RIDING THE ENERGY CYCLES:
Changing Times with Mexico

November, 14
Houston Texas
Content

- **Mexican Energy Reform and ASEA**: a new approach to risk management in Mexico

- **Risk-based regulation**: a strategy to avoid short-term decisions and foster competitiveness in North America

- **Next Steps**: challenges and opportunities for Regulators in the Region
MEXICAN ENERGY REFORM AND ASEA:

A NEW APPROACH TO RISK MANAGEMENT IN MEXICO
Mexican Energy Reform introduces a new Regulator focused on Safety and Environmental Protection - the missing link for an integral regulatory system -

A risk-based model that acknowledges Oil & Gas industry’s nature and aims to improve its performance

A mission with a dual purpose

Preventive and reactive mechanisms

25 risk-based regulations published and 30 in progress

2,221 risk-based inspections carried out

More than 20,500 permits processed
NORTH AMERICAN REGION

RISK-BASED REGULATION: A STRATEGY TO AVOID SHORT-TERM DECISIONS AND FOSTER COMPETITIVENESS
Risk-based regulation fosters competitiveness

- **Risk-based regulation, calls for intelligent regulations:**
  - Increases effectiveness while reducing cost
  - Allows industry to efficiently allocate their financial, technical and human resources
  - Enhances innovation
  - Optimizes bureaucratic burden
  - Demands undiluted accountability from the industry
  - Inhibits prescriptive and “one-size-fits-all” regulations

- **Risk-based regulation** gives the Regulator an objective tool to strike an appropriate balance between the risks and the benefits of an activity

**Risk-based regulation** can be the strategic answer to optimizing the oil and gas sector across the North American Region.
Intelligent regulations ensure long-term business decisions and increases social benefits

- **Intelligent regulation** in social terms aims to:
  - Improve social well-being
  - Achieve the intended goal at the lowest possible social cost
  - Minimize unwanted environmental impacts

- **Deregulation** as a mean to attract investment is **pernicious** for the industry and the people. It is short sighted and it will backfire in the form of:
  - Lower access to the social license to operate
  - Higher remediation costs
  - Higher operational disruption after an accident occurs
The Gulf of Mexico as one single and integral ecosystem

ASEA regulation establishes guidelines on Industrial and Operational Safety and Environmental Protection for Surface Surveying (Seismic), and Exploration and Production of Hydrocarbons Activities

- BSEE and ASEA aligned their regulations:
  - SEMS as the main regulatory mechanism
  - Mandatory standards for regulated parties
  - International and regional best practices

- Recent Mexican deep water bids:
  - 11 large international oil companies (3 from the US) committed long-term investments for around US$40 billion
NEXT STEPS:

CHALLENGES AND OPPORTUNITIES FOR REGULATORS IN THE REGION
Independence in the Regulators

Policy setting and fiscal functions

Administering or implementing regulation to achieve policy objectives

Independence: What For?

To address the lack of Commitment, time inconsistency and political uncertainty

Competitive neutrality ensuring a level-played field for all operators

Principles

• Objectively
• Impartially
• Consistently

What do we need to achieve independence?

- Long-term stability
- Role clarity and accountability
- Financial autonomy
- Information and expertise
Regulatory cooperation with aligned principles across the Region

4 BASIC PRINCIPLES

Safety  • Produced in operational conditions that do not harm people

Energy Security  • To guarantee the opportune and efficient supply, access of resources and energy infrastructure to the population

Energy Equity  • Accessibility and affordability of energy supply across the population

Environmental Sustainability  • Produced on an environmental responsible way so that future generations do not have compromised access to it

North America

Memorandum of Understanding
- Bureau of Safety and Environmental Enforcement (BSEE) October 4, 2016

Letter of Intent
- Bureau of Ocean Energy Management (BOEM) October 5, 2016

México
THANK YOU
ANEXOS
ASEA’s Scope: We regulate all the Hydrocarbons Value Chain

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- **ASEA’s Scope**: We regulate all the Hydrocarbons Value Chain

- **Industrial Safety**
  - 2,900 Km Seismic 2D
  - 6,100 Km² Seismic 3D

- **Environmental Protection**
  - 9,300 Onshore wells
  - 250 Offshore Platforms

- **Sustainability Report Pemex 2016**
  - 1.78 Mbd
  - 6.5 Billion ft³ a day

- **Transportation**
  - +60,000 Km

- **Storage**
  - 111 Terminals

- **Refineries**
  - 6

- **Gas Processing Facilities**
  - 9

- **Gas Distribution and Carburation Centers**
  - 11,671

- **Service Stations**
  - +3,000

- **Terminals**
  - +6,100 Km

- **Seismic 3D**
  - +2,900 Km

- **Seismic 2D**
  - +6,100 Km²
### RELEVANT ASPECTS

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<td>Equipment Specs</td>
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<td>Reduction of environmental footprint</td>
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<td>Mitigation methods</td>
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<td>Exclusion zone based on sound level</td>
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### BEST PRACTICES FOR RISK MANAGEMENT

**Seismic Reflection Method**
- Use of the Seismic Refraction Method for Subsurface Investigation and Surface Underground Research

**Maritime & Land Safety**
- Maritime Geophysical Safety
- Land Geophysical Safety
- Work Vessels in Maritime Geophysical Operations

**Species Protection**
- Mitigation Measures for Cetaceans
- Passive Acoustic Monitoring Trailing
- Observed Protected Species and Data Management Program

### RELEVANT ASPECTS

- Integrity and Leakage of the well
- Set of Blowout Preventers
- Critical Equipment
- Fire Fighting Systems
- Emergency Disconnection System (EDS)
- Alarms
- Well Control Systems ROV
- Design and Operation of Control Barriers
- Flaring and Venting of Natural Gas

### BEST PRACTICES FOR RISK MANAGEMENT

**Integrity of the well and facilities**
- Well integrity
- Specification for Casing and Tubing
- Isolating Potential Flow Zones
- Structural Integrity Management of Fixed Offshore Structures
- Planning, Designing and Constructing Fixed Offshore Platforms. Working Stress Design

**Emergency Disconnection System (EDS)**
- Blowout Prevention Equipment Systems for Drilling Wells

**Preparedness and Response**
- Risk and emergency preparedness analysis

**Fire Fighting Systems**
- Fire Prevention and Control on Fixed Open-type MODU
- Mobile Offshore Drilling Unit Construction and Equipment