of commercial and technical remedies following equipment failures and application/rollout of new equipment types on customer systems.

Jul 2001 Chevron Energy Solutions

- Dec 2001 Project Development Engineer

Led cogeneration feasibility studies, including development of technical / cost proposals and economic analyses supporting cogeneration installations. Duties included specification of generator size/type and interconnect facility sizing.

Aug 1997 Siemens Energy & Automation

- Apr 1998 Systems Engineer - Industrial Systems & Service Division

Supervised substation and mill power system design for paper and steel mills and prepared industrial facility technical proposals (paper, steel, air separation). This included design, analysis and equipment specification for the electrical "balance of plant" for major industrial facilities, including protection, control and communication. Also, responsible for witness / acceptance testing for major components.

Mar 1990 Tampa Electric Company

- Dec 1994 Principal Engineer - Distribution Engineering / T&D System Planning

Developed a statistically based conductor ampacity ratings based on time interval data and was responsible for maintenance / testing procedures for auto-throwover switchgear while in the Distribution Engineering department. He planned 69kV and 230kV system expansions, including new inter-utility interconnections and acted as the company's T&D point contact for new cogeneration installations,

developing interconnect procedures for the company. He developed testimony for Public Service Commission and FERC hearings and represented Tampa Electric on the Stability Task Force of the Florida Coordinating Group (now FRCC).

EDUCATION

Georgia Institute of Technology, Atlanta, GA

Bachelor of Electrical Engineering Co-op (Tampa Electric), Sailing Club

Auburn University, Auburn, AL

Master of Electrical Engineering

Auburn University, Auburn, AL

Ph.D. Electrical Engineering

Teaching assistant (Intro to Power Systems, Electromechanical Energy Conversion, Power System Analysis), Research Assistant (Alabama Power sponsored research).

CERTIFICATIONS

IEEE

Senior Member

Licensed Professional Engineer

(Florida, North Carolina)



SUMMARY

Ms. Harper is an executive-level adviser with specialized expertise working across regional markets. With over two decades in energy restructuring, and having engaged with regulators, senior executives, and market participants, Ms. Harper has provided extensive assistance in project coordination, vendor management, contract negotiation, training, cost estimation, business processes documentation, and building functional specifications to meet regional market and regulatory mandates. Ms. Harper has provided services to utilities including AES (Ohio), Pacific Gas & Electric (California) and Entergy (Southeast US), and to ISO/RTOs including ERCOT, MISO, PJM, IESO,

SKILLS

Market Operations Project Management Vendor Management Strategy Regulatory Facilitation **Business Process Design** Policy and Procedures Testing Training Development Implementation Planning **Contract Negotiation** Cost Analysis Cost Benchmarks Market Analysis Gap Assessment Workshop Facilitation Strategic Planning **Business Analysis Energy Markets** Leadership

CENACE, and the NYISO.

PROJECT EXPERIENCE

Jan 2019 AES, Dayton OH

- Present Smart Operations Center Program Management

AES is in the process of designing, building and implementing a Smart Operations Center ("SOC") to include remote operations, market dispatch and asset performance analytics. Project support includes benchmarking and gap analysis of control room implementations across North America; documenting best practices; drafting and publishing Request for Proposals (RFPs) for a design and build architect, specialized area consoles, and audio visual equipment (e.g. video wall). Furthermore, assisted the evaluation team with selection, contract negotiation, pricing comparisons, and overall cohesiveness across all solutions. Continued coordination of vendor and internal milestones, risk and issue identification, and scheduling and resource balancing for implementation of the Remote Operations Control Center (ROCC).

Feb 2020 WAPA Desert SouthWest Region, Phoenix, AZ

- Aug 2020 Gap Analysis Project Lead

The Desert Southwest Region is one of four regions of the Western Area Power Administration. Utilicast was hired to assess the gaps and estimate the cost of joining either the proposed Southwest Power Pool (SPP) Western Energy Imbalance Service (WEIS) or California Independent System Operator (CAISO) Energy Imbalance Market (EIM). Ms. Harper lead the data gathering, report documentation, identification of possible proxy services, and presented the final report and findings.

Jan 2020 MISO, Carmel, IN

- Mar 2020 Technical Writer

As part of an assessment of the EMS Vendor Landscape team, lead the executive presentation describing how EMS current and future vendor offerings align with the MISO's Future-state EMS Priority Business Objectives.

Apr 2019 New York ISO, Albany, NY

- Dec 2019 ESR Vendor and Project Management

Developed and maintained cost-based measurement and deliverable document status to track vendor and internal performance and progress against the project plan (e.g., earned value analysis). Built a requirements traceability matrix, linking business owner approved functional specifications to detailed requirements across 15 applications being modified to support Energy Storage Resources participation in the NYISO market. The matrix further reports requirements to test coverage and test completion status through automated gadgets and dashboards built using Jira.

Dec 2018 MISO, Carmel, IN

- Mar 2019 Cost Consultant, Market System Enhancement Project

Estimated costs for implementation of an alternative Market Management System (MMS). The model estimated costs by major functional and technical category, and distinguished capital from O&M expenses. Detailed findings were presented to an executive leadership team to assess viability of replacement of the MMS, including risks associated with the alternative solution and mitigation strategies.

