



Frankston Beach Association Inc.

Preserving the beach for all to use

To The Channel Deepening SEES Independent Panel
Planning Panels Victoria

12 June 2007.

At the Public Inquiry

In the matter of the Channel Deepening

Supplementary Environment Effects Statement

Expert Witness Statement of Ilias Grivas

Representing Frankston Beach Association Inc.

Qualifications:

B Econ (Economics & Econometrics)

Dip Comp

Dip Ed

www.vicnet.net.au/~fbainc

Registration Number - A0031686R ABN - 68 874 762 644

Secretary: Kathleen Hassell, 44 Violet St, South Frankston, 3199

Tel: (03) 9783 1391

Channel Deepening: Benefit-Cost Analysis

I, Ilias Grivas, wish to address the following-

2.2 Background and scope

The direct economic benefits that arise from the deepening of the Port Phillip Bay shipping channels are determined by the amount of trade that is expected to pass through the port of Melbourne and the extent to which the costs of shipping that trade would be altered if the channels were deepened.

First Concern

2.3 Timing Changes

The project is proposed to commence late in 2007, subject to approval. As a result, the estimated commencement date of economic benefits from the project has changed. Benefits are now **assumed to commence at the beginning of 2010** (at the earliest I imagine ? sic)

Yet report goes on to conclude

Medium term World Bank/International Monetary Fund (IMF 2006; WTO 2006) forecasts suggest that world economic growth will remain relatively buoyant over the next five years. **Beyond that period, no authoritative predictions are available.**

Meyrick is making an assumption or wishful guess (not based on **authoritative** predictions) that

“We have assumed that the rate of growth from 2010 to 2035 will be slightly slower than the long-term growth rate experienced over the last thirty years.”

However they are making judgments that average world growth in trade over the past 30 years should continue. My question is what countries are included in the *average*? What does **trade** include?

Concern number 2

TABLE 4: TOTAL INTERNATIONAL CONTAINERS – OCTOBER 2006 FORECAST (TEU)

TEU	2010	2015	2020	2025	2030	2035
Export Full	770,000	1,050,000	1,380,000	1,730,000	2,180,000	2,740,000
Export MT	230,000	280,000	360,000	460,000	570,000	720,000
Import Full	950,000	1,230,000	1,610,000	2,030,000	2,550,000	3,200,000
Import MT	110,000	150,000	200,000	250,000	320,000	400,000
Total	2,060,000	2,710,000	3,550,000	4,470,000	5,620,000	7,060,000
Change since EES	160,000	220,000	280,000	350,000	460,000	560,000

Note above that **Imports are to be way in excess of Exports**

HOW CAN THE DETERIORATION OF BALANCE OF PAYMENTS BE CONSIDERED A BENEFIT?

Are we funding **import substitution for Australian Manufacturing?**

Exactly what imports are expected to come in?

Note that Australia's major exports are in Primary and Resources exports and do not begin from Port Phillip Bay

Concern Number 3

Maximum Vessel Size

While the size of the largest container ship used in the Australian trades is expected to continue to increase, it is unlikely that the rate of increase of the last decade (over 4% per year) will be sustained.

The long term historical average rate of increase is around 2.2% per year.

Channel Deepening: Benefit-Cost Analysis, p7.

We expect the largest vessels deployed in the Australian trades, will, by 2035, be in the range 6,500-7,000 TEU; this implies an average annual increase of approximately 1.8% per annum.

AVERAGE SIZE OF INCREASE WILL BE **1.8% per annum**

This means that the size of a vessel should grow by 56.2% over 25 years
ie if Average size was 100 tonnes today it will be 156.2 tonnes in 25 years

This implies that further dredging will be done over the decades

Has the cost of this dredging been considered?

Concern Number 4

This contradicts the above

Generally, we expect that this relationship between growth in average vessel size and trade growth will continue to hold in the future. Consequently, **the rate of growth in average vessel size is expected to decline over time, mirroring the expected decline in the rate of container trade growth.** However, we have made the conservative assumption that the rate of growth of average vessel size will decline somewhat more rapidly. Specifically, we have assumed that average vessel size will increase by 3% per year in the near term (slightly lower than the long-term historical average), and that the rate of increase will fall to 1.5% per year by the end of the evaluation period.

Of concern

TABLE 6: CONTAINER VESSEL CHARACTERISTICS

TEU	2010	2015	2020	2025	2030	2035
Maximum Vessel Size	4,500	5,100	5,750	6,200	6,500	7,000
Average Vessel Size	3,130	3,587	4,015	4,430	4,790	5,130

Large ships will be 56% larger by 2035

Larger ships bringing in more imports – what is benefit to Port Phillip Bay residents of this?

Will Melbourne be the shipping hub in 2035 anyway?

Concern Number 5

Grain Exports are expected to grow and exported from **Appleton Dock**

My question IS IT ECOMOMICALLY EFFICIENT TO TRANSPORT GRAIN TO BE EXPORTED FROM THE CITY?

PORTLAND IS CLOSER TO THE MALLEE AND WIMMERA AND INVOLVES LESS TRAFFIC PROBLEMS AND FUEL.

WHY NOT CREATE A GRAIN EXPORT FACILITIES ELSEWHERE? WHY DOES IT HAVE TO BE EXPORTED FROM THE CITY.

HAVE THE COSTS OF BUILDING ENLARGED GRAIN STORAGE FACILITIES AT APPLETON DOCK BEEN CONSIDERED? IS IT POSSIBLE AND APPROPRIATE TO BUILD THEM IN THE CITY WITH THE PROBLEMS OF SCARCE RESIDENTIAL LAND AND LACK OF TRANSPORT INFRASTRUCTURE?

