Maritime Human Resources Solutions Seminar

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About NOIA

NOIA’s mission is to promote development of East Coast Canada’s hydrocarbon resources & to facilitate our membership’s participation in global oil & gas industries.

- Canada’s largest offshore industry association
- Membership 500+ strong
- Mapping the capabilities of NOIA members
- Driving awareness of offshore oil & gas
- Advocacy & Education
Location, Location, Location
St. John’s, NL to:

- Houston 2,800 miles
- Calgary 2,900 miles
- London 2,100 miles
- Nuuk 1,000 miles
Impacts of Industry in NL

- **Economy**
  - Approx. 40% of the provincial GDP
  - Over 3500 people directly employed in industry*
  - 30% of Province’s budgeted revenues in 2010
  - Housing starts / Residential construction increase
  - Population: increase -the largest increase since 1983
  - Diversified economy – spin-offs from offshore

- **Environmental**
  - Minimal environmental impact
  - Liaison model for the fishing & oil & gas industry - One Ocean

- **Safety**
  - Comprehensive health & safety plans:
  - Training
  - Prevention

*Source: CNLOPB Annual Report 2010  **Source: Auditor General January 2009
Oil Potential

- 2.84 billion barrels of oil discovered
- 6 billion barrels of oil remain undiscovered
- Outstanding work commitments – almost a billion dollars
Gas Potential

- Substantial gas in place
  - 6.6 TCF of gas in Jeanne d’Arc Basin*
  - 4.2 TCF of gas in Labrador*

- Significant potential for new discoveries
  - Est. 60 TCF undiscovered gas (USGS)

- Technology is evolving
- Challenge is still to unlock the potential of these resources

*Source - CNLOPB
Stages of Industry

- Exploration
- Development
- Production
Exploration – Engine for Growth

- **Seismic:**
  - Labrador
  - Sydney Basin
  - Onshore West NL

- **SDLs:** 51 - 5 in Labrador & 46 on the Grand Banks

- **Drilling:**
  - Laurentian, Jeanne d’Arc & Orphan Basins
  - Onshore West NL
    - Parsons Pond - gas discovery
    - Deer Lake
    - Bay St. George - gas discovery
Marine Activity – Exploration Stage

- Seismic Vessels
  - Several programs this year
  - Each vessel has two boats

- Drilling Rigs
  - Currently 2 on Grand Banks (GSF Grand Banks & Henry Goodrich)
  - Each new exploration program usually requires 3 supply vessels
Production

- 3 producing projects:
  - Hibernia - GBS
  - Terra Nova - FPSO
  - White Rose – FPSO

- Total Annual Production (2009-10):
  - 94 MMbbl*
  - 1 billionth barrel produced in Jan. 2010

- OPEX: $1 B/year

- CAPEX: $11B+ invested

*C-NLOPB report at March 31, 2010
Marine Activity – Production Stage

- Three production platforms
- Supply vessels
  - 10 in total
- Shuttle tankers
  - 4 operating offshore
- Hebron will have 1 drill rig and 3 vessels in 2016
- Hibernia South will have 1 drill rig and 2-3 vessels in 2013
The Forecast - Hibernia

Hibernia OLS – 2011

Hibernia South

- 223 Mbbls
- $1.74 billion capital cost
- Production from AA block started late 2009 - 48mbbls

Anticipated Project & Contract Schedule:
- Tenders Due: 2Q10
- Contract Award for EPC: 3Q10
- Glory-hole excavation: 2011
- Subsea facilities installed: 2013
- Start up: 4Q13
The Forecast - Hebron

- Discovered 1981

- Development:
  - $4-6 billion ($7-11 B – life of field)

- Estimated recoverable reserves: 400-700 million bbl (oil: 18–25° API)

- Key Dates:
  - Construction Contracts: 2011
  - First oil 2016 - 2017
Export – Focus on the North

Markets:
- Arctic
- Greenland

NL Advantage:
- Proximity
  - Cost and Time
- Expertise
  - Ice Engineering
  - Remote Location Harsh Environment Planning & Logistics
- Existing relationships
Arctic Challenges

- Weather
- Ice Conditions
- Infrastructure
- Technology
Harsh Environment Mitigation & Action

**Harsh environment:** presence of ice, either pack ice or icebergs; a remote, cold environment; wind, fog & heavy sea states

**Solutions:**
- **Engineering:** Glory holes to protect subsea equipment
- **Iceberg tracking & management**
  - In 2009
    - 1,680 icebergs detected
    - 184 tracked
    - 58 managed
- Remote location harsh environment planning and logistics
Remote Location Logistics & Planning

- Helicopters
- Supply Vessels
- Supply Base
- Transportation
- Ice Management
- Weather Monitoring
- Oceanography
- Warehousing/Yard
- Medical Services
- Communications
- Marine Fuel
- Waste Management
- Customs Clearance
- Freight Forwarding
- Oil Spill / Emergency Response
Capabilities

- Indigenous companies sought out worldwide
  - C-CORE
  - Cougar
  - Provincial Airlines
Capabilities

- **Engineering**
  - Overcoming ice, (icebergs) wind & waves
  - North Amethyst success

- **Construction/Fabrication**
  - Accommodations unit, utility module, well head modules, subsea manifolds
  - Local company exports LARS worldwide
R&D / E&T: Technology & Innovation

- Centres of Excellence
  - C-CORE
  - IOT
  - Memorial University/Marine Institute
    - Centre for Marine Simulation
    - Centre for Offshore and Remote Medicine
    - Ocean Engineering Research Centre
    - Wave Tank
  - College of the North Atlantic
Thank you!

For more information please visit www.noianet.com