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Maz Mazadi, Ph.D., P.Eng.

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Professional Profile

Dr. Mazadi has more than 20 years of combined academic and industry experience in power system analysis. The analyses include power flow, transient stability, voltage stability and short circuit studies for all types of load and generation interconnection, including renewables, cogeneration and oil and gas/industrial loads.

He has performed and managed generation and load interconnection studies as well as the selection of connection alternatives in the Province of Alberta in Canada. Dr. Mazadi has worked with diverse market participants wishing to connect to Alberta's grid in Canada. This includes developing technical reports and analysis to identify the best location, connection alternative and size to connect generation or load to the grid for congestion-free operation.

Dr. Mazadi has an extensive background in transmission planning with respect to compliance with NERC and WECC Transmission Planning and Reliability standards. As part of his previous experience, he has worked closely with distribution and transmission system owners regarding the justification for the need for transmission system upgrades. He has experience in probabilistic power flow for the purpose of congestion assessment and transmission upgrades in the power grid for Independent System Operators (ISO).

Dr. Mazadi has provided the technical solutions for complex regulatory problems related to interconnection into Alberta's power grid. He has appeared in several regulatory hearings (Utility Commission) as the technical expert in power system analysis and selection of preferred connection alternatives to the grid.

Academic Credentials & Professional Honors

Ph.D., Electrical Engineering, University of Calgary, 2010

M.Sc., Electrical Engineering, Amirkabir University of Technology, Iran, 2000

B.Sc., Electrical Engineering, Isfahan University of Technology, Iran, 1996

Academic Appointments

Teaching assistant University of Calgary, 2006-2010

Teaching assistant AmirKabir University 2002-2005

Lecturer, University of Hormozgan Iran 2002

Prior Experience

Manager interconnection studies AESO, Calgary, Canada 2018-2021

Senior Study Engineer, AESO, Calgary, Canada, 2013-2018

Modelling Engineer, AESO, Calgary, Canada, 2011-2013

Postdoctoral Fellow, University of Calgary, 2010-2011

Teaching Assistant, University of Calgary 2006-2010

Electrical Engineer, Sazeh Consultants, Tehran, Iran, 2003-2005

Instructor, University of Hormozgan 2002, Iran

Professional Affiliations

Senior Member of IEEE

Publications

Craig M. Steigerwalt, Maz Mazadi, "Successfully Managing the Renewable Generation Interconnection Process", Western Energy Magazine · Oct 17, 2022.

M. Mazadi, M. Mirsalim,"Fast starting of three-phase induction motors using the combination of applied voltage and increasing resistance to the rotor winding", ICEE, pp. 123-129, May 17-19, 2000.

M. Mazadi, G.B. Gharehpetian," Studies of surge voltage transfer from HV to LV winding based on detailed modeling of windings", 15th International Power System Conference Nov. 2000, Tehran, Iran.

M. Mazadi, S.H.Hosseinian,"Flicker meter simulation to use in power system analysis programs", 16th International Power System Conference (PSC) 22-24 October 2001, Tehran, Iran.

M. Mazadi, S.H.Hosseinian,"Flicker meter simulation to use in power system analysis programs", Universities Power Engineering Conference, 6-8 September 2004 Bristol, UK.

M. Mazadi, S.H.Hosseinian," Remote assessment & monitoring of flicker indices in large power system", WSEAS Transactions on Systems, Issue 8, Volume 4, August 2005.

M. Mazadi, W. D. Rosehart, P. Malik, J. A. Aguado, " Generation expansion planning with chance-constrained optimization", Modeling and Optimization: Theory and Applications 2008, University of Guelph, Guelph, Ontario.

M. Mazadi, W. D. Rosehart, Hamid Zareipour, O. P. Malik, Majid Oloomi," Wind uncertainty model using chance-constrained programming in electricity markets", INFORMS 2010, Austin, USA.

C. Liang, J. Kettunen, J. Carbone, M.Mazadi," Evaluating climate policy option in Alberta electricity market", Carbon Management Canada 2011, Calgary, Canada.

M. Mazadi, S.H.Hosseinian, W.Rosehart, D.T.Westwick, " Instantaneous voltage estimation for remote assessment and monitoring of flicker indices in power systems", IEEE Transactions on Power Delivery, Volume 22, Issue 3, July 2007 Page(s):1841 – 1846.

M. Mazadi, W. D. Rosehart, O. P. Malik, J. A. Aguado, " Modified chance constrained optimization applied to the generation expansion problem", IEEE Transactions on Power System, Volume 24, Issue 3, August

2009 Page(s):1635 – 1636.

M. Mazadi, W. D. Rosehart, Hamid Zareipour, O. P. Malik, Majid Oloomi," Impact of wind integration on electricity markets: A chance-constrained Nash Cournot model", European Transactions on Electrical Power, Volume 23, Issue 1, pages 83–96, January 2013.

Presentations

Ralph Liu, M.Mazadi, Liuzhong Shi, M.Mobarak, "Stability assessment of turbine generators connected to relatively weak Areas", EPEC Technical Presentations Program, Nov 2014.

Project Experience

Managed and performed interconnection technical studies such as power flow, transient stability, voltage stability and short circuit studies for load and generation connections into the Alberta power grid. Utilized probabilistic assessment to identify congestion in the transmission system and make the proper decision for renewable integration into the Alberta grid.

Contributed to a series of industry workshops to create an industry-wide-accepted decision-making framework for optimization of transmission system expansion caused by distribution system deficiencies.

Worked closely with grid operations, planning, market participants, forecasting and engineering teams to ensure safe and reliable connection of load and generation interconnection to Alberta's power grid.

Additional Education & Training

Distribution system planning

Principles of Substation Design and Construction, University of Wisconsin-Madison

Leadership training, AESO

Project management: An overview, Mount Royal University

C.A.R.S Method For Potentially High Conflict Situation, BIFF Response Method. A Project of the High Conflict Institute

Advance Dynamic Simulation Using PSSE, Siemens

Power Flow and Steady-State Analysis PSSE, Siemens

Change Management, Prosci

AURORA, Electric Market Model, Modeling and Forecasting software, EPIS

Deposition & Trial Testimony

West Edmonton Transmission Upgrade Project, Alberta Canada, 2019

Provost Reliability Project, Alberta Canada, 2019

Fincastle substation upgrade, Alberta Canada, 2019

Sterling wind interconnection, Alberta Canada, 2019

Jasper interconnection Project, Alberta Canada 2018