GAYE ANGELA OHANESIAN

SUMMARY OF QUALIFICATIONS

35 years of Power Delivery, Generation and Energy related experience establishing, executing, and managing work plans. Consultant, Project Engineer, Project Manager of numerous Transmission Power Delivery projects involving all phases from scope, design, siting, routing, engineering, estimating, cost/benefits analysis, economic comparison analysis, construction, inspection for overhead and underground Transmission.

Provided Technical Support and Education to municipal lead counsel, selectmen and citizen neighborhood groups for DPU/Energy Facilities Siting Board (EFSB) Transmission Lines petition applications Ch164 Secs72,69J for routing and technologies serving Town Administrator, Board of Selectmen, and Town Counsel

Lead engineering and technical support for multiple phases, ie. concept, design, routing, DPU/EFSB petition applications Ch164 Sec72 and 69J, engineering, estimating, permitting, and construction for the first new overhead and underground transmission lines. Provided technical information to MA Energy Facilities Siting Board as part of tour of proposed facilities.

Developed transmission and substation conceptual layouts, feasibility studies, siting and routing, Right-of-Way ultimate cross sections for future plans and protection of ROW, estimates from concept to construction.

Reviewed transmission gas companies (ie. Algonquin, Spectra, Kinder Morgan, Tennessee Gas) route proposals using existing corridors, providing technical, ROW and easement input to route gas lines to minimize impact, access and maintenance to existing transmission and distribution assets within the ROWs. Provided input to improve siting of cathodic protection and anode beds for easier access to distribution power, minimizing crossings, and protecting existing counterpoise and grounding of transmission lines. Oversite of soil sampling to prevent counterpoise damage.

Supported System Planning with transmission concepts, estimates, and options. Responded to ISO NE requirements including Class 4, preparation of ISO documentation to support System Planning activities and reports. Developed Greater Boston Study transmission lines into feasible projects, provided Class 4 estimates optimized to compete in the ISO-NE FERC 1000 winning approval process.

Provided technical support including Design and Engineering of subtransmission lines to prepare permitting and construction documents including drawings, bill of material, specifications, related environmental, sensitive areas (ie. Adirondack Park Agency and Forest Preserve, Lake Placid) and governmental permitting including Article VII, schedule and estimate for Construction Field Issue

Evaluated and developed new work methods at Connecticut Natural Gas taking advantage of GIS tools, developed bids for system, analyzed and rated responses, developed implementation plan to execute deployment and improve Work Order Management process and tools.

Evaluated and developed improved mapping methods of gas lines using GIS technologies for Boston Gas, now National Grid.

Resolved and responded to Transmission related NERC alerts and requirements. Worked with Compliance to respond to events, documenting technical aspects, responding to questions, lessons learned, and to NRC related events where transmission interconnected with nuclear generation.

Provide construction inspection and engineering to install new and replacement municipal facilities including roadways, drainage, water, sewer avoiding electric, gas, and communication utility assets.

Director-Board of Directors of 501(c)3 non-profit: Harold D Williams National Energy and Sustainability Resource Center to enable minorities, women and disabled veterans in energy industry working together with board members who include NARUC members, former retired commissioners of state DPUs.

PROFESSIONAL EXPERIENCE

President, Director – gopower inc, Boston, MA (2016 – present)

Project Management and Consulting – Directed consulting services, project management and quality engineering management projects to utilities, utility contractors, and municipalities

Current and selected projects:

- **Town of Winchester, MA**
  - Provided Technical Support and Education to lead counsel, selectmen and citizen neighborhood groups for 345kV Transmission Line between Woburn and Wakefield DPU/EFSB petition applications Ch164 Secs72,69J serving Town Administrator, Board of Selectmen, and Town Counsel
  - Provided Technical Support and Education to lead counsel, selectmen and citizen neighborhood groups for 115kV Transmission Line between Woburn and Wakefield DPU/EFSB petition applications Ch164 Secs72,69J serving Town Administrator, Board of Selectmen, and Town Counsel
  - Reviewed and analyzed petitioned routes, need, sensitivity characteristics/constraints, transmission design capacity, economic comparison and analysis, cost estimates, construction techniques including bridge and underground trenchless crossings, project alternatives, technology alternatives, impacts to town environment, roads, utility assets, businesses and residences, DPU EFSB regulations and draft agreements
  - Identified and reconciled petition proposed techniques, formulae and data conflicts
  - Proposed technical solutions to mitigate concerns: routing, type of crossings, construction methods, type of transmission, design corrections
  - Developed and responded to written Information Requests to support hearing activities
  - Field inspected proposed routes and identified differences in field versus petition testimony
  - Expert witness testimony
  - Provided network of experts to consult and testify
  - Met with town Board of Selectmen, departments and residents on multiple occasions to answer technical transmission line questions
- **Town of Stoneham, MA**
  Consulting and Technical Support for 345kV Transmission Line between Woburn and Wakefield similar to Town of Winchester – see reference
- **Boott Power, subcontract to GE, Lawrence, MA**
  8 MW Hydroelectric Unit high risk inspection including turbine, bearing, replacement of water seals and bearing pads; complete hydraulic fluid system cleaning, filtration and testing. NDT inspection of bearings. Aggressive client schedule and budget was met. Communication with GE and Client was key to mitigating risks, applying solutions and successful project.
- **New York Power Authority, subcontract to SECo, Reading, PA**
  Inspection, engineering and construction of project - Replacement of shieldwire with Optical Ground Wire (OPGW) for about 70 miles of 230kV transmission line

NSTAR Electric dba Eversource Energy
Manager – Transmission Engineering (Capital Projects, Maintenance, Inspection of Overhead and Underground Transmission Facilities)
Director – Transmission Branch (Emergency Restoration)
(2011-2015)
Responsible for engineering, maintenance and inspection of 250 miles of Underground transmission lines in Greater Boston, at the time the second largest system in the USA. Responsible for about 1000 miles of OH Transmission lines from Burlington to Wellfleet and west to Uxbridge, MA
Accomplishments:

- Provided direction and developed overhead and underground transmission lines Transmission Lines Asset capital projects long term strategy incorporated into workplan, currently being executed and accelerated leading to support of exceptional profits. Identified, prioritized transmission asset refurbishment needs; established in 5 Year Plan for which provided identified capital and maintenance work and the opportunity for the company to bring forward projects into its annual plan.
- Increased engineering capacity to support Transmission Lines Assets Capital and Maintenance Projects from $20M in 2010 to over $220M 2015 (Capital and Maintenance projects for asset improvement and system planning projects, ie. capacity and N-1-1 reliability projects) with the goal to reduce power outages and improve customer satisfaction
- Met or exceeded schedule metrics each year for OH and UG Refurbishments, Relocations, Reconductoring, New Installations and Fiber Optic/Ground Wire and Counterpoise Installations.
- Lead engineering and technical support for multiple phases, ie. concept, design, routing, DPU/EFSB petition applications Ch164 Sec72 and 69J, engineering, estimating, permitting, and construction for the first new overhead and underground transmission lines in over a decade.
- Lead review, including Real Estate department, of transmission gas companies (ie. Algonquin Spectra, Kinder Morgan, Tennessee Gas) route proposals using existing Right of Ways, providing technical and easement input to route gas lines to minimize impact and access to existing transmission and distribution assets within the ROWs. Provided input to improve siting of cathodic protection and anode beds for easier access to distribution power, minimizing crossings, and protecting existing counterpoise and grounding of transmission lines.
- Provided direction, management and communication about the construction, installation and maintenance of related facilities to meet DPU regulations. Attended DPU and Town meetings. Met with various agencies, community leaders, DPW, police, neighbors, developers and customers to answer questions about new and existing facilities. Communicated with various agencies including MA DOT, MA DEP, MBTA, Army Corps, local harbor masters, local airports, and the FAA to accomplish the installations and maintenance.
- Community relations, ROW and project management support meeting with customers, developers and abutters to facilitate and address individual customer questions, concerns and problems. Provided win-win solutions.
- Met with and attended regulatory, business and field meetings DPU, EFSB, MADOT, MBTA, DCR, Airport and various cities and towns to answer questions, pose proposals, provide guidance and solutions, resolve issues.
- Negotiated agreements with union to resolve grievance claims. Worked with company labor relations.
- Lead substation replacement and rearrangement projects for Cape Wind Interconnect at Barnstable Station. Existing equipment and facilities needed to be fit into a more compact space to make room for interconnection. Managed development of new arrangements using Gas Insulated Transmission and Substation equipment. Lead the design of replacement of Bourne Substation with the goal

