

## Studi penyatuan tarif pengangkutan gas bumi melalui pipa untuk dua ruas pipa transmisi gas bumi = A study on the unification of toll fees for two gas transmission pipeline segments

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### Abstrak

Terdapat dua ruas pipa transmisi yang sejajar. Toll fee Pipe 1 sebesar US\$ 1,55/MSCF sedangkan Toll Fee Pipe 2 sebesar US\$ 1,47/MSCF. Kedua ruas saling terkoneksi. Shippers yang melewati interkoneksi wajib membayar toll fee sebesar US\$ 3,02/MSCF (penjumlahan dari kedua toll fee). Hal tersebut kurang efisien. Studi/penelitian ini menggunakan Metode Modular Guthrie dalam estimasi perhitungan investasinya. Investasi Pipe 1 sebesar US\$ 535,8 juta dan Pipe 2 sebesar US\$ 786,3 juta (basis 2007). Pengaturan tarif dilakukan dengan membatasi internal rate of return (IRR) yang besarnya sama dengan weighted average cost of capital (WACC). WACC dihitung dari cost of equity untuk rata-rata lima tahun terakhir (2009-2013). WACC Pipe 1 sebesar 3,17; WACC Pipe 2 sebesar 8,40; dan WACC Penyatuan sebesar 6,28. Perhitungan toll fee menggunakan dua skenario.

Skenario 1 mengasumsikan perkiraan volume dari 2014 (sekarang) s.d berakhirnya kontrak. Skenario 2 menambahkan estimasi realisasi volume 2012 dan 2013. Untuk Pipe 1 diperoleh toll fee sebesar US\$ 1,40/MSCF (Skenario 1) dan US\$ 1,46/MSCF (Skenario 2). Toll fee Pipe 2 sebesar US\$ 1,00/MSCF (Skenario 1) dan US\$ 0,90/MSCF (Skenario 2). Hasil perhitungan toll fee penyatuan lebih rendah dibandingkan penjumlahan hasil perhitungan toll fee Pipe 1-Pipe 2. Toll fee penyatuan sebesar US\$ 1,06/MSCF (Skenario 1) dan US\$ 1,00/MSCF (Skenario 2).

.....There are two parallel transmission pipeline segments. The magnitude of the toll fee Pipe 1 is US\$ 1.55/MSCF while for toll fee Pipe 2 is US\$ 1.47/MSCF. Both segments are interconnected to each other. These shippers who pass through the interconnected pipelines are required to pay a toll fee amounting to US \$ 3.02/ MSCF (the sum of the toll fees required in Pipe 1 and Pipe 2). This is less efficient.

This study employed Guthrie's modular method to estimate investment calculation. Investment in Pipe 1 amounts to US\$ 535.8 million while investment in Pipe 2 reaches US\$ 786.3 million (basis in 2007). Tariff arrangements are done by limiting the internal rate of return (IRR) which amount is equal to the weighted average cost of capital (WACC). WACC is calculated from the cost of equity for the average amount in the last five years (2009-2013). WACC Pipe 1 equals to 3.17, WACC Pipe 2 equals to 8.40, and WACC Unification equals to 6.28. The toll fee calculation was done using two scenarios.

Scenario 1 assumed the estimated volume from 2014 (currently) until the end of the contract. Scenario 2 included the estimated volume realization in 2012 and 2013. For Pipe 1 obtained toll fees by \$ 1.40/ MSCF (Scenario 1) and \$ 1.46/ MSCF (Scenario 2). For Pipe 2 obtained toll fees by \$ 1.00/ MSCF (Scenario 1) and US \$ 0.90/ MSCF (Scenario 2). The result for the calculation of the unification of toll fees is lower than the calculation result for the sum of the toll fees in Pipe 1-Pipe 2. The unified toll fees amount to US\$ 1.06/ MSCF (Scenario 1) and \$ 1.00/ MSCF (Scenario 2)