LANGUAGES

Spanish (Intermediate) English (Native)

HOBBIES

Destination Imagination
Arts and Pop Culture

Evaluated cost to enter and participate in the MISO energy, ancillary service and capacity markets by resource type. Areas for further evaluation were recommended based on categories of costs that were disproportionately allocated to a particular resource type or represented substantial cost relative to the overall cost to participate for a majority of resource types.

Oct 2015 New York ISO, Albany, NY

- Nov 2018 Adviser, EMS/BMS Upgrade Project

Acted as an adviser to the NYISO and as a commercial contract subject matter expert as a member of the NYISO EMS/BMS Upgrade Project contract negotiation team. Provided guidance and assistance with regard to vendor contracting and vendor performance measurement. Supported the application of project controls, testing and development standards, and reviewed strategy and outcome of commercial negotiations against corporate objectives with executive leadership. Coordinated year-round training by the vendor of technical and functional attributes of the upgraded system.

Mar 2016 CENACE, Mexico City, Mexico

- Sep 2018 Cross Market Specialist, Market Management Specifications

Under contract with the U.S. Department of State, Ms. Harper lead a multi-company team to assess market readiness of systems, staff and processes through on-site interviews and job shadowing; and to propose a plan of action to improve readiness. Ms. Harper also provided cost benchmarks and comparisons of operations, implementation timelines and project management approaches of other North American ISO/RTOs. In response to one of the key recommendations to document market system requirements, Ms. Harper further organized and developed key sections of a comprehensive market management system specification to be used by CENACE in a competitive vendor selection process.

Sep 2017 IESO, Ontario Canada

- Dec 2017 Cost Consultant

In collaboration with The Brattle Group, Ms. Harper was retained to estimate the cost of implementing Ontario's Market Renewal Project, with results and findings incorporated into "The Future of Ontario's Electricity Market, A Benefits Case of the Market Renewal Project." Ms. Harper provided a cost framework that provided a bottom-up cost estimate of Market Renewal implementation and O&M costs for use in a Cost Benefit Analysis based on the high-level market design, with input factors and staffing assumptions that can be modified in an ongoing fashion.

Jan 2012 ERCOT Region, Austin, TX

- Sep 2015 Business Development, Internal

Lead and oversee the development and growth of profitable consulting services projects to clients in the ERCOT region of Texas. Included developing and maintaining key client relationships, monitoring regulatory and fiscal goals for the region, and aligning resources with organizational needs.

Jun 2009 ERCOT ISO, Taylor, TX

- Dec 2010 Readiness and Transformation Project Lead, Market Implementation

Responsible for creating and delivering a clear and consistent message to all internal and external parties regarding ERCOT and market participant readiness for the nodal market implementation. This included ensuring ERCOT's systems, training, business processes, and documentation are developed and rolled out for use on the Nodal Go-Live and communicating status and

accomplishments to market participants and ERCOT senior management.

Oct 2007 Entergy Services, Inc, New Orleans, LA

- Oct 2009 Testing Manager, Steering Committee Advisor

Entergy initiated an internal project (known as the AFC Systems Capability) to accomplish two related goals: (1) improve AFC Systems and related processes by identifying and correcting any existing errors or weaknesses, and (2) minimize future occurrences of errors in AFC Systems and related processes by enhancing software and related processes/procedures including documentation, testing, software code changes, and the implementation of process controls. Under the Steering Committee, the role included providing advice and expertise regarding whether the process and project deliverables meet industry standards. The integrated client and contractor testing team collaboratively developed the test strategy, test cases, test conditions and test results.

Aug 2005 Entergy Gulf States, Austin, TX

- Apr 2006 Expert Witness

Direct and Rebuttal Testimony on the reasonableness of implementation costs in the Application of Entergy Gulf States, Inc. for Recovery of Transition to Competition Costs, before the Public Utility Commission of Texas, Docket No. 31544, on behalf of Entergy Gulf States, Inc.

Apr 2005 CER and NAIER, Dublin, Ireland

- Jun 2005 Cost Consultant

Retained to develop a cost analysis framework to be used by the regulators through the life of the implementation of the Single Energy Market (SEM) for the All Island Project. Provided a cost framework that provided a bottom-up cost estimate of SEM implementation and O&M costs for use in a Cost Benefit Analysis based on the high-level market design, with input factors and staffing assumptions that can be modified in an ongoing fashion.

Sep 2003 ERCOT ISO, Taylor, TX

- Mar 2005 Independent Coordinator, TNT Project

Under Public Utility Commission of Texas Project 23676, Wholesale Market Design Issues in the Electric Reliability Council of Texas, Mrs. Harper was retained by ERCOT to coordinate the stakeholder redesign of ERCOT wholesale market. This included (1) assisting in the development of the scope, requirements, and evaluation criteria in the Cost-Benefit Request for Proposal to solicit an unbiased economic analysis of the costs and benefits of the market redesign; and (2) providing technical services in support of a stakeholder working group termed the Texas Nodal Team (TNT), including facilitating the process for protocol development, posting and maintaining documentation on the TNT website, maintaining the TNT protocol timeline, and reporting status to the ERCOT Board of Directors, Technical Advisory Committee and PUCT as requested.

