Geological Engineering, University of Alaska - Fairbanks, 1976 to 1980
Arctic Engineering MSCE Program, University of Alaska – Anchorage, 21 hrs continuing advanced study, 1996-2000, incomplete
Project Management Professional (PMP) ; PMP# 1679684

MICHAEL G. SCHLEGEL, PMP
Arctic Engineering/ Major Project Ddelivery

Professional Experience

Michael Schlegel has over 35 years of professional experience that specializes in arctic engineering and major project delivery for oil and gas exploration and development projects. Mr. Schlegel has over 25 years of project delivery experience of multi-disciplined engineering projects. My experience has included the technical coordination and management of multidiscipline engineering projects, specific to detailed engineering and technical performance evaluations of onshore and offshore pipelines, drilling and production structures. Mr. Schlegel's experience and his recognized expertise with onshore and offshore oil and gas exploration and development has found his involvement on projects worldwide in locations such as Russia, Kazakhstan, Brazil, China, Azerbaijan, Australia, and North Sea.

Michael has extensive experience with management and execution of design, construction, fabrication, and engineering projects in Alaska, Russia, and Kazakhstan. He was responsible for the engineering, construction, project management, and execution of the design and installation of the first offshore exploration structure - Sand Island to be deployed in the northern Caspian Sea. He was also responsible for the management and execution of the technical review of the engineering design, deployment and setdown, and operational assurance of Parker Drilling 257/OKIOC "Sunkar" exploration drilling structure deployed at the Kashagan discovery well location.

As the former owner and President of Arctic GeoScience, Inc., he was recognized for his specific, and his company's technical excellence as an Alaska small business working overseas by receiving Honorable Mention as the Exporter of the Year for 2000-2001. Michael was personally recognized for his specific, and his company's technical excellence as an Alaska small business working overseas by receiving Honorable Mention as the Exporter of the Year for 2000-2001. Michael was personally recognized for his engineering contributions and arctic expertise by receiving recognition for engineering excellence at the ASCE 2000 conference.

Current Competancies, Skills, Knowledge

- Accomplished Project Manager
- Experienced Delivery Engineer
- Competencies , and knowledge with the Capital Value Process (CVP)
- Competencies and knowledge, and skills with project services: cost engineering (IRR, NPV), controls (CPI, SPI), scheduling (P6 and MS Project), value engineering/management and risk.
- Recognized for his specific and his company's technical excellence as an Alaska small business working overseas by receiving Honorable Mention as the Exporter of the Year for 2000-2001. Personally recognized for engineering contributions and arctic engineering/engineering expertise by receiving recognition for International Engineering Excellence at the ASCE 2000 conference in Seattle, WA
- Competencies and Business Management Skills; current PMP registration and through practice from project delivery for major Oil & Gas Company to ownership of a multidiscipline 65 professional engineering firm
- Competence for project execution on a specific project or program via EPMS and EPC contracting strategies.
- Competencies and knowledge for ensuring the technical assurance, verification, of a functional Execution plan for multidiscipline project scope; budgets (TIC), schedule, quality, contracting plan, Business, and Operability targets.
- Competencies and knowledge ensuring processes and systems are in place for the identification and management of engineering risks via Design Hazard Management Plan including safety critical design measures starting in the early stage of projects and ending with handover to operations
- Competencies and knowledge in onshore and offshore mobilizations and Sealifts, modular designs and fabrication of facilities, arctic onshore and offshore pipelines, and production/ drilling units.
- Competencies and Arctic experience with drilling, marine, and construction management for exploration and new development production projects

PROFESSIONAL EXPERIENCE

PROJECT SUPPORT CONTRACTOR, PETROTECHNICAL RESOURCES ALASKA)
Oil & Gas project engineering and Capital Project delivery management
July, 2017 to Present

- Ch2M Hill: July 2017 to September 2017
    - Provided Project Management support to CH2M Hill's Alyeska Project. Provided delivery
    - management assurance, and project functional audits for program performance improvement.

