

VIR CHAHAL

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SUMMARY

Mr Chahal is a Managing Director in the Energy and Climate practice. He has over 12 years of experience leading diverse teams focused on power system consulting services. His expertise includes engagements related to integrated resource planning, power asset market due diligence, and strategic entry for various stakeholders in the power industry. They also include power market price forecasting and production cost modelling using multiple industry standard software products. He is well versed in resource adequacy planning and portfolio optimization. Mr. Chahal has performed over 85 power transaction market due diligence engagements. Furthermore, Mr. Chahal has performed numerous renewable penetration studies highlighting the impact of increased renewable penetration on operations, ancillary service requirements, reliability, carbon reduction, and system costs and has advised dozens of North America's largest utilities in strategic generation planning.

His clients have included policy makers, investors, developers, plant owners, state energy boards, ISO's/RTO's, and utilities.

EDUCATION

MSE Electrical Engineering Stony Brook University, 2007

BSE Electrical Engineering Tufts University, 2006

PRESENT EMPLOYMENT

Managing Director, Berkeley Research Group, Jan 2021

PREVIOUS POSITIONS

Director, Navigant Consulting, 2010-2020

Application Engineer, General Electric, 2008-2010

Resource Adequacy Contractor, NYISO, 2003-2006

SELECTED PROFESSIONAL EXPERIENCE

- Performed market due diligence analysis and transactional support for over \$25B worth of power

assets in North America, including transmission, generation, and midstream NG.

- Led and authored study for the Energy Storage Association on the storage modelling capabilities, needs, and gaps that exist in the marketplace.
- Led Stakeholder engagement on behalf of the IESO to educate participants on market mechanisms and structures ahead of Ontario's market reform efforts.
- Led avoided cost and solar variable integration cost analysis for Santee Cooper utility area to determine rates and system operational requirements for varying levels of solar penetration.
- Led engagement with The NYISO in evaluating their current structure for determining reserve margin requirements in locational capacity zones and used a monte-carlo reliability simulation modelling platform to test alternate approaches. This included stakeholder engagement with NYISO participants.
- Performed several transmission cost-benefit analyses for utilities and developers to determine cost sharing mechanisms and impact of new import capability.
- Analyzed economic and reliability impacts of the Regional Greenhouse Gas Initiative (RGGI) for the New York State Energy Research and Development Association (NYSERDA). Coauthored CIGRE paper on RGGI project findings.
- Managed economic analysis for the LADWP once through cooling study looking at various potential replacement and repowering scenarios from a reliability, economic, and environmental standpoint.
- Technical lead for LADWP MGREPS project assessing the needs of flexible generation on the system given various scenarios on solar penetration and demand profiles.
- Evaluated the impact of a 1500MW compressed air energy storage facility on energy market prices while optimizing the performance of the facility for various value streams.
- Conducted long term advanced planning support for LADWP, FPL and Dominion Power considering specific environmental goals, economic impacts, and reliability considerations
- Led economic forecasting effort for cost benefit analysis of Access NE pipeline determining full value, including reduced reliability concerns, environmental attributes, and economic benefits.
- Evaluated wind and solar curtailment risk and basis risk for numerous developers at sites across the United States
- Led studies to develop long term capacity expansion plans for Hawaii and Rhode Island.
- Led technical team lead for Austin Energy IRP Planning Study to determine solar versus thermal portfolio expansion decisions.
- Authored and presented paper at Power Gen International on the economic and environmental impacts of coal displacement through increased renewable penetration vs. a natural gas approach in CAISO.
- Led monte-carlo reliability simulation LOLE analysis using GE-MARS for the Western Wind and Solar Integration Study (WWIS).
- Performed annual Installed Reserve Margin studies to determine the IRM targets for locational capacity zones and the New York Control Area

EXPERT TESTIMONY AND REGULATORY

- **New York Department of Public Service**, Testified in front of the New York Public Service Commission on matters related to the AC Public Policy Transmission Projects, Segment .
- **New York Department of Public Service** Testified in front of the New York Public Service Commission on matters related to the AC Public Policy Transmission Projects, Segment B.

- **South Carolina PSC**, Testified at South Carolina Public Service Commission on behalf of Dominion Energy on renewable integration costs related to solar qualified facilities.
- **Austin City Council**, Presented on Austin IRP analysis of solar and transmission alternatives to a new combined cycle.