Mar 2003 MISO Energy, Carmel, IN

- Aug 2003 Market Analyst, Pricing Implementation

In support of a large-scale implementation of locational marginal pricing for the region, conducted a detailed assessment of market participant readiness, evaluating communications, participant qualification, participant registration, technical readiness and training; authored the market implementation guide; and prepared whitepapers and protocols on settlement, meter data submittal and dispute resolution processes and procedures.

Sep 2001 Entergy Gulf States, Inc., Austin, TX

- Mar 2003 Project Facilitator, Process and Procedures

In response to requirements of the Public Utility Commission of Texas in Project 25089, Project to Develop Market Protocols for the Portions of Texas within the Southeastern Electric Reliability Council, retained by Entergy Gulf States to develop a set of draft protocols for retail and wholesale operations reflecting the business process and procedures available to Competitive Retailers for Day 1 operations within the region, including congestion management, scheduling, settlement, data aggregation, load profiling and market information posting protocols; and facilitate working sessions with all parties to modify the draft protocols into a set of consensus protocols reflecting negotiated solutions capable of supporting retail choice.

Jan 2001 ERCOT ISO, Taylor, TX

- Aug 2001 Market Trials Coordinator, ISO Testing

Coordinating and conducting market trials between 30 scheduling entities and the Independent System Operator to test Single Control Area operations and retail deregulation. This included managing internal and external communications, performing issues management, conducting scripted and unscripted testing, coordinating personnel and monitoring and reporting compliance to market rules.

OTHER EXPERIENCE

Oct 1999 ERCOT, Taylor, TX

- Aug 2001 Commercial Operations Design Architect

Designing settlement processes including: charge type formulas, settlement statement and invoice layout, dispute processing timelines, and settlement metering implementation timelines; and facilitating the development of market protocols among a diverse stakeholder group, mediating consensus on topics surrounding ancillary services, imbalance energy, scheduling and settlement requirements.

Aug 1998 Eastern Power Energy Trading, Ipswich, England

- Jun 1999 Testing and Training Lead

Assisted a European energy trading company implement a risk management system using a middleware infrastructure, including design and delivery of training to energy trading end-user, operations, and applications support personnel.

EDUCATION

University of the Pacific, Stockton, CA (UOP)

B.S. Business Administration

Kemper Scholar, Phi Kappa Phi and Delta Gamma alumna

Customer-Centric Selling, Customer Centric Systems LLC

Developing and Using Scenarios, Global Business Network

RTO Governance and Organization, Electric Utilities Consultants, Inc.

LMP Fundamentals (Larry Ruff), Texas Nodal Market Design Forum

Executive Leadership for Energy Professionals, Energy Council of New England



SUMMARY

Mr. McCamant is an expert business and strategy development partner for organizations involved in energy resource management and smart grid development. Based in Austin, Texas, he helps public and private entities develop a strategic focus for their business development efforts and translate that strategy into action. Relationships are important to any business but they are crucial in the electric utility sector. Mr. McCamant brings a wealth of executive-level relationships and experience negotiating tough deals while crafting sound public policy. Over the course of his 40-year career, he has tackled some of the toughest utility management challenges on the public agenda. His results-oriented, collaborative style has won the trust and support of stakeholders from the board room to the living room often in highly charged

SKILLS

environments.

Wholesale power supply PPAs
Load Resources
Smart Grid
Project Management
Vendor Management
Power Marketing
Business Design
Market Design
Microsoft Office
Data Analysis
Energy Markets
Electricity Markets
Electric Power

PROJECT EXPERIENCE

Sep 2008 Electric Cooperative, Bastrop, Texas, USA

- Present Subject Matter Expert, Wholesale power supply

Provided advisory and support services for wholesale power supply PPAs, ERCOT market stakeholder process/representation, PUCT monitoring, ERCOT market monitoring / analytics, demand response opportunities, and Load Resources.

Aug 2011 Municipal Electric Utility, San Marcos, TX, USA

- Present Subject Matter Expert, Wholesale power supply, Distributed Energy Resources

Provided advisory and support services for wholesale power supply PPAs, ERCOT market stakeholder process/representation, PUCT monitoring, and ERCOT market monitoring / analytics.

Mar 2014 Electric Cooperative, Bandera, Texas, USA

- Present Subject Matter Expert, Wholesale power supply, Demand Response

Provided advisory and support services for wholesale power supply PPAs, ERCOT market stakeholder process/representation, PUCT monitoring, ERCOT market monitoring / analytics, and demand response opportunities.

Feb 2018 Non-profit Energy Company, New England, USA

- Present Subject Matter Expert, Transmission Development, Renewables

Provided advisory services for developing participation opportunities for new transmission projects in the Texas market including PUCT and ERCOT monitoring, relationship development, and ongoing support.

Jun 2021 Law Firm, Texas, USA

- Present Subject Matter Expert, ERCOT Market

Provided expert witness services related to the ERCOT market design and operation for a contested property tax assessment case.

Oct 2016 Regulatory Agency, Mexico City, Mexico

- Nov 2016 Subject Matter Expert, Demand Response

Provided a comprehensive report and recommendations for future implementation of demand response in Mexico's energy market.

$Nov\ 2009$ Smart Grid Company, Raleigh, NC/ San Antonio, TX, USA

- Sep 2014 Subject Matter Expert, Marketing

Provided advisory and marketing support services for demand response development for Smart Grid applications and related resource agreements, PUCT monitoring, ERCOT market monitoring and analytics.

