

From: [Bown, Charles W.](#)
To: [Bown, Charles W.](#)
Subject: Fw: Ziff analysis
Date: Thursday, March 29, 2012 8:42:03 AM

-----Original Message-----

From: Jim Keating
To: 29674165
To: Ed Martin
To: Gilbert Bennett
Subject: Re: Ziff analysis
Sent: Mar 29, 2012 7:40 AM

Agree with Ziffs assessment especially the one about setting up for export LNG case. But one exception would be our pipeline costs would be in line with upper end of Bruneau if not higher once contingency and financing costs were added. Also I think don't think Bruneau left the impression that 1.9 billion were the total costs. He felt that HH cost profile should cover costs of operator offshore, wells, subsea, facility mods, and opex plus a return on those costs. We will look at that today but don't see HH covering that.

Also it would be good to get Ziff to comment on the reality of why the offshore guys wouldn't target a PRICE (avoided Holyrood) rather than deliver on COST.

J

-----Original Message-----

From: 29674165
To: Ed Martin
To: Jim Keating
To: Gilbert Bennett
Subject: Fw: Ziff analysis
Sent: Mar 28, 2012 11:58 PM

See below

-----Original Message-----

To: Jerome Kennedy
Cc: Heather Maclean
Subject: Ziff analysis
Sent: Mar 28, 2012 11:55 PM

Here is the un filtered analysis from Ziff. Wes and I will weed this and summarize in the morning.
CwB

-----Original Message-----

From: Wes foote
To: Charles Bown
Subject: Re: Tea
Sent: Mar 28, 2012 11:11 PM

Charles

Below please find comments. We can discuss in the am

Wes, Bill, Cameron Gingrich and I were online for the lecture. Speech was about 1.25 hrs., plus questions, about 11 of these, mostly technical, finished up at 6:00 mt.

Many good points made by speaker:

1. availability of resource, - no quibble with his conclusions, lots of gas available in offshore, up to 500 MMcf/d by 2025, cited NEB, Producers
2. timing: no quibble, could be online 2020'ish, Whiterose gas available sooner, Hibernia gas available 2020'ish, needed for pressure maintenance until that time (NEB)
3. no quibble with volumes required for power generation, annualized daily load of 35 MMcf/d (in 2010 he cited a gas equivalent of 12.7 MMcf/d, lots of hydro, etc.)

Comments:

- assumes \$5 cost for gas - price to be paid to producer for pipeline specification gas (already processed and ready for burnertip), equivalent to US Utility price, rising to \$7 in 2035, he used an EIA gas price forecast to 2035
 - o at this price level, producers would be incented to sell as LNG into world markets and realize more than the US market price, currently \$10 in Europe (NBP) and \$18 in Asia and hanging off a world oil price, which is escalating to real \$150 per barrel in 2035, according to EIA forecast
- proposes 100 MMcf/d pipeline, need to check his capex estimate, up to \$950MM
 - o we estimated \$380MM (at \$182,000/inch mile, and higher cost of pipe using \$300,000 per inch mile). At \$380MM yields a \$1.45/Mcf toll at 90 MMcf/d flow (unlikely to flow that much for power demand in NL), rising to \$4.15/Mcf with 35% Load Factor (32 MMcf/d):
 - § using his capex, the estimated toll would be approximately 2.5 times more than our estimate, i.e. \$3.65 at 90 Mmcf/d flow (again, unlikely to flow that much gas), and \$10.37 Mcf at 35% Load Factor (more realistic annualized flow)
- in 2010, with high hydro levels, pipeline toll would have been much higher
 - § landed cost using his metrics would include a gas cost of \$5-\$7 plus a toll of (\$3.65 to) \$10.37+/Mcf., likely toll would be at the upper end using his 35 MMcf/d annual average daily requirement, so very expensive landed gas, and by extension, expensive power
 - § he cited other offshore pipeline examples, not strictly analogous to offshore NL
 - o assumes that ice scour risk can be managed, and that safety would be comparable to other pipelines in areas with no ice
 - § would need to validate this assertion, maybe theoretical, but in practice, ice is a risk for pipelines, and security of supply is paramount for baseload power
 - § could mitigate ice/gas supply risk with dual fuel capability at Holyrood, i.e. gas and diesel (more costs for dual fuel, both capex and operating costs, staff, etc.)
- does not account for liquids handling on platform...what about the liquids? They need to be stripped before the power plant, either onshore or offshore (could be benefits to this, petrochemicals, etc), however liquids can

cause increased operating costs and corrosion on pipelines

- he estimates \$1.9 B capex for infrastructure:
- o who pays the estimated \$1.9B capex for power plant, pipe, offshore platforms, etc?
- o does Gov't foot the bill for the infrastructure? If not, producers/builders would need to recover costs in pipeline toll or gas price (speaker didn't have a position on who would own the pipeline when questioned – 4th question)
- interestingly he proposes exporting Muskrat Power to Ontario, importing \$\$, and using natgas for small domestic electricity needs
- o requires analysis, revenues rec'd for power versus cost of transmission to NL, etc.
- volume of gas from offshore is estimated at 300 to 500 MMcf/d by 2025, annualized load for power is only 35 MMcf/d...would a producer be incented to outlay large capex to take 35 MMcf/d ashore, and then ALSO, need to determine how to monetize the rest of the offshore production
- o producer silence on this gas for electricity option speaks volumes

Wes, he makes some good points, but doesn't answer the central question: with such a low load profile, is it good business to lay out such large capex to bring offshore gas to NL for power generation? If it makes business sense, the industry should be pushing this, not academics. Monetizing stranded gas requires markets and volumes large enough to bring economies of scale.

We monitored tweets, nothing spectacular here, some environmentalist noise on wind/solar etc., ie. no hydro or hydrocarbon power. A party or two were skeptical about Natgas for power, so clearly some Government support in the Tweetosphere.

Opposition parties were in audience.

Give us a ring in the morning and we can discuss.

Cheers,

Ed.

-----Original Message-----

From: Charles Bown

To: Wes foote

Subject: Re: Tea

Sent: Mar 28, 2012 10:26 PM

Ty

-----Original Message-----

From: Wes foote

To: Charles Bown

Subject: Re: Tea

Sent: Mar 28, 2012 10:17 PM

I asked for it prior to 8:00 am NL time, tomorrow, so possibly might see something later tonight.

-----Original Message-----

From: Charles Bown

To: 227C9414

Subject: Re: Tea

Sent: Mar 28, 2012 10:15 PM

What time are we getting the Ziff report tomorrow?

-----Original Message-----

From: 227C9414

To: Charles Bown

Subject: Re: Tea

Sent: Mar 28, 2012 7:17 PM

I'm strolling over from parking lot

-----Original Message-----

From: Charles Bown

To: Foote, Wes

Subject: Re: Tea

Sent: Mar 28, 2012 7:15 PM

I'm in the back of the room. Top left as you face the back.

-----Original Message-----

From: Foote, Wes

To: Charles Bown

Subject: Re: Tea

Sent: Mar 28, 2012 7:12 PM

No good for now thanks

-----Original Message-----

From: Charles Bown

To: Foote, Wes

Subject: Tea

Sent: Mar 28, 2012 6:52 PM

I'm at Tim's. Would you like a Tea?

Sent Via BlackBerry