



April 3rd, 2023

*To Village of Mamaroneck Harbor &
Coastal Zone Management Commission*

Re: 572 Van Ranst, Mamaroneck – Proposed Residential Microgrid

I have been requested to provide subject matter expertise on the proposed residential microgrid project in 572 Van Ranst, Mamaroneck, New York. I have spent my career driving smart energy and utility projects that involve technologies for computing, connectivity, and security applications and distributed energy resources (DERs) to improve grid safety, reliability, and resilience.

My credentials that are most relevant to this project include:

- A PhD in Electrical Engineering (Resilient and Reliable Energy Supply) from the Illinois Institute of Technology, including their nationally recognized “campus microgrid”.
- 17 years of professional experience in distributed energy resources, improving grid safety, reliability, and resiliency, with much of the work done in the microgrid sector.
- Contributed to 10 separate technical and advisory engagements (including the California Renewables-based Microgrid Commercialization Roadmap Technical Committee and the R&D Committee Chair for IEEE Smart City).
- Authored and contributed to 14 energy related publications.
- Developed a Smart Cities Team & Practice, a Microgrid Practice & Team, and a Smart Reservation.
- Led well-received initiatives through the Willdan Group and Sovereign Resilience Partners, including \$300M Community Microgrid and Integrated Demand Side Management offerings for the \$775M CA Energy Efficiency Programs.
- Led and managed 9 NYSERDA funded microgrid feasibility studies for the Willdan Group.

I am aware of the importance of the “shelter in place provision” to address concerns of development in this flood prone neighborhood. I have reviewed the plan for the distributed energy “always on” system designed for the 572 Van Ranst building and found it appropriate in serving the purposes of the project. In summary, the Aris plan, as it was presented to me, is a reasonable and proper approach to achieve the goals of a “shelter-in-place residence”. Multifamily buildings across the country currently use microgrids with different types of power generation as source of back-up power during unplanned utility outages.

I hope you find this letter helpful, and I look forward to seeing this project develop further .

Mehdi Ganji, PhD
Smart City Lead
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Contact

www.linkedin.com/in/mehdigANJI
(LinkedIn)
www.willdan.com/energy/demand.aspx (Company)

Top Skills

Smart Grid
Leadership
Policy Analysis

Honors-Awards

2015 Outstanding Young
Professional Engineer Award

Publications

Microgrids Chapter
Smart Cities Chapter
Development of a Residential
Microgrid Using Home Energy
Management Systems
Smart City: A Mobility Technology
Adoption Framework Incorporating
Surface-Level Technical Analysis
Microgrids for Airports: the Barriers
and Solutions

Mehdi Ganji

Visionary and accomplished Microgrid & DERs Leader
San Francisco Bay Area

Summary

A dedicated professional with 17+ years of driving smart energy and utility projects that involves technologies for computing, connectivity, and security applications and distributed energy resources (DERs) to improve grid safety, reliability, resilience, and cost-effectiveness. A forward-thinking leader who excels in driving business vision and strategies as a go-to resource for climate and energy science, standards, and policy. He also Forges lasting stakeholder relationships and incorporates out-of-the-box thinking to enable best-in-class connected solutions across the energy value chain. Supporting these achievements are his exemplary educational qualifications. These include a Ph.D. in Electrical Engineering (Resilient and Reliable Energy Supply) from the Illinois Institute of Technology.

Key Area of Specialization:

Leadership
High-Performing Team Building
Growth Strategy
Energy & Utility Bussiness
Regulatory & Policy
Roadmap Development
Strategic Partnerships
Smart Energy Solutions
DERs & Microgrids
IoT & Control Mechanism
Business Development
Budget Management

Selected highlights from my career:

1. Sought as a go-to resource for advanced smart energy topics and initiatives, contributing to 10 separate technical and advisory engagements (including the California Renewables-based Microgrid Commercialization Roadmap Technical Committee and the R&D

Committee Chair for IEEE Smart City). Authored and contributed to 14 publications.

2. Built out a Smart Cities Team & Practice, a Microgrid Practice & Team, and a Smart Reservation Practice, earning a reputation as a thought leader and driving continued innovation in the energy value chain.

3. Led well-received initiatives through the Willdan Group and Sovereign Resilience Partners, including \$300M Community Microgrid and Integrated Demand Side Management offerings for the \$775M CA Energy Efficiency Programs.

4. Attained alliances with global market leaders, including the USTDA and the European Bank of Reconstruction and Development

5. Produced the first-of-its-kind Smart Reservation solution applicable to 574+ federally recognized tribes through Sovereign Resiliency Partners, addressing challenges through ingenuity and expertise.

6. Established multiple new products (EV Charging, Smart Building Energy Management, and Smart Connected Street lighting) and ensured operational excellence.