Jul 2009 Independent Project Developer, Houston, TX, USA

- Jun 2013 Subject Matter Expert, Marketing

Provided advisory and marketing support services for power project development and related off-take agreements, PUCT monitoring, ERCOT market monitoring and analytics.

Oct 2008 Regional Engineering Firm, Austin, TX, USA

- Nov 2010 Subject Matter Expert, Marketing

Provided advisory and marketing support services for a pumped storage project development and related off-take agreements, PUCT monitoring, ERCOT market monitoring and analytics.

FERC
Smart Metering
Power Systems
Business Process
Project Planning
Power Generation
Engineering
Energy Policy
Energy Industry
Demand Response
Integration

LANGUAGES

Native English Basic German

HOBBIES

Fly Fishing Upland Hunting Ranching Photography Music Traveling

OTHER EXPERIENCE

May 1978 Lower Colorado River Authority, Austin, TX, USA

- Sep 2008 Executive Management, Business Development

Led efforts to successfully develop, negotiate, and implement major electric generation, electric transmission, and water utility development agreements. Led efforts to successfully establish public input and collaboration processes on controversial utility projects. Researched and established key external relationships and alliances.

Strategic Planning: Monitored high-level policy issues across the company and helped establish processes to resolve key issues at the board level. Established a corporate-level strategic planning process with senior management and board of directors. Developed strategic generation fuel portfolio to forecast and manage pricing structure and risk that resulted in lowest cost fuel in Texas; enabled company to gain competitive edge. Developed proposal and led initial effort to evaluate the viability of multi-million dollar acquisition partnership.

Financial Planning: Executive level steering committee that provided in-depth review and approval of financial policy, capital spending and long-term planning. Implemented and administered a capital budget process for diverse business units.

Administered multi-million dollar engineering/construction projects that consistently met timelines and budget constraints. Re-evaluated major gas storage project to determine validity of continuing the project; made immediate significant change to return the project to financial viability. Negotiated rail transportation contracts for fuel supplies that reduced cost by 33%.

Business Management: Utilized knowledge of contract law and mediation in the negotiation and administration of multi-million dollar contracts. Highly skilled in accurately defining problems and formulating collaborative teams to resolve issues. Restructured customer/community relations function implementing a regional representative plan that has proven successful in developing relationships and enhancing the company's image.

Electric Deregulation: Initiated and chaired a national coalition (Large Public Power Council) task force focused on responding to federal/state policy issues relating to the restructuring of the electric utility industry. Monitored electric industry restructuring and lead the development of strategic, operational, and legislative action plans.

Dec 1977 Electric Utility, Austin, TX, USA

- May 1978 Staff Engineer

Provided engineering support for the construction of a large jointlyowned Western coal power plant.

EDUCATION

University of Texas at Austin, TX

MBA

With honors, International studies in London.

University of Texas at Austin, TX

B.S. Civil Engineering

With honors, Beta Sigma Gamma, Phi Kappa Phi.



SUMMARY

Dr. Radjabli is registered Professional Engineer in Ontario, Canada and has over 30 years of experience in EMS/SCADA and realtime applications, software integration, power network analysis, power system modeling, and system simulation. In addition, he has experience in various commercial software applications, implementation of modern technologies, feasibility studies, procurement and bid evaluation processes, commissioning and performance testing of electrical equipment and software, software development, large databases, software integration, and control systems design. He has experience in preparing technical specifications and proposals for international government projects and international consulting work (CIDA and World Bank). Dr. Radjabli is fluent in several languages and has working experience in USA, Canada, Paraguay, South Korea, Nicaragua, Russia, China, Georgia, Uzbekistan, and

SKILLS

Azerbaijan

Systems: Data Analysis
Integration
Procurement: RFP
Preparation
Bid Evaluation
Software: Design and
development.
Tests: Preparation of
procedures. EMS testing
Management: Leading
project implementation.

PROJECT EXPERIENCE

Jan 2021 TEP, Tucson, AZ

- Present Subject Matter Expert, EMS Applications

Assisted TEP in preparation of full network model for CAISO EIM. Provided guidance on improving performance performance of network applications.

Sep 2020 PSCO, Denver, CO

- Present Subject Matter Expert, Power System Model

Gap analysis of network model for Energy Imbalance Market. Developement of tools for automated analysis of the network model. Preparation of report for network model assessment and cost assessment for network model corrections for GE PowerOn Reliance EMS.

Oct 2019 Tri-State, Denver, CO

- Present Subject Matter Expert, SCADA/EMS

Needs analysis for the new SCADA/EMS system. Preparation of Technical Specification for SCADA/EMS replacement, Instructions to Bidders for RFP. Preparation of evaluation methodology. Pariticaption in Bid Evaluation. Assisting the electrical utility in preparation of Statement of Work. Assisting electrical utility in project implementation and system integration of new SCADA/EMS replacement - OSII monarch.

Oct 2019 TEP, Arizona, USA

- Oct 2020 Subject Matter Expert

Preparation of Functional Requirements for the utility migration to CAISO Energy Imbalance Market. Assisting the electrical utility in transitioning the network model and applications to the new SCADA/EMS platform from Siemens to OSII. Assisting the electrical utility in preparation of Statement of Work. Organizing workshops and data collection.

