



May 28, 2010

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Nkem Ejiofor  
Development Engineer  
Talisman Energy Inc.  
2000, 888 3<sup>rd</sup> St. SW  
Calgary, Alberta T2P 5C5

Dear Mr. Ejiofor:

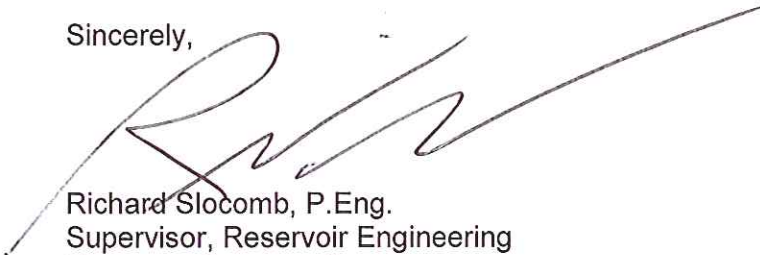
**RE: APPLICATIONS FOR GOOD ENGINEERING PRACTICE APPROVAL  
OJAY AREA  
PADDY, CADOTTE, FALHER, GETHING, CADOMIN, NIKANASSIN FORMATIONS**

Commission staff have reviewed the applications, dated January 20, 2010, and February 19, 2010, requesting Good Engineering Practice approval to produce from the Paddy, Cadotte, Falher, Gething, Cadomin and Nikanassin formations in the Ojay field without regard for normal spacing requirements.

The Commission evaluates the benefit of drilling additional wells within an existing pool in order to capture incremental reserves on an individual pool basis. Due to both the absence of production data from some of the above formations, and limited production data from existing formations, a technically valid argument for the benefit of drilling at reduced spacing has not been provided. Also, the existence of highly fractured formations provides the potential of additional wells accessing reserves during early development that would have otherwise been captured by a well drilled at normal spacing.

Consequently, Talisman's applications for Good Engineering Practice approval are hereby denied. Should additional data be collected to support reduced spacing development for individual pools, Talisman may consider reapplying for GEP.

Sincerely,



Richard Slocomb, P.Eng.  
Supervisor, Reservoir Engineering  
Resource Conservation

**Reason for Decision: Talisman Energy – Applications for Good Engineering Practice Approval to Produce Paddy, Cadotte, Falher, Gething, Cadomin, and Nikanassin Gas in the Ojay Fields.**

**Executive Summary:**

Talisman Energy Inc., on January 20, 2010, and February 19, 2010, submitted two separate applications, under Section 101 of the Drilling and Production Act, requesting Good Engineering Practice approval to produce from the Paddy, Cadotte, Falher, Gething, Cadomin and Nikanassin formations without regard for normal spacing requirements in the Ojay Field in northeast BC.

The application dated January 20, 2010, was published on the Public Notice page of OGC website for the required 3 week period and no objections were received. The application dated February 19, 2010, was posted on the Public Notice page of OGC website for the required 3 week period; a formal objection from BP Canada, dated March 22, 2010, was received by the OGC on March 24, 2010, within the 3 week Public Notice timeframe.

**Discussion:**

**Applications by Talisman**

Both applications were essentially identical in discussion and technical information provided, with the only difference being the areas under application:

**Jan. 20 Application (Ojay North)**

93-I-9      Block A    Units 71-77, 81-87, 91-97  
93-I-9      Block H    Units 1-7, 14, 15, 24, 25.

**Feb. 19 Application (Ojay South)**

93-I-8      Block I    Units 31-33, 41-43, 51-55, 61-65, 71-75, 81-85, 91-93  
93-I-9      Block A    Units 1-3, 11-13, 21-23.

Deficiencies, both logistical and technical, found in both applications are listed below:

**Logistical:**

- The applications request GEP approval for formations that are not currently mapped as producible formations by the OGC or that have even been completed and tested in the areas of application. The formations not found within the areas of application include:
  - Paddy, Cadotte, Falher (South) and Gething (North).
- The applications do not request GEP for specific OGC defined pools (ex. Nikanassin "O", Gething "I", etc.), instead request GEP approval for the formations present (and also not present as per above) within the areas of application.



#### Technical:

- The reference wells used for comparison that have either been tested or have been put onstream by Talisman have all been on production for a very short period of time and thus production data is limited.
  - The limited production data provides uncertainty into the EUR forecasting using decline analysis and subsequently provides uncertainty in the calculated drainage areas.
- Both application areas fall within the Outer Foothills Area Commingling Guideline and thus the Deep Zones (Gething, Cadomin, and Nikanassin) may be commingled. The commingling of these zones eliminates the ability to measure the production contribution of each individual zone and thus provides uncertainty into which zones could potentially capture additional reserves if additional wells were drilled.
- There were no technically valid arguments discussing the possibility of new wells accelerating reserves versus capturing additional reserves. With the objective of drilling in the Outer Foothills area being targeting naturally fractured reservoirs, the OGC feels a technical analysis of acceleration vs. additional reserves should have been provided.

#### Objection from BP

The OGC received an objection to the Talisman Application dated February 19, 2010, from BP Canada, dated March 22, 2010. Technical issues supporting BP's objection include:

- PTA analysis performed calculated a drainage area greater than 1 DSU.
  - See application for input parameters and analysis.
- The existence of natural fracturing in the area for which additional drilling would just accelerate reserves.
- Increased drilling activity in order to prevent competitive drainage situations would have a negative impact on the surface footprint in an environmentally sensitive area if additional production were just accelerating reserves.

#### Response to BP objection by Talisman

Talisman refers to a sub set of 6 wells within their area of application and provides internal estimates of Net Pay and Porosity for the wells. The average Net Pay (m) and Porosity for these wells were 123.2m and 4.9% respectively; when compared to the BP Grizzly wells used in the objection (average net pay of 16.4m and 3.2%), these pay parameters are much greater, thus providing a smaller calculated drainage radius.

RTA and FMB were then used to analyze d-56-A (Nik.) and c-64-A/93-I-9 (Nik.). Using the Blasingame model, drainage areas of 10 and 40 Ha were calculated. The same drainage areas (10 and 40 Ha) were calculated using FMB as well.

For both wells, the curve fitting for decline analysis, RTA, and FMB are subject to numerous interpretations, thus providing degrees of uncertainty in the precision of the calculations.

**Decision:**

- Formations not presently mapped by the OGC within the area of application cannot receive GEP approval. (Paddy, Cadotte, Falher (South), Gething (North))
- The applications do not request GEP for specific OGC defined pools (ex. Nikanassin "O", Gething "I", etc.)
- Talisman's response to BP's objection only analyzes Nikanassin production from 2 wells. This data is mostly early-time, thus the curve fitting used in decline analysis, RTA, and FMB is subject to varied interpretation, as well as the subsequent drainage area calculations.
- Both Talisman and BP mention that they are targeting highly fractured rocks, needing the fracture permeability to produce gas at economic rates and pressures. However, hitting a permeable fracture network would enable a well to drain gas from multiple surrounding DSUs.

For the reasons listed above, the OGC hereby declines both applications made by Talisman. In the letter sent to Talisman, the suggestion to apply for GEP in the Nikanassin, or all 3 "Deep" zones as defined by the Outer Foothills Commingling Guideline, is made once more production data is collected.

Travis Mercure, P. Eng.  
Resource Conservation