

Waste not, want not: ‘Waste’ as a tool of resource conservation in the Atlantic Canadian offshore

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What we will discuss

- Background / context of the Atlantic Accord Acts
 - The importance of conservation
- Waste and its place in the regulatory scheme
 - Alternatives to waste-based regulation
- Waste: what does it mean?
- Waste: does it work as a regulatory tool?

Why this paper?

- Ongoing East Coast development activity
- Regulatory processes led to a need to understand the relationship between waste and unitization in the Accord Acts

Hebron Development Project

- The Hebron oil field is located offshore Newfoundland and Labrador in the Jeanne d'Arc Basin 350 kilometers southeast of St. John's.
- The field was first discovered in 1980, and is estimated to contain 700-1055 million barrels of recoverable oil.
- The Hebron field was developed using a stand-alone reinforced concrete gravity based structure (GBS) designed to withstand sea ice, icebergs and meteorological and oceanographic conditions while storing approximately 1.2 million barrels of crude oil.
- Hebron achieved First Oil on November 27, 2017, a full month ahead of schedule, after executing over 40 million person hours in-province without a lost-time injury.
- The Hebron co-venturers are: ExxonMobil Canada Properties (~35%), Chevron Canada Limited (~29%), Suncor Energy Inc. (~22%), Equinor Canada Limited (~9%) and Nalcor Energy – Oil and Gas Inc. (~5%).



The Accord Acts in history

- Exploration and discovery – first drilled in 1971; Hibernia discovery in 1979.
- Litigated history associated with coming to learn that Canada controls the rights to explore and produce from the offshore areas
 - Supreme Court of Canada reference in 1982 / decision in 1984
- Political compromise reflects an agreement to attribute benefits to NL and NS
 - Accords signed in 1985 and 1986

The Accords

- Broadly focused
- A key point is that Accord was intended to allow the industry to move forward – to provide for development for the benefit of “Canada as a whole and NL in particular”
 - Who manages? Who gets revenues?
- Board makes final decisions on the administration of Regulations respecting “Good Oilfield Practice”
 - Includes: orders relating to waste

Accord Acts – a joint legislative effort

- The Accords reflect the political agreement between governments
- The Accord Acts reflect their mirrored legislative enactment
 - Embody the reciprocal commitment not to make changes without agreement
 - i.e. a “no amendments unless fully enacted in writing” provision
 - Accord itself even contains a constitutional commitment

Waste in the Regulatory Scheme

- Resource conservation is paramount; production and benefits are to be maximized
- The Accord Acts' approach to resource conservation relies heavily on the concept of “waste”
- No waste can occur – it is prohibited
 - Means something different than full recovery

Regulatory Implementation

- Chief Conservation Officer: key position / role
 - Broad responsibility for resource conservation
- Oil and Gas Committee
 - Independent, board-appointed decision maker
 - Appellate and first instance decision making

Waste as a Workhorse

- Production orders
- Control of management
- The offence of waste
 - Imprisonment is a possibility
- Well approvals (including abandonment)

Waste as a Workhorse

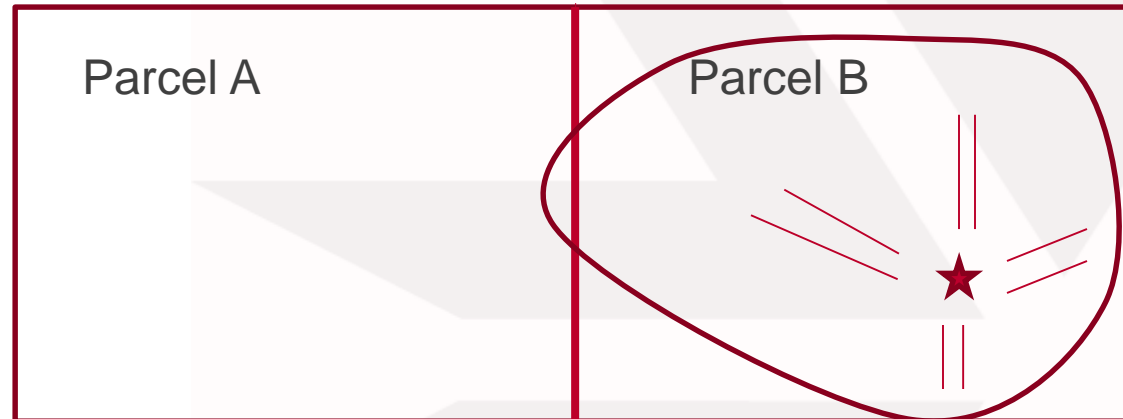
- Spacing Units and Pooling Orders
 - Prohibition on production where non-uniform ownership within a spacing unit
 - But: no spacing units have been created
- Unitization
 - voluntary
 - compulsory

Unchosen Alternatives

- Correlative rights
 - Not embodied in the Accord Acts
- **80** (1) A production licence confers, with respect to the portions of the offshore area to which the licence applies,
 - (a) the right to explore for, and the exclusive right to drill and test for, petroleum;
 - (b) the exclusive right to develop those portions of the offshore area in order to produce petroleum;
 - (c) the exclusive right to produce petroleum from those portions of the offshore area; and
 - (d) title to the petroleum so produced.

Unchosen Alternatives

- Full field unitization
 - Voluntary or ‘waste-based’ compulsion only
 - Simple ‘areal’ or ‘geological’ extent is not a necessary consideration



Waste – as defined

- Waste: “... waste, in addition to its ordinary meaning, means waste as understood in the petroleum industry and in particular, but without limiting the generality of the foregoing, includes ...”
- Technical and economic components are invoked, including the requirement of “having regard to sound engineering and economic principles”

Waste – physical elements

- Parts of the definition which are “only” physical
 - (a) the inefficient or excessive use or dissipation of reservoir energy;
 - (c) the drilling, equipping, completing, operating or producing of any well in a manner that causes or is likely to cause the unnecessary or excessive loss or destruction of petroleum after removal from the reservoir;

Waste – economic elements

- No true economic sub-element, as there is with “physical” waste – closest we get is the recognition of “sound engineering and economic principles”
 - Compare with Alberta: “the production of oil or gas in excess of [...] market demand”

Blending the physical and economic

- (b) the locating, spacing or drilling of a well within a field or pool or within part of a field or pool or the operating of any well that, having regard to sound engineering and economic principles, results or tends to result in a reduction in the quantity of petroleum ultimately recoverable from a pool;
- (g) the failure to use suitable artificial, secondary or supplementary recovery methods in a pool when it appears that such methods would result in increasing the quantity of petroleum ultimately recoverable under sound engineering and economic principles.

Assessing Waste in Practice

- If 50% of a reservoir can be recovered with one well, while 54% will require five wells to be developed, is a one-well development wasteful?
 - What if it was 60%?
 - What if only three wells were required?
- Does it change depending on your perspective?
Regulator? Operator?

Reality: Many Considerations

- Size of the reservoir?
- Cost of each well?
- Confidence in the technology?
- Confidence in the reservoir modelling?
- Current and anticipated price of the resource?
Whose anticipated price?
- Time value of money?

Waste: Does it Work as a Regulatory Tool

Pros?

- Active and engaged regulator
- Maximizes benefit to the Crown
- Align with “performance based” regulations

Cons?

- Significant investment by a regulatory body
- Increased cost to operators in funding regulator



Questions?