May 2018 LADWP, Los Angeles, CA

- Sep 2020 Consultant

Responsible for guiding the utility on the preparation of the Full Network Model for CAISO's Energy Imbalance Market (EIM). OSI Monarch's model validation, development of tools for automatic model adjustments/edits, knowledge transfer on the CIM model troubleshooting and maintenance. Assisting utility in upgrade of OSII monarch system. Preparation of test procedures for EIM testing. Particiapation in the software integration and testing of OSII's monarch for EIM (openAGC, openMOS, openECA modules).

Mar 2018 IPL, Indianapolis, IN

- Aug 2020 Subject Matter Expert, EMS Applications

Establishing a systematic approach and methodology for State Estimator tuning. Assistance to the utility with tuning ABB's State Estimator. Conducting workshops and knowledge transfer on network applications. Improving solution quality of State Estimator and real-time Contingency Analysis.

Jan 2019 DLC, Pittsburgh, PA

- Jul 2020 Subject Matter Expert, EMS Applications

Preparation of technical specification and RFP package for

Oracle
Automation
Procurement
Integration
Engineering
Energy
Testing
Business Process
Software Development
Management Consulting
Smart Grid
SCADA
Power Generation
Project Management

Program Management

Energy Management

Contract Negotiation

LANGUAGES

Fluent English Fluent Russian Fluent Azeri Good Spanish Good French

HOBBIES

Chess - Chess Master Level SCADA/EMS. Assistance to the utility with tuning OSII's monarch State Estimator and Contingency Analysis. Conducting workshops and knowledge transfer on network applications. Improving solution quality of State Estimator and Contingency Analysis and troubleshooting the network model.

Mar 2020 WAPA

- Mar 2020 Subject Matter Expert

Analysis of full network model for CAISO's Energy Imbalance Market. Identifying modeling problems for GE XA-21 EMS.

Jan 2019 Azerenerji, Baku, Azerbaijan

- May 2019 Consultant, EMS/SCADA/RTU/Telecom Replacement

Preparation of technical specification, instructions to Bidder, and complete Request for Proposal package for the new replacement of SCADA/EMS/RTU/Telecom

Sep 2018 Omaha, Nebraska

- Apr 2019 Consultant, EMS/SCADA Replacement RFP preparation

Preparation of technical specification for SCADA/EMS replacement, instructions to Bidder, and complete Request for Proposal package for SCADA/EMS. Assistance in bid evaluation and vendor selection.

Jan 2015 Ameren, St. Louis, MO

- Aug 2018 Consultant, Network Applications Enhancement

Responsible for design of look-ahead real-time contingency analysis custom software for improving control room situation awareness and preparedness for adverse weather conditions. Integration of custom software in GE Alstom EMS. Software development and testing of user interface, real-time application interface, and scripts for executing predictive analysis based on load forecast, generation estimates, and interchange schedules on GE Alstom EMP 3.1 platform. Developing new user interface and integrating ArcGIS analysis with EMS.

Nov 2017 KCP&L, Topeka, KS

- Mar 2018 Consultant

Conducted workshops. Performed Gap Analysis of the utility's limitations, future needs, and constraints. Prepared migration path for transitioning to the future state of utility's operations and infrastructure. Prepared deliverables on EMS Vendor Landscape and Future State of the Utility Operations.

Feb 2017 Idaho Power, Boise, ID

- Oct 2017 Consultant

Providing guidance on setting up internal business processes for EMS department. Assistance with preparation of network model for Energy Imbalance Market (EIM) for California ISO. Tuning of State Estimator. Model validation to comply with the requirement of EIM. Assisting with CIM based network modeling using e-terrasource on GE Alstom EMS platform.

Apr 2015 PEAK Reliability, Vancouver, WA

- Oct 2016 Software Developer, Data Quality Analysis

Analysis of data quality for Load Forecast and Generation submissions from North West Power Pool members. Troubleshooting software Resource Sufficiency application. Development of automated reports in MSDN subscription and MS SQL Server database.

Mar 2015 PJM, Norristown, PA

- Aug 2016 Consultant, SCADA/AGC Replacement Project

Preparation of functional requirements and technical specification for SCADA and AGC replacement. Assistance with procurement of the new system and evaluation.

Dec 2015 Portland Gas and Electric, OR

- Apr 2016 Consultant, Energy Imbalance Market

Network modeling of PGE power system for California ISO's Energy Imbalance Market. Preparation of validation scripts for OSII Monarch's network model.

May 2014 PacifiCorp, Portland, OR

- Jan 2015 Consultant, EMS/SCADA/AGC Replacement

Assistance to PacifiCorp with transition to California ISO's Energy Imbalance Market. Preparation of validation scripts for OSII Monarch's network model. Migration from ABB to OSI Monarch SCADA/EMS system. Assistance with analysis of Special Protection Schemes (SPS) and setting up SPS in Contingency Analysis. Testing of new functionality for OSI OpenNet and OpenOTS. Validation of display conversion for SCADA and network applications to OSI Monarch. Preparation of test procedures. Tuning of ABB State Estimator. CIM Modeling of power network and use of CIM tools. Working with OSIsoft PI, extraction and processing of data history. Preparation of scripts to modify modeling data. Validating conversion results from ABB to OSI model.

