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EcoNomics

DEPT. OF RESOURCES, ENERGY AND TOURISM

DRET CCS Task Force Support

Small Diameter Pipelines

Total Installed Cost Budget Estimates

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DEPT. OF RESOURCES, ENERGY AND TOURISM
DRET CCS TASK FORCE SUPPORT
CO₂ SMALL DIAMETER PIPELINES

SYNOPSIS

The Australian Government Department of Resources, Energy and Tourism (DRET) has requested WorleyParsons to conduct a study to estimate the approximate costs of CO₂ pipelines to assist in modelling of potential CO₂ pipeline networks.




This report presents the results of the estimating process and defines the assumptions that the estimates were based on.

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PROJECT 401001-00514 - DRET CCS TASK FORCE SUPPORT

REV	DESCRIPTION	ORIG	REVIEW	WORLEY-PARSONS APPROVAL	DATE	CLIENT APPROVAL	DATE
0	Issued for Use	 A Cook	 P Cox				



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1. INTRODUCTION

The Australian Government Department of Resources, Energy and Tourism (DRET) has requested WorleyParsons to conduct a study to estimate the approximate costs of CO₂ pipelines to assist in modelling of potential CO₂ pipeline networks.

This report presents the results of the estimating process and defines the assumptions that the estimates were based on.

The table in Section 2 has been built up with consideration of a several recent Australian and international pipeline projects combined with recent construction estimates for upcoming projects and budgetary quotations from OneSteel for line pipe, coating and freight. With the recent global downturn, prices for line pipe have reduced dramatically in the last 6 months. As the economy begins to recover, it is expected that costs will commence to rise again.

It is important to note that these are generic costs. Every pipeline project has unique factors such as the extent of rock, differing terrain/pipeline crossings, labour cost and availability and issues related to proximity to people which can have up to a +/- 40% effect on overall costs.



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2. RESULTS

Dia (in)	TIC A\$/m	TIC A\$/km	TIC A\$/in/km
8	358	357,950	44,744
10	453	453,300	45,330
12	553	553,125	46,094
14	643	642,976	45,927
16	720	719,867	44,992
18	823	822,537	45,696
20	930	930,124	46,506
22	1065	1,064,692	48,395
24	1204	1,204,096	50,171
26	1306	1,305,746	50,221
28	1839	1,839,117	65,683
30	2121	2,121,348	70,712



3. ASSUMPTIONS

1. Pipeline wall thickness is based on Class 900, X70 pipe, 0.72 design factor.
2. Pipe tonnage, trilaminate coating & sea freight rates are as advised by OneSteel 26 May 2009.
3. Rates are based on pipelines being constructed with long distances through mostly open and flat rural areas with low population density. Short pipeline costs will be higher as mobilisation and other fixed costs are spread across a lower cost base.
4. Assumed currency exchange rates: 1A\$ = 0.781US\$, 1A\$ = 0.880CAN\$.
5. Rates exclude all compression / pumping stations but include pigging & main line valve stations.
6. The above budget costs reflect May 2009 pipe steel and construction costs.
7. Rates exclude GST.