minimizing outages and reducing complexity of existing underground and overhead line terminations while respecting the multiple environmental sensitivities of the military base Right of Way.

- First utility in ISO-NE area to complete NERC/FERC Facilities Alert requirements which was led by Transmission Engineering and coordinated with Vegetation Management and ROW to eliminate clearance issues and encroachments meeting MA 220 CMR 125 regulations and NESC clearance requirements for this federal alert. Coordinated with neighbor utilities to develop common approach.
- Standardized transmission assets: conductors, wood and steel structures improving for strategic live line maintenance and merging Boston Edison and Commonwealth Electric standards resulted in improved efficiency of engineering, estimating, fungibility and procurement.
- Fostered idea of forecasting materials for multiple similar projects and providing information to procurement for volume bidding and purchasing with releases. Provided direction and guidance to Procurement for multi-million dollar contracts for materials and services.
- Updated computer equipment and deployed engineering CAE and CAD tools, such as PLS suite of tools, CADD, TOWER, POLE introducing Fiber and updating USI applications for underground, and AutoCAD, ESRI ARC suite of tools, coordinating with Substation, GIS, Right of Way, Survey, Vegetation Management and Underground and Distribution Operations, incorporating existing LIDAR data and translating into applicable functions.
- Established process and budgets to spearhead resource planning to accomplish capital and maintenance work collaborating with multiple groups, Station Ops, Field Engineering, Field Communications, Communications Engineering, Substation Design/Engineering, Investment Planning, and Project Management/Scheduling. Fostered coordination between groups for various projects' interfaces for UG and OH line work, station structures and foundations. Coordinated regularly with Right of Way Group and Legal to proactively handle encroachments and resolve historical ROW issues for the long term
- Calculated the ratings of entire NSTAR region transmission line system for calculation approach consistency, access by System Planning for improved future decision making and access by System Operations for improved day to day operations, ISO related capacity availability and emergency decision making
- Strategy to establishing common tools, materials and training for maintenance transmission crews
- As Transmission Emergency Response Branch Director, successfully managed ERP events including Irene, two October storms, and NEMO. Directed Transmission crews, engineering, fault locating, tree contractors, line contractors, and repairs. Prepared and made ready ERP materials, coordinating with internal ERP management to strategically avail and ready transmission capable contractors in both North and Cape Cod regions for faster restoration. Prepared and established protocol for engineering personnel, data, fault locating, transmission capable contractors, aerial inspections and material resources to be accessible during events. Managed helicopter, engineering and linemen teams for after-event surveys for Transmission and Distribution. Provided emergency and restoration support for fire and major outage events.

Selected Previous Experience:

President, Director – gopower inc, Boston, MA

Project Management and Consulting – Directed consulting services, project management and quality engineering managing projects where precision and logistics were key to success. Worked collaboratively with utility clients and APM, a General Electric company. Selected projects:

- **Weston and Sampson Engineers, MADOT Wind Turbine Development Site, Blandford, MA**
  Technical and financial guidance, criteria development, review of Wind Turbine project.

