

## PROVIDING EXCELLENCE THROUGH INNOVATIVE ENGINEERING

Orion Projects Inc. is an Engineering, Procurement, and Construction Management (EPCM) company that provides innovative solutions to projects to improve the profitability and sustainability of the energy sector.

### **IDEA**      **CONCEPT**      **DEFINE**      **EXECUTE**      **BUILD**      **OPERATE**

- |                           |                                 |                              |
|---------------------------|---------------------------------|------------------------------|
| ▪ Project Management      | ▪ Project Controls & Estimating |                              |
| ▪ Construction Management | ▪ Regulatory                    | ▪ Civil & Structural         |
| ▪ Project Engineering     | ▪ Process & Water Treatment     | ▪ Electrical                 |
| ▪ Procurement & Contracts | ▪ Mechanical                    | ▪ Instrumentation & Controls |
| ▪ Planning & Scheduling   | ▪ Piping                        | ▪ Telecommunications         |

## ENGAGEMENT EXPERTISE

- Energy Transition studies, planning and execution
- Carbon capture, compression, dehydration/purification, and sequestration
- Acid gas compression and injection facilities and pipeline
- Natural gas reforming to diesel, naphtha, hydrogen, ammonia, and methanol
- Field development plans
- Compressor and pump stations
- Dehydration and dewpoint control facilities
- Well pad facilities and gathering pipelines
- Transmission pipeline systems
- Multiphase pipeline systems
- Natural gas pipeline systems
- Natural gas liquids extraction
- Tank farms
- Regulator and gate stations
- Amine H<sub>2</sub>S extraction
- Oil and water treatment
- Metering and custody transfer
- Pipeline integrity management
- Power and steam generation and cogeneration
- Controls and Telecom

# PROJECT EXPERIENCE

Orion Projects has successfully completed over 100 projects during its 20 years of operation. Projects completed include Studies, Feasibility, Conceptual Design, FEED, Detailed Engineering and Procurement, Fabrication and Operations Support.

## STUDIES

- Energy Transition
- Carbon capture, compression, dehydration/purification, and sequestration
- Natural gas reforming to diesel, naphtha, hydrogen, ammonia, and methanol
- Acid Gas compression and injection facilities and pipeline
- Field Development Plans
- De-oiling and water treatment
- Produced and flow back water treatment, re-use, and disposal
- Heavy oil upgrading/refining technology evaluation
- Hydrocarbon and biomass gasification
- Off-spec oil treating
- Water flood injection/support schemes
- Thermal CSS/SAGD heavy oil steam distribution/field gathering
- Heavy oil treatment processes
- Field and plant debottlenecking/optimization
- Flare systems focused on reduction
- Solvent assisted production/recovery
- Cavern & tank storage
- New technologies development
- Waste heat integration/power generation
- Cogeneration of steam and power in oil and gas facilities
- Simple and combined cycle power generation
- Alternative and clean fuels

## PRE-FEED (FEASIBILITY AND CONCEPTUAL)

- Carbon capture, compression, dehydration/purification, and sequestration
- Natural gas reforming to diesel, naphtha, hydrogen, ammonia, and methanol
- Acid Gas compression and injection facilities and pipeline
- Waste heat integration/power generation
- Cogeneration of steam and power in oil and gas facilities
- Simple and combined cycle power generation
- Alternative and clean fuels
- CSS and SAGD 10,000 to 100,000 BPD
- Solvent de-asphalting of heavy oil
- 200,000 BPD high paraffin oil gathering, field and central facilities
- Multiple gas gathering, compression, liquids separation, and gas treatment facilities
- Sour gas sweetening and sulphur recovery
- Acid Gas compression and injection facilities and pipeline
- Natural gas condensate C5+, gas liquids C3+ and liquefied petroleum gas C2/C3 recovery
- Multiple oil gathering, degassing, dehydration, and tank storage batteries
- Tank farms, truck in/out and custody transfer
- PEER Reviews

## DETAIL ENGINEERING, PROCUREMENT, CONSTRUCTION MANAGEMENT

- Multiple gas gathering, compression, and gas treatment facilities
- Natural gas plant c/w liquids separation, compression, sweetening and dehydration
- Natural gas condensate C5+, gas liquids C3+ and liquefied petroleum gas C2/C3 recovery
- Multiple oil gathering, degassing, dehydration, and tank storage batteries
- Multiple gas and oil multiphase gathering pipelines.
- Multiple sales gas and oil pipelines
- Midstream compression stations
- Tank farms, truck in/out and custody transfer
- Waste heat integration/power generation
- Cogeneration of steam and power in oil and gas facilities
- Simple and combined cycle power

**Applying the right technology for the right reasons**

# EFFECTIVE DESIGN PHILOSOPHY

Orion Projects strives to be the preferred EPCM firm by our clients through providing innovative solutions and consistently high-quality project execution. Our philosophy is to deliver exceptional services and build trust with our clients, for whom create long term, enduring results.

Our quality of work consistently meets and exceeds our clients' needs and expectations. The results of our effort reflect that we pride ourselves in succeeding in our endeavors.

Our approach to engineering and project execution fully align with the clients' goals and places emphasis on safety, quality, cost and schedule. At Orion, we value and maintain deep rooted relationships with our clients to help develop their assets and forge greater economic prosperity.