- AKLNG: September 2017 to present
    - SME providing Geotechnical, Permafrost, and Arctic engineering support to AKLNG Project's response to Federal Energy Regulatory Commission (FERC) and the US Army Corps of Engineers (USACOE) inquiry and requests for technical information.
- BP Alaska: April 2019 to October 2019,
    - Construction Engineer (CE) provide project oversight and delivery management to capital projects being executed on the North Slope

HART CROWSER:, Principal, Oil & Gas Group Manager. July, 2015 to April 2017:, Anchorage, Alaska

- Oil &Gas Business Unit Manager, responsible for the business development, project execution, and the professional development of supporting engineering staff.

AES (ARCTIC SLOPE ENERGY SERVICES):, Sr. Projects Manager, January, 2015 to July, 2015: Anchorage, Alaska

- Project Manager, responsible for the performance and the technical delivery of a constructability study for delivering Chukchi oil to market for Shell Oil. The project assessed the constructability of four West-East pipeline routes that tied into existing Alaska assets.

BP ALASKA:

- GPO Alaska: Cat B - Small Projects Manager, May 1, 2014 to January 15, 2015:, Anchorage, Alaska
    - GPO Category B Small Project Manager, responsible for the performance and the professional development of a professional projects team that was tasked with delivery of multidiscipline Brownfield and Greenfield projects in the value range of $15 million (gross) to $250 million (BP net) for BP Alaska Inc.
- Sr. Assurance/Verification Engineer, February 20th , 2012 to May 1, 2014: Anchorage, Alaska
    - Responsibility to provide project review of Technical, HSSE, Operations, Construction, Cost and Schedule deliverables founding the Project Execution Plan. These in depth technical reviews provide recommendations to the Project General Manager on the readiness to proceed through the CVP stage gate process, and the projects alignment

MGS TECHNOLOGIES LLC

- Managing Director – Technical Consultant, 2008 to 2012, *Contract Hire to BP Alaska Liberty Project*, Liberty Project, Beaufort Sea, Alaska – 2008-2011
    - Project manager/engineer for BP, responsible for developing program scope and budget, marine engineering assurance, operations plans, HSE documentation, regulatory permitting support, and the execution of the 2009 Liberty Project Sealift for BP Exploration (Alaska). Sealift delivered the Liberty Ultra-Long Reach Drill Rig, largest land based drilling rig in the world
    - Construction Engineer/Commissioning Manager for the Liberty Project 16 megawatt Power Module. Responsibilities included project management, engineering support to complete the power generation module systems, coordination and execution of the commissioning activities, permitting, and technical oversight to Parker's maintenance team tasked with commissioning and operating the Power Module for BP. (9/1/2009-2/15/2010)
    - Engineering Manager for Liberty Drill Rig, responsibilities included management of a multidisciplined engineering team assembled onsite to complete the engineering design of the drilling system on the drill rig. The onsite engineering include assurance review of the operability of the drilling systems, engineering review of the design, presentation of design alternatives to the Liberty Construction Manager and Parker Drillings Engineering/construction manager, preparation of IFC packages, and technical support to the site construction engineers. (2/15 to 3/8/2010)
    - Project Engineer, providing engineering support to the Liberty Drill Rig Systems and rig system integrated operations reviews. . Mr. Schlegel was an engineering lead on the BP "Liberty Cold Eyes" review team. Responsibilities included the review and engineering assure assessments of BP's Liberty drill rig system's design capacities, and capabilities to execute the planned Liberty UERD drilling program, such as; high pressure, low pressure mud, tubular handling system, power management, structural, walking system, and hydraulic systems. He led the liberty delivery assessment of the UERD well plan through a Drilling Wells on Paper (DWOP) technical exercise. Mr. Schlegel provided engineering and discipline management support to the Liberty Rig Re-Vamp discovery phase engineering effort. (4/1/2010 to 2/15/2012)

GEOENGINEERS & GEO LLC, Vice President, 2003 to 2008

- Oil &Gas Business Unit Manager, responsible for the business development, project execution, and the professional development of supporting engineering and geoscience staff.

ARCTIC GEOSCIENCE, INC., Arctic GeoScience Inc., Anchorage, Alaska, Owner and C.E.O.,
Consultant: Engineering, Geoscience, 1991 – 2003

- Owner and President of Arctic GeoScience, Inc. was responsible for the business development, project execution, and the professional development of supporting engineering and geoscience staff. Project delivery onshore and offshore oil and gas projects in Alaska, domestically, and internationally.