Jan 2014 Cleco, Pineville, LA

- May 2014 Consultant, DMS/OMS Replacement

Preparation of specification for Distribution Management System. Writing a report on evaluation methodology and preparation of scoring templates. Evaluation of vendors' proposals. The specification encompassed distribution SCADA, advanced DMS applications, and Outage Management System.

Jun 2012 Tennessee Valley Authority (TVA), Chattanooga, TN

- Dec 2013 Senior Principal Consultant, Network Applications Enhancements

Development of "injection" model for Alstom's network applications – the software tool that was developed automatically modifies the existing network model into a new model with equivalent injections. Development of conversion tool to produce power flow case in Siemens format from Alstom State Estimator real time case. Prpeparation of Contingency definitions and defining SPS for contingencies. Migration to new CIM modeling environment of Alstom e-terrasource.

Procurement of new Energy Management System. Preparation of technical specification and evaluation of vendor bids.

May 2013 MISO Energy, Carmel, IN

- Nov 2013 Software Developer, Entergy Integration in MISO

Integration of Entergy network model into the existing 100,000 bus network model of ISO. Development of programs and tools for EMS data processing, import, entry, and validation in Alstom EMS: a) voltage schedules conversion, b) automation of adding new ICCP points, c) automation of capability curve data entry, d) comparison of new and old models for identifying SCADA to Network model mapping discrepancies, e) statistics analysis of model modifications, f) topology viewer tool, g) web tool for ICCP request management, h) converting existing web tool from MySQL into Oracle for model change requests from market participants. The work involved use of the following software packages: Oracle SQL and PL/SQL, MS Access, .NET, C-sharp, Visual Basic, Oracle Application Express, Perl.

Jan 2012 Riverside Municipal Utility, Riverside, CA

- May 2012 Senior Principal Consultant, Network Model Expansion

The project encompassed analysis of the existing power network model and expansion of the model for OSI Monarch EMS system. The network data was collected and breaker oriented model was built for 15 stations based on the one line diagrams provided by Riverside. The new stations were integrated into the existing network model. The expanded model was troubleshot and tuned to ensure an overall consistency of the integrated model by validating the modeling results in a converged power flow solution.

Feb 2012 Iberdrola, Radnor, PA

- Apr 2012 Software Developer, EMS Replacement

Responsible for data conversion of network model from ABB into Siemens database

Aug 2008 Azerbaijan Power (World Bank), Baku, Azerbaijan

- Jan 2012 Technical Lead, EMS/SCADA/AGC/Metering/Communication Replacement Project

Implementation Phase - Technical manager for Alstom EMS/SCADA project implementation. Responsible for the technical review of system design, system integration, coordination of onsite installation and commissioning of the EMS/SCADA, metering system and fiber optic telecommunication system. The system includes installation of 1000 KM OPGW and UG fiber optic telecom network, installation of about 50 RTUs, new national and backup control centers, and four regional centers as well as rehabilitation of two 220 kV substations. Procurement Phase – Responsible for analysis of the current state of the power grid and conducting needs analysis. Preparation of the system requirements report, complete preparation of EMS/SCADA technical specification. Assisting utility in vendors' pre-qualification, bid evaluation, and system procurement. Providing technical liaison between the electrical utility and World Bank.

Sep 2004 ERCOT, Little Rock, TX

- Aug 2008 Senior Principal Consultant, Nodal Market

Responsible for the management of EMS testing group. Testing of Alstom EMS applications and custom features for the nodal market of Texas. Actively pariticipated in system integration of new GE Alstom functionality and custom features for SCADA/EMS applications in the nodal market. Achieved on-time delivery of EMS software to the operations. Conducted customer training for the new system functionalities. Responsible for preparation of software requirements and use cases for Network Security Applications including State Estimator, Contingency Analysis, Voltage Scheduler, and Forced Outage Detections for the nodal market. Specification and use cases were prepared in Rational Requisite Pro software. Developed business requirements for monitoring security violations. Preparing functional requirements for simulating Special Protection Schemes, Remedial Action Plan, and Dynamic Remedial Action Plan (ERCOT custom feature for the nodal market).

Oct 2001 Tennessee Valley Authority (TVA), Chattanooga, TN

- Aug 2004 Senior Principal Consultant, EMS Replacement

Organized and provided project management leadership for the major power system modeling effort for six utilities: TVA, AECI, EKPC, LGE, KAMO, and BREC. Coordinated work on setting up and tuning of network applications for reliability coordination of the six utilities. Supervised model troubleshooting and regular model updates for State Estimator and Real-Time Contingency Analysis. The project

encompassed a large scale of the power grid and imposed a very tight schedule, but the fully functioning system and applications were successfully delivered on time to the utility's operations. Interacted with various utilities engineering groups and operations personnel to successfully maintain round the clock real-time network security applications. Provided training of the engineers and other utility personnel. The work included extensive use of Areva EMS and Telegyr EMS/SCADA, PSS/E, Power World, MS Access, SQL, and Visual Basic.

OTHER EXPERIENCE

May 1997 General Electric, Melbourne, FL

- Aug 1998 Engineering Manager and Software Developer

Managed team of 20 employees working as contractors for GE-Harris. Responsible for overseeing customer support for Florida operations and coordination of resource planning and optimization, preparation of technical proposals, and marketing.