I enjoy playing with my daughter and son in my free time. I love cooking, and my backyard grills are my best buddies.

I look forward to meeting you! You can reach me at mehdi.ganji@ieee.org.

Experience

Willdan Energy Solutions

Vice President of New Business Development

May 2015 - Present (8 years)

San Francisco Bay Area

- Led the development of an end-to-end microgrid Planning and Operation technology stack architecture that was well-received by the utilities and attracted \$41M of public and private investment.
- Build the energy-focused smart city practice from the ground up using the internal engineering, urban planning, security, and financial services talents, increasing sales by 18% and reducing development costs by 23%.

- Pioneered automation and product integration from DERs planning, engineering, and benchmarking; used in \$775M CA utility Programs and \$200M Microgrid nationwide.
- Led the development of utility-owned Communication & Control Framework for DERs operations (microgrids, Virtual Power Plant, and transportation electrification), cutting the DERs projects development costs by 50%.
- Established well-received initiatives, including energy resilient electric hub for public vehicles fleet reducing their operation & maintenance costs by 35%.
- Sought as an industry thought leader, publishing articles/books and talking at conferences and symposiums to gain a broad, global network of potential partners.
- Achieved alliances with global market leaders, including the USTDA and the European Bank of Reconstruction and Development (EBRD), adding 5 new key markets to the company.
- Co-developed the mechanism to finance innovative solutions by leveraging public funds, incentives, and tax credits, setting up 3P agreements, and improving the project's IRR by 34.2%.
- Championed data-driven growth strategies while securing and aligning resources (technologies, staff, partnerships, and funds), updated the board of directors every quarter, and supported the management in telling stories to the investor at quarterly investor calls and external events.

Sovereign Resilience Partners

Technical Advisor

January 2020 - Present (3 years 4 months)

San Francisco Bay Area

- Developed the first-of-its-kind energy-focused Smart Reservation transformation platform applicable to 574+ tribes, resulting in their energy cost reductions by 41%.
- Delivered an outstanding \$100M smart energy pipeline (microgrids, electrification, and energy efficiency) and exceeded the revenue target by 25%.
- Deployed smart connected street lighting solution in CA reservations, which generated %60 annual cost savings, and is currently considered the backbone to support additional 10 smart services.
- Collaborated with clients, utilities, and regulatory and policy authorities, integrating new communication channels to facilitate leveraging the annual \$85M CA funds to adopt energy-focus smart reservations.

Robert W. Galvin Center for Electricity Innovation

Industry Advisor

May 2015 - Present (8 years)

Chicago, Illinois, United States

Supported the management Growth Strategy, research road map development, Regulatory and Policy discussions, and market research.

Illinois Institute of Technology

Adjunct Professor

January 2016 - May 2017 (1 year 5 months)

Greater Chicago Area

Teaching Power System courses such as Power System Protection, and Microgrid Design.

Galvin Center for Electricity Innovations

Director of Operations

August 2012 - May 2015 (2 years 10 months)

Chicago, Illinois, United States

- Managed the entire lifecycle of the \$65M DOE-funded campus microgrid project to generate a one-time \$7M investment cost and more than \$1M annual O&M cost savings.
- Collaborated with the local utility to leverage the IIT microgrid as the primary energy resource of the first-of-its-kind utility-owned nested Microgrid, Bronzeville microgrid, with 100% resilience capability.
- Developed technologies, algorithms, and turnkey solutions with significant economic and social impacts, including introducing 10 top talents annually and 5 fully-vetted emerging technologies.
- Led a team of researchers, vendors, and engineers developing the first-of-its-kind \$1.5M DOE-funded Nano-grid, which increases the Solar+Battery deployment efficiency by 15%.
- Collaborated with IIT legal and business school faculties to facilitate the commercialization of developed technologies, uncovering opportunities to reduce time-to-market.
- Replicated well-adopted IIT microgrid nationally and collaborated on training more than 50 experienced talents to operate the future grid.
- Managed the Center for Smart Grid Applications, Research, and Technology (CSMART) to support the city's development of \$160M Smart Street Lightings with \$10M annual cost savings.

USDOE Industrial Assessment Cetner

Renewable Energy Project Manager

August 2009 - August 2010 (1 year 1 month)

San Francisco Bay Area

- Collaborate with a team of energy engineers to perform energy audits and prepare reports using the analysis.
- Manage the DOE funds to implement projects at the medium size facilities.

Education

Illinois Institute of Technology

Doctor of Philosophy (PhD), Electrical and Electronics Engineering · (July 2012 - May 2015)

Illinois Institute of Technology

Master, Power System Engineering, Electrical Engineering · (2010 - 2012)

San Francisco State University

Some Graduate courses, Electrical Engineering · (2009 - 2010)