- **New York Power Authority, subcontract to GE, Blenheim-Gilboa, NY**
  1000 MW Pump Storage Facility Refurbishment of 260MW Hydroelectric Refurbishment including Pole Remove and Install and NDT Inspections, Repair and refurbishment Rotor Rim Ledges
- **Central Hudson Gas & Electric, Sturgeon Pool, NY**
  Unit 1 5MW Hydroelectric Turbine Refurbishment
- **Boston Generating, Mystic Station, Boston MA**
  Document Control and Document Management
- **TransCanada, Comerford, NH**
  Refurbishment and Upgrade of 45 MW Hydroelectric Turbine and Generator Unit
- **Brookfield Renewable Energy Group, Bear Swamp, Rowe and Florida, MA**
  Development of quality control and procedures to remove and re-install refurbished poles including training.
- **Enel Green Power, Boott Hydroelectric, Lowell and Lawrence, MA**
  Quality and inspection project. Scheduling, logistics, forecasted labor resources, budget and tracked project making adjustments to improve and realign with original plan plus change orders.

Senior Project Manager/Engineer – Vanderweil Engineers, Boston, MA

- **National Grid, Distribution/Subtransmission Line Relocation, Refurbishment and Removal Projects in urban and rural areas**
  Eleven (11) distribution/subtransmission line and station projects through scope, design, construction, and asbuilt phases; Preliminary Engineering for Identifying Scope of Work including field survey and analysis, inspection, identification of inadequate structures, access and environmental impacts, structure and related recommendations, and cost estimates; Design and Engineering of subtransmission lines to prepare drawings, bill of material, specifications, related environmental, sensitive areas (ie. Adirondack Park Agency and Forest Preserve, Lake Placid) and governmental permitting including Article VII, schedule and estimate for Construction Field Issue. Developed installation sequencing plans with field supervisors. Planned and ordered materials working with field supervisors. On site Construction Support working directly with Field Supervisor from Design to Installation. Supported field changes. As-Built updates of subtransmission lines. Projects include: North Creek – Chestertown, Schenevus-Summit, General Mills-Ridge, Golah-South Perry, Menands-Liberty, Maplewood-Latham, Newtonville-Patroon
- **Numerous T&D projects: Assessment, Inspection, Refurbishment, Relocation, Removal, Owner's Engineer, ROW Encroachment, and Development of Construction Contracts up to 345kV for United Illuminating, Northeast Utilities, Public Service of NH, NSTAR**

GIS (Geographic Information Systems) Consultant - Stone & Webster, Boston MA
CAE Strategy Asst. Manager - Stone & Webster, Boston MA
Senior Engineer and Project Lead - Stone & Webster, Boston MA

- **GIS Applications (IBM GFIS, ESRI ARC, GE Smallworld)**
- **Connecticut Natural Gas, Hartford, CT**
  Evaluated and developed new work methods at Connecticut Natural Gas taking advantage of GIS tools, developed bids for system, analyzed and rated responses, developed implementation plan to execute deployment and improve Work Order Management process and tools.
- **Boston Gas, now National Grid, Boston, MA**
  Evaluated and developed improved mapping methods of gas lines with GIS technologies
- **Stone & Webster Environmental Division, Boston, MA**
  Lead of deployment of GIS applications such as ESRI ARC products for Air and Water applications