Responsible for design and coding in C programming language and Sybase of circuit trace custom and review of switch order schedule conceptual design for Southwestern Electricity Board (UK) DMS SCADA project.

Developed program interface in C between XA-21/DAC and third-party load management software on the Five Pack (USA) EMS SCADA project. Customized network status processor module in C programming language for Conectiv, Delmarva Power utility. Developed serial port interface in C programming language for data acquisition based on 128-port asynchronous adapter for IBM RISC. Interface provided read/write transactions for multiple protocols of XA-21 system. Work included coding in C and SQL, software testing, integration, and preparation of design and software documentation. Standard XA-21 development.

$Nov\ 1996$ Three Gorges Hydro Dam Project, Yichang, Hubei, China

- May 1997 Consultant

Analyzed customer hardware/software requirements for Three Gorges project management system based on Oracle database. Work included site visit, customer's data collection, preparation of requirements, and meetings with potential hardware/software suppliers. Programmed three Allen-Bradley PLC 5/60s for pulp and paper plant. Work included ladder logic programming from SAMA and Boolean logic diagrams. The code for numerous typical motors was generated from Access and Dbase 5 databases directly into Allen Bradley ASCII format convertible to ladder logic.

Feb 1995 Monenco-AGRA, Montreal, Quebec, Canada

- Apr 1997 Project Leader

Responsible for design, software development, coding of essential routines, integration, and testing for intelligent traffic management system for Montreal. The project encompassed development of graphical user interface, real-time database, incident detection and validation algorithms, video camera controls, variable message signs, and system Integration with specialized RTUs, HP servers, and PC clients. The system was based on RTAP Plus SCADA and DNP 3.0 protocol, customized routines in C, C++, and Korn Shell scripts.

Sep 1994 Site Team, Ulsan, South Korea

- Dec 1995 Consultant

Hibernia offshore oil development project: Administered Oracle database at the construction site. Project also included design of SQL forms and reports and PL/SQL programming.

Dec 1993 - Aug 1994

Electrical Department, Monenco-AGRA, Montreal, Quebec, Canada

Senior Electrical Engineer

MEB Dispatch center project: Performed market research and interviews of major SCADA suppliers. Prepared recommendations and SCADA master specification for Midlands Electricity Board (UK).

TREC regional dispatch center project: Prepared specification for power network SCADA/EMS system for Teheran Regional Electrical Company control center in Saadat Abad.

Feb 1992 - Dec 1993

Telecommunications Department, Monaco-AGRA, Montreal, Quebec, Canada

Senior Electrical Engineer

Hibernia offshore oil development project: Responsible for implementation of Oracle database cable termination for all telecommunication systems on Hibernia oil production offshore platform. Responsible for coordination of telecommunication shutdown philosophy.

Apr 1990 - Feb 1992

Electrical Department, Monaco-AGRA, Montreal, Quebec, Canada

Senior Electrical Engineer

Kruger co-generation system study: Prepared recommendations and proposal for co-generation plant as well as transient stability, load flow, and short-circuit studies. Maritime Electric transmission planning study: Prepared proposal for the extension of the power system of PEI. Work included load flow, stability analysis, and short circuit studies of the integrated power system grid of Maritime Provinces. SCADA/EMS system for Nicaragua's national power utility, INE.: Supervised commissioning of Siemens SCADA and power network applications, SIMATIC programmable controllers, RTUs, and monitoring equipment. Substation design for INCO Copper Cliff industrial plant: Prepared electrical single-line and cable interconnection diagrams, relay coordination, calculation of substation grounding requirements, auditing of manufacturers' drawings for 6.9 KV and 13.8 KV switchgear and motor controls, bid evaluation, and specification for electrical equipment installation and grounding. Load frequency conversion study for INCO Copper Cliff industrial plant: Prepared cost estimate report of the load conversion and designed the electrical single-line diagrams for the new switchgear and motors.

Implementation of a hierarchy of SCADA systems for the National Power Corporation of the Philippines: Reviewed software documentation and designs against specification for regional control centers and mini SCADA systems for six island power grids.

- Feb 1990

Oct 1989 Electrical Department, Shawmont- Monenco, St. Johns, NF, Canada

Software Engineer

Baie Verte mines asbestos fibre recovery process: Responsible for programming and design of control and SCADA systems for a fullscale prototype fibre recovery plant. Coordinated PLC installation, troubleshooting and commissioning of the control system, SCADA, and mimic board.

lan 1986 Azerbaijan Technical University, Baku, Azerbaijan, USSR

- Jun 1989 Assistant Professor

Lectured in power system analysis and controls, transient processes, and computer programming for power engineering students. Provided supervision of degree papers on control systems design in power systems.

 $\ensuremath{\mathsf{Sep}}\ 1982$ All-Union Thermomechanical Institute, Moscow, Russia, USSR

- Dec 1985 Research Engineer

Responsible for designing an algorithm for turbine/excitation control system of a 300 MVA steam generator at Troitski Power Plant (Russia). Work included software development of a detailed simulation model for the turbine, stability studies, and commissioning of the control system.