Most importantly, we are cohesive team players, who create peace of mind through the services we provide.

This approach produces many benefits including :

- ▶ Minimized redundant engineering
- ▶ Comprehensive input from operations to increase operability
- ▶ Research of new technology and process designs
- ▶ Follow the best engineering practices (codes, standards, etc.)
- ▶ Work within Orion Projects' Proven Quality Management System
- ▶ Create designs based on client objectives for safety, quality, cost, and schedule
- ▶ Practical utilization of vendor experience & expertise
- ▶ Strong communication and team collaboration

Orion Projects offers a cohesive team of experienced industry resources offering extensive working knowledge, learned and best practice execution in the engagement of engineering, design and project management.

We strive to ensure our clientele receive consistent and well organized project planning, design and construction services in order to deliver on project objectives

## OUR SERVICE EXPERTISE

### **Project Management**

Effectively implement project management procedures and robust use of advanced software enables Orion Projects to consistently meet project targets on safety, regulatory, budget, schedule/gates, reliability and quality. Each project phase is executed to meet distinct objectives and address specific client requirements. Our Project Management model allows for a timely, clear and precise evaluation of project status and progress at all stages of its life cycle.

### **Engineering & Design**

Engineering and Design is Orion Projects' key specialization. Our team of engineers help identify project options, define the scope of work and develop engineering deliverables.

### **Procurement**

The Orion Projects Procurement department is responsible for the evaluation, purchasing, expediting and logistics of materials and services.

### **Construction Management**

Our Construction Management expertise supports the engineering and design effort by providing timely and constructive input into the engineering design and 3D models. It also facilitates the selection of project field installation construction strategies that best fit cost and schedule objectives. Orion provides continuous construction management support for the entire project duration and ensures the necessary resources are used at each stage of development.

# CAPABILITIES SUMMARY

## PROJECT MANAGEMENT

- ✦ Engineering Team Management
  - QA/QC
  - Design Basis Memorandum (DBM)
  - Tender Package Development and Project Engineering
  - Bid Evaluations and Recommendations
  - Procurement Management
  - Transportation Logistics Coordinations
  - Operating Manuals and Data Books
  - Deliverables Management / Document Control

## PROJECT CONTROLS

- ✦ Project and Construction Scheduling
  - Cost Controls and Reporting
  - Scheduling

## ENGINEERING

- ✦ Process Engineering
  - Facility Optimization
  - Emissions Studies
  - Process Simulations (HYSIS)
  - Process Flow Diagrams
  - Piping and Instrumentation Diagrams
  - Equipment / Line Lists
  - Heat and Material Balance
  - HAZOP / HAZID
  - Piping System Hydraulic Modeling
- ✦ Mechanical Engineering
  - Data Sheet and Specification Development
  - Equipment Selection and Specification
  - Piping and Pipeline System Design
  - Troubleshooting and Debottlenecking
  - Equipment Package, SOW, Bidding and Evaluation
- ✦ Electrical Engineering
  - Power Generation (simple, combined, cogeneration)
  - Transmission and Utility Integration
  - MCCs and Power Distribution
  - Area Classification and Fugitive Emissions
  - Load Sequencing
  - Data Sheet and Specification Development
  - Electrical Single Line and Power Distribution
  - Loop and Termination Drawings
  - Conduit and Cable Schedules
  - Cathodic Protection System Layouts
  - Heat Tracing System Layout
- ✦ Instrumentation, Programming & Controls
  - Data Sheet and Specification Development
  - Control System Design (PLC, RTU, DCS, SCADA)
  - Programming and Configuration
  - SIL Analysis / Safety Instrumentation Systems
  - Instrument Indexes

- ✦ Telecommunications
  - Telecom Studies and System Designs
  - IT Network Infrastructure
  - Radio Path Studies
- ✦ Civil / Structural
  - Specification Development
  - Structural Analysis and Design
  - Equipment and Piping Foundations
  - Earthworks
  - Buildings
  - Ladders, Platforms, Walkways
  - Grading Plans, Roads, Drainage Ponds
- ✦ Piping / Pipeline
  - Specification Development
  - Piping Stress Analysis
  - Piping Design for Stress Mitigation
  - Pipeline Route Analysis and Bend Studies
  - Pipeline Crossing, Bucking and Overburden Analysis
  - Finite Element Analysis
  - Pipeline Integrity Design

## DESIGN & DRAFTING

- 3D Laser Scanning Integration
- 3D Modeling and Design
- Site / Plot Plans
- Piping Plans, Elevations & Isometrics

## REGULATORY

- Facility and Pipeline Regulatory Applications
- Pipeline Engineering Assessments
- Water Crossing Applications
- Traffic Accommodation Studies and Strategies
- H<sub>2</sub>S and EPZ Calculations
- Decision Tree Analysis (Flaring)
- Pressure Piping Registrations
- Facility and Pipeline Audits
- Pipeline Integrity Management
- Enhanced Production Audit Program (EPAP)

## CONSTRUCTION MANAGEMENT

- Construction Team Management
- Management of the Site Projection Execution Plan
- HSE Programs
- Site QA / QC
- Work Inspections and Deficiencies Management
- Site Permitting and Licences

## KEY CONTACT

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