Transmission Engineer – Chas. T. Main, Boston MA

- **New York Power Authority, Marcy South 345 kV Transmission Routing Study, Catskills, NY**
  Team engineer selecting route alternatives by field review, analyzing aerial photography, surveying proposed corridors, inspecting situations, logging field data, considering engineering, sensitive factors, environmental, economic and client criteria. Optimized structures, special study of Hudson River crossing at Central Hudson-NYC Water Dept site, Newberg-Beacon Bridge, historic RR bridge, and OH alternatives. Lead environmental soils analysis of route.
- **New York Power Authority, Marcy South 345 kV Hudson River Crossing Study, Poughkeepsie, NY**
  Lead and managed interdisciplinary project team to evaluate alternative designs to cross the Hudson River including alternate route evaluation, site survey for underwater soil boring/sampling control, and geotechnical soils analysis; used Intergraph as a design tool to layout site plans and profiles; managed and contracted subs to perform survey and soils boring/sampling.
- **New York Power Authority, Marcy South 345 kV Transmission Line Environmental Impact Statement, NY**
  Team effort to identify of environmental impacts on flora and fauna along alternative corridors; collected field information was correlated to corridor; summarized and included in EIS.
- **New York Power Authority, Marcy South 345 kV Hearing Support, Poughkeepsie, NY**
  Provided expert witness support for civil/structural engineering rebuttal during licensing hearings with respect to design of transmission structures and Hudson River underground crossing design
- **New York Power Authority, Marcy South 345 kV Public Relations Support, Catskills, NY**
  Team engineer in month long client lead effort (small groups of NYPA staff and engineers) to meet with township and regional leaders to understand public concerns and to provide personal contact and information about transmission line construction and operation.
- **Other transmission projects for United Illuminating, CT, Nebraska Power Public District, NE, Central Maine Power, ME and international projects in South Africa, Saudi Arabia and India.**

Engineer, City of Medford, MA

- Construction Inspection of Roadway Improvements and Reconstruction
- Installation of drainage, sewerage, water; sidewalks and road reconstruction, manhole lifting and pavement
- Conducted roadway engineering, land survey, drafting and design, construction inspection, pipe flow and sizing analysis, hydraulic and hydrologic calculations, estimated materials and labor costs for all civil roadway and site work, cut/fills.
- Prepared RFPs, evaluated bids and assisted in managing contractors.
- Provided engineering support to City Solicitor; Attended City Meetings with City Engineer
- Medford Roadway Projects - Provided engineering support in all phases of roadway construction; design and analysis of roadways, drainage, water and sewer systems as well as hydrologic and hydraulic studies; field surveying, survey calculations, cost estimates, plan and profile drawings, construction contract preparation, inspection and cost control of construction sites: Canal St, Gleason St, Locust St.
- Medford Cemetery Expansion - Surveyed, analyzed and designed expansion of cemetery including roadways and drainage; provided plans and profiles
- Medford Water Mains Relining - Inspected contractor work to meet criteria of contract, time and work schedules

- Medford Cranberry Brook Wetlands Study- Performed support work to determine the extent of wetlands and impact of new construction
- Medford Drainage Study - Tufts University Dormitory Expansion - Modeled hydrology of proposed dormitory expansion area to review adequacy of drainage design
- Medford Property Assessment Updates - Performed field surveys locating buildings with respect to ground control and property boundaries; updated respective plans

Education

Bachelor of Science, Civil Engineering, Minor in Engineering Management, Tufts University, *cum laude*
Certificate, Design of Transmission Structures and Foundations, University of Wisconsin – Madison
Certificate Candidate, Business Administration, Harvard University - Extension
EIT (MA)
RE Broker License (MA) – inactive

Presentations

High Voltage Power Transmission Structure Design, United Nations Sponsored Program, Boston, MA
Computer Aided Engineering (CAE) Implementation Challenges at an Architectural Engineering Construction (AEC) Firm, COE, Colorado Springs, CO
Improving User Interfaces, COE, Seattle, WA
Integrating Graphics and Databases: CATIA and DB2, COE, Redondo Beach, CA

Affiliations/Awards

IEEE/Power and Energy Society Boston/Insulated Cable Committee, C11 – Submarine Cables (P1120) Committee Member (Develop a guide for factors to be considered for installation of submarine cable)
Board Director - Harold D. Williams National Energy & Sustainability Resource Center, Washington DC
Co-Chair Centennial Celebration – raised over $200K, Former Board of Directors, and Building Committee Member, Dormition of the Virgin Mary Greek Orthodox Church, Somerville MA
Exemplifying Business Leadership Award, Girls, Inc., President of UPT, Lynn, MA
ASCE/Boston Society of Civil Engineers, ASCE/BSCE Howe-Walker Award for Recognition of Achievement
T is for Transmission Engineer – featured in STEM book for children, 2016