EDUCATION

Moscow Power Engineering University, Moscow, Russia

Ph.D., Power Systems and Controls, M.S. Cybernetics of Electrical Systems Magna Cum Laude

PUBLICATIONS

Available upon request

MIKE VIESCA

CONTACT

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WEBSITES, PORTFOLIOS, PROFILES

www.linkedin.com/in/mikeviesca

SKILLS

- Executive Leadership
- Strategic Planning and Execution
- Industry Expertise
- Policy Development
- Regulatory Compliance
- Political Campaigns
- Annual Planning
- Crisis and Reputation Management
- Effective Communicator and Public Speaker

HONORS-AWARDS

• Burson-Marsteller: Employee of the Year

LANGUAGES

English

Native or Bilingual

Spanish

Professional Working

Methodical executive with a passion for motivating focused teams toward reaching goals. Known for adhering to high ethical standards and embracing new challenges.

WORK HISTORY

November 2021 to Present

Consultant, Utilicast, Austin, Texas

- Provide communications expertise to utilities across the U.S.
- Perform after-action reviews and comprehensive evaluations of communications tools and processes.
- Develop strategic initiatives for process design and improvement.

April 2018 to October 2021

Executive Vice President of Public Affairs, Pedernales Electric Cooperative (PEC), Johnson City, Texas

- Served as a member of the cooperative's Executive Team; consulted with executive leadership to establish vision and strategic direction that aligned with PEC's goals.
- Spokesman for Pedernales Electric Cooperative, Inc., and its Board of Directors.
- Successfully implemented strategies for communications, community relations, legislative affairs, and government affairs programs.
- Maintained strong relationships with news media.
- Advocated on behalf of PEC as a registered lobbyist; oversaw one internal lobbyist and two external lobbyists.
- Built and maintained relationships with federal, state, and local officials, legislators, key staff, state agencies, trade associations, and other key stakeholders.
- Monitored legislation and legislative hearings; interpreted information and identified key legislative and state policy issues and developed recommendations for action.
- Ensured the cooperative's interests were represented and protected in legislative and regulatory proceedings.
- Provided leadership support for direct-report departments to ensure

- they cohesively worked together to maximize opportunities for personal and professional development.
- Developed and implemented outreach and community engagement activities with an emphasis on local elected leaders.
- Provided high-level advice to the CEO and Executive Team and implement agreed upon management decisions; managed specific projects as requested.
- Implemented and enforced communication standards across the organization to ensure proper message and tone while adhering to timelines, processes, and approvals.
- Implemented and enforced brand standards internally.
- Provided employee guidance in handling difficult or complex problems and in resolving escalated complaints or disputes.
- Developed and managed budgets.

May 2008 to April 2018

Director (Vice President) Burson-Marsteller, Austin, Texas

- Provided onsite support to the Vice President of Communications of a Fortune 100 company. This included advising the client on strategic communications plans in response to legal and regulatory challenges. Worked closely with C-level executives and legal staff to create and execute change management messaging campaigns for internal and external audiences. Collaborated with client on outreach projects. Engaged third parties to advance client's reputation and legislative agenda. Led grassroots efforts in strategic locations across the U.S. as needed.
- Account leader for a confidential federal government agency based in Washington, DC. Managed a \$2.2 million contract involving research, public relations services, media relations, crisis management, website design, and social media development. Client's day-to-day point of contact. Served as liaison between colleagues and client. Advised client on media relations and crisis communication issues.
- Developed statewide public awareness and education programs for government clients using traditional print, radio, TV, and social media
- Advised Fortune 500 clients on matters involving labor issues and contract talks with employees.
- Fostered relationships with Austin community and business leaders to enhance Burson-Marsteller's image and profile.
- Participated in new business pitches and client development activities.

September 2003 to April 2008

External/Internal Communications Texas Dept. Of Criminal Justice, Austin, Texas

- Director of Media Relations.
- Spokesman for the Texas Department of Criminal Justice, the Texas Board of Criminal Justice, and Texas Board of Pardons and Paroles.
- Forged solid relationships with domestic and international press.
- Anticipated the impact of legislative decisions and events and communicated the agency's position to media outlets worldwide.
- Specialized in crisis management, high-profile, and politically sensitive issues.
- Developed statewide communications strategies and advised executive staff on key issues and public affairs.
- Mentored and guided executive team during business development decision-making to optimize communications planning.
- Developed and implemented statewide communications strategies.
- Prepared legislative briefings and presentations for the Executive Director and Board Leaders.
- Developed internal communications programs for a statewide workforce of 40,000.

May 2001 to September 2003

Deputy Press Secretary Texas Attorney General, Austin, Texas

- Agency Spokesman for Texas Attorneys General John Cornyn and Greg Abbott.
- Responded to press inquiries from media outlets worldwide.
- Prepared news releases, media advisories, and Op-Eds.
- Specialized in highly sensitive issues, such as: corporate fraud; homeowners and health insurance; criminal justice matters and death penalty cases; and open government issues.
- Worked closely with the Attorney General's executive staff, division chiefs and the Assistant Attorneys General to ensure continuity in the agency's messages.
- Press Liaison Worked with internal staff, agency partners, and the media to coordinate and manage news conferences.

EDUCATION

Bachelor of Arts
Broadcast Journalism
Texas Tech University, Lubbock, TX

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