PROJECT DELIVERY EXPERIENCE

- BP Alaska Construction Engineer (CE) provide project oversight and delivery management to capital projects being executed on the North Slope. Assured that projects were executed in accordance with construction plan, schedule, and budget. Responsibilities include review of contractor execution plans, risk assessment and mitigation, HSE objectives, stakeholder communication, schedule and cost assurance. Capital projects in range of $3million to $15 million were in the portfolio. Projects included; Liberty Drill Rig demolition and Island restoration, CCP Fin Fan Floor structural replacement, PBOC water and wastewater upgraded Provided Project Management support to CH2M Hill's Alyeska Project.
- Provided delivery management assurance, and project functional audits for program performance improvement. SME providing Geotechnical, Permafrost, and Arctic engineering support to AKLNG Project's response to Federal Energy Regulatory Commission (FERC) and the US Army Corps of Engineers (USACOE) inquiry and requests for technical

information.

- Owner's Representative and responsible for the conceptual engineering, permit support, and preparation of the project Appraisal Plan during the pre-feed/seed financing project stage. Managed the delivery of engineers and construction specialists during the preparation of the Terms of Reference for the EPC Contractor, a Level 2 Project Schedule, and Class 3 Project Cost Estimate for the investor group. During this phase of the project it required travel internationally and assessed the potential for decommissioning of major refinery elements, packaging and mobilization integration with fabrication to optimize installation to new location.
- Project Manager, conducted an engineering assessment, and preliminary permitting of a plan to construct a new 80 to135bopd refinery with specific, and targeted feedstock sources in the Eagle Ford and downstream markets . Project required the development of the business case on behalf of the owners and investors and prepared a plan to deliver the project to the Sanction phase. The Appraisal of the project provided views to return on capital investment to process facility sizing and daily production levels. Our work included a preliminary schedule, engineering design, and construction cost estimate.
- Project Manager, worked with the owners of an idle synthetic oil and regeneration facility to develop a plan for reconfiguration and rebuild of the facility. After a detailed site walk and facility assessment developed actionable alternatives, fabrication plans, and briefed investors. As an alternative provided the owners decommissioning plan. Project Manager, responsible for the performance and the technical delivery of a constructability study for delivering Chukchi oil to market for Shell Oil. The project assessed the constructability of four West-East pipeline routes that tied into existing Alaska assets to take Chukchi oil to market. The technical study evaluated above ground and below ground pipeline concepts; engineering concepts of stress and strain based design; construction techniques from conventional arctic build to arctic adaption of offshore pipeline concepts; logistics and access of conventional approaches as well as airships and hover technology; costs options for alternatives, and schedule opportunities. The project linked technical constraints, opportunities, and risk to the terrain unit analyses performed on the four identified routes as well as costs to construct relationships.
- GPO Category B Small Project Manager, responsible for the performance and the professional development of a six (6) professional projects team that was tasked with delivery of multidiscipline Brownfield and Greenfield projects in the value range of $15 million (gross) to $250 million (BP net) for BP Alaska Inc. Managed integrated project delivery to facility projects.
- BP Project delivery assurance, Responsibility to provide project review of Technical, HSSE, Operations, Construction/Fabrication , Cost and Schedule deliverables founding the Project Execution Plan. These in depth technical reviews provide recommendations to the Project General Manager on the readiness to proceed through the CVP stage gate process, and the projects alignment with Business priorities, Regional business plan elements, and delivery responsibilities
- Construction Engineer/Commissioning Manager for the Liberty Project 16 megawatt Power Module. Responsibilities included project management, engineering support to complete the power generation module systems, coordination and execution of the commissioning activities, permitting, and Module for BP.
- Engineering Manager for Liberty Drill Rig, responsibilities included management of a multidisciplined engineering team assembled onsite to complete the engineering design of the drilling system on the drill rig. The onsite engineering include assurance review of the operabilit Construction Manager and Parker Drillings Engineering/construction manager, preparation of IFC packages, and technical support to the site construction engineers. (2/15 to 3/8/2010)
- Project Engineer, providing engineering support to the Liberty Drill Rig Systems and rig system integrated operations reviews. . Mr. Schlegel was an engineering lead on the BP "Liberty Cold Eyes" review team. Responsibilities included the review and engineering assure assessments of BP's Liberty drill rig system's design capacities, and capabilities to execute the planned Liberty UERD drilling program, such as; high pressure, low pressure mud, tubular handling system, power management, structural, walking system, and hydraulic systems. He led the liberty delivery assessment of the UERD well plan through a Drilling Wells on Paper (DWOP) technical exercise. Mr. Schlegel provided engineering and discipline management support to the Liberty Rig Re-Vamp discovery phase engineering effort.
- Project manager responsible for developing program scope and operations plans, HSE documentation, and managing technical data for a comprehensive assessment of the Alaskan Beaufort Sea for Shell. The data collected was and is to be used for engineering evaluations of performance, operations, and MMS permitting. This program also includes ice gouge analyses and engineering data assessment for offshore development planning for pipeline, gravity base structures, steel jackets, and other development alternatives. Engineering "white paper" studies for gravity base structures, and offshore pipeline alignments were performed.
- Provided project engineering management, engineering and site assessment, and the technical assurance to offshore structure sitings deployed for production in water depths ranging from 300 to10,000 ft. in the Campos Basin and Eastern Gulf of Mexico (Loyds Ridge).
- Project manager provided engineering design, consultation/fabrication, and scoping for civil infrastructure; roads, bridges, pipelines, facilities, and port facility to Conoco Phillips and LukOil for the Yuzhno Khilchuyu Oil Field Development in the Nennets Autonomous Region, Russia. Responsibilities included planning, scheduling, and ROM costing, managed the engineering Pre-FEED deliverables, and technical presentations to the Russian partner. Arctic Engineering and siting assessments, arctic engineering analyses for bulk oil storage tanks and pipelines, ice structure interaction for offshore loading facilities were provided to support development Pre- FEED studies of the Varenday Terminal and interconnecting pipelines. Evaluation of fabrication and modular concepts for import from Northern Europe options.
- Project Manager responsible for project management, civil design planning and EIS for approximately 4.6 miles of road, and deep water dock facilities at Shepard's Point. Preparations of preliminary design drawings and specifications, project budget and schedule, and scopes of work for technical design/construction and permitting services were prepared.
- Technical Consultant, Project manager responsible for preparation of a bilingual Technical Passport Document for the CIDS vessel and Drilling Rig 217 suitable for import into, and partial re-export, out of Russia. This also required an engineering review and assessment of the CIDS drill rig and support facilities current capacities. Provide FEED support for scheduling assurance of fabrication packagesin Korea ship yard.

- Provided technical engineering support and engineering management of engineering staff of 6 professional for 8 months to assist in OKIOC's offices in The Hague, The Netherlands, prepared drilling structure, logistics and ice engineering program sections of a Technical Project Document describing the Appraisal phase of operations planned for the Kashagan structure in the North Caspian Sea, RoK. Engineering support included island design, island –ice structure analyses for gravel islands, and pipelines planned for Kashagan development. Engineering analyses also included shallow water drilling concepts rig packages and optimization for the Aktote and Kiaran locations in the North Caspian.
- Technical Consultant, developed program of ice road and pad construction to support exploratory drilling in an arctic setting at Vankor location in arctic Russia. Analyzed meteorological data and satellite imagery to determine feasibility. Developed rig delivery specifications.
- Project Manager responsible for coordinating an effective engineering presence at locations in and around the North Caspian Sea (Russia and RoK). Staff on remote assignment varied in number from 3 to 9. Services provided included civil, mechanical, engineering support to Kashagan rig construction and fabrication delivery team. Fabrication planning and managing delivery of units fabricated in Northern Europe and deliver to Astrahkan Russia at mouth of the Volga River and Caspian Sea.. Staff onsite were also responsible for preparing health, safety, environment (HSE), and industrial hygiene procedures, training, and documentation, as well as permit liaison to international agencies.
- Project manager responsible for developing a cost analysis predicting rough order of magnitude (ROM) costs for the construction of artificial exploration islands in the North Caspian Sea for water depths of 8 meters (26 feet) or less. Three fill construction placement techniques were considered and the limitations and variables affecting the costs for each were categorized and quantified within the accuracy limits of an ROM cost estimate.
- Technical Consultant in integrating studies of environmental forces imposed by ice, water currents, and wind; structural analysis of pier; and operational procedures for approach and tie up of vessels. Performed a review of construction alternatives and outlined associated scheduling requirements for this project in the Cook Inlet, offshore of Nikiski, Alaska.
- Project manager responsible for civil design of 22-km long exploration access road and well pad across soft sor (mud flat) soils. Construction drawings and specifications were prepared in bilingual format for local authority review and construction by a local, Kazakh, contractor for Salkanskaya Prospect.
- Project manager , responsible for engineering management and technical direction, site reconnaissance, engineering feasibility studies for Oryx Kazakhstan Energy Company and Exxon CIS Mertvy Kultuk Prospect, North Caspian Sea, Kazakstan. Performed technical evaluation of drilling best alternative, and preliminary engineering analyses of an artificial island to support feasibility of the best alternative. Responsibilities included engineering, cost estimating, and oral and written presentation of the feasibility study results. Significance of this project is that it was the first offshore exploration site in the north Caspian Sea.
- Project manager responsible for the onsite direction, construction management, quality control andquality assurance, and site civil engineering for Conoco Arctic, Inc. Yuzhno Khilchuyu Oil Field Development in the Nennets Autonomous Region, Russia. Responsibilities included planning, direction of the Russian constructor, coordination of development permits with regional government agencies, and providing Arctic geotechnical and civil support for the development of an Arctic exploration well pad in Russia. Onsite responsibilities extended to the collection of geotechnical and thermal data from drilling and sampling soil borings performed by a Russian geological expedition. This data is to be included with future planning efforts.
- Technical Consultant/Project Engineer, responsible for the onsite direction, construction management, and site civil engineering for Conoco/Polar Lights Ardalin Oil Field Development in the Nennets Autonomous Region, Russia. Responsibilities included planning, direction of the Russian constructor, coordination of development permits with regional government agencies, and providing arctic geotechnical and civil support for the development of an arctic oilfield in Russia. Identify opportunities with fabrication in Northern Europe yards and important to site on narrow gauge rail. Brought Western Technology to Russia, through the design and implementation of the first driven steel pipe piles in Arctic Russia.

TRAINING COURSES AND CERTIFICATIONS

- Project Management: University of Manchester: Certificate in Managing Projects, 2014
- Projects & Engineering -BP Way; 2012
- OMS in MPCP; 2013
- Master's Certificate in Project Management, George Washington University, 2013
- George Washington University Master's Courses in Project Management:
    - Contract Strategy Development ; George Washington University School of Business; 2013
    - Managing Risks For Projects ; George Washington University School of Business; 2012
    - Project Leadership, Management, and Communications George Washington University
    - School of Business; 2013
    - Project Management Essentials ; George Washington University School of Business; 2012
    - Project Execution Planning ; George Washington University School of Business; 2012
    - Negotiation Skills for Project Managers ; CEU George Washington University School of
    - Business; 2013
    - PMP Exam Power Prep ; George Washington University School of Business; 2013
- PSM system practice Deming-based, plan-do-check-act Training: 2012
- NSTC North Slope Training Course: 8-Hour Initial, March 1999; ASH 2010 Refresher, Jan 2010, north slope induction training nets refresher March 2019.
- BP Training: Smith Driver, Level 2 Risk Assessment, Control of Work, Energy Isolation, Work Permit, .. 2008-2010,2019
- H2S: 1-Hour; by Learning Resources Consultants, Inc.; September 2010.
- Basic Offshore Emergency Training (BOSET) & Helicopter Underwater Escape Training (HUET): Marine & Offshore Safety Training: in Atyrau, Kazakhstan; July 1999, Anchorage AK-April 2008.
- TWIC- re-issued 2019 (5yr.)