Meyrick goes on to state -

In the short term, export grain volumes through individual Victorian ports are volatile, and can be profoundly affected by changes in the charging and operating practices of rail operators. Over time, it is reasonable to expect that market shares will be driven by the underlying economics of grain transportation and the needs of grain traders.

They state

"If there was a reduction in grain handled at the Port of Melbourne, which could occur as a result of either environmental or industry actions, then the worst case scenario would be a diversion of all forecast grain volumes grain to other ports. This would see a reduction in the benefits of the project of approximately \$55m in Present Value terms."

The **benefit** of extra grain exports will be at most \$55million - penny wise pound foolish to spend hundreds of millions for this benefit.

Serious Concern Number 6

Expected increase in using the bay to transport crude oil!

2.6 Crude Oil Trade

In the base case, the number of vessel calls in each future year was estimated based on the forecast of crude oil imports and the use of crude oil tankers of the size currently operating in Melbourne. If the channels are deepened, the use of Suezmax class tankers is assumed. As shown in Table 17 and Table 18, the overall effect of these changes would be to reduce the number of vessel calls by approximately one-third.

TABLE 17: CRUDE OIL VESSEL CALLS —	WITH CHANNEL DEEPENING					
CrudeOilTankers	2010	2015	2020	2025	2030	2035
Crude Oil Imports – Melbourne ('000 tonnes) DWT Capacity – Melbourne ('000 tonnes) DWT			4,401		5,615	6,132
Utilisation – Melbourne Average parcel size – Melbourne ('000 tonnes) Total Crude Oil Vessel Calls	3,085	3,768	4,620	5,049	5,880	6,405
	3,255	95%	94%	100	94%	100
	100	31	99	38	44	99
				51	56	61

TABLE 18: CRUDE OIL VESSEL CALLS — WITHOUT CHANNEL DEEPENING	2010	2015	2020	2025	2030	2035
Crude Oil Imports – Melbourne ('000 tonnes) DWT Capacity – Melbourne ('000 tonnes) DWT			4,401		5,615	6,132
Utilisation – Melbourne Average parcel size – Melbourne ('000 tonnes) Total Crude Oil Vessel Calls	3,085	5,435	6,348	7,282	8,099	8,845
	4,450	69%	69%	69%	69%	69%
	65	48	65	58	65	68
				78	65	87
					65	95

AND THE BENEFITS OF THIS cost savings \$24.7million over 30 years!

TABLE 19: BENEFITS FROM REMOVAL OF TIDAL CONSTRAINTS TO CRUDE OIL VESSELS (AUD\$M)	2010	2015	2020	2025	2030
Cost Savings from Channel Deepening	13.5	16.5	19.3	22.2	24.7
Crude Oil					

This assumption is based on NO SPILLAGES or ACCIDENTS over 25 years!

Serious Concern Number 7

Meyrick assume that bigger and more ships will decrease the expectancy of a disaster

But they go on to state -

It is possible, though by no means certain, that although the level of exposure to the risk of an incident will decline as a result of the project, the economic cost of an incident, if it occurs, may increase. This may happen for the following reasons.

The margin for error may be reduced by the more frequent use of larger and deeper vessels, so that the likelihood of any particular misjudgement or lapse leading to a significant incident will increase, or

The economic consequences of any incident that does occur may be greater because, for instance, the value of the vessel and the cargo that it carries will be greater.

To the extent that this is the case, the increase in the consequences of an incident will tend to offset the reduction in exposure documented above.

However I was unable to find the costs of A Disaster Recovery – surely the figures exist.

Serious Concern Number 8

The resulting cost of delay estimates are provided below

TABLE 33: BENEFITS FROM REMOVAL OF TIDAL CONSTRAINTS (\$M)

Year	Cost of delays
2010	6.85
2015	8.68
2020	11.43
2025	14.22
2030	17.80
2035	22.04

We save \$81 million in cost delays over 30 years –is it worth spending \$414,200,000 Million ++?

We estimate the cost of the project taking into account the costs that have been omitted from the Channel Deepening: Benefit-Cost Analysis to be approximately \$2 billion.

Serious Concern Number 9

3. QUANTIFIABLE ENVIRONMENTAL AND SOCIAL COSTS AND BENEFITS

THE ONLY COSTS THAT THEY CONSIDER ARE THE ONES THAT THEY CAN QUANTIFY WITH MONEY. AND THIS IS DONE CONSERVATIVELY – costs of anguish, displacement, mental health, loss in land values to properties are not considered as far as I can see.

They honestly confess

There are a number of the indirect costs that have not been fully internalised through mitigation measures. This fall into two groups:

□ The first group incorporates quantifiable indirect effects that we have been able to value on a reasonably reliable basis. These include economic impacts on commercial fishing, recreational diving and shipping operations.

□ The second category comprises unquantifiable indirect effects that remain unvalued and externalised. One example of such an unvalued indirect cost may be the impact on third parties of oil-spills and collisions. Whilst the mitigation costs include a partial valuation of these impacts, and insurance premiums internalise another fraction, the

inability to assess precisely either the likelihood or the consequences of such an event mean that there is an unquantifiable residual.

But go on to say

In determining whether or not a risk and its consequences (either identified within the SEES process or elsewhere) will result in a non market economic impact we have undertaken the following steps:

Reviewed documentation provided to us by the other specialists in the SEES team

Many of indirect effects involve matters in which no explicit market transactions are involved, and could be referred to as non-market effect. However, others – such as the impact of commercial fishing – can be valued by recourse to market prices, even though there is strictly speaking no market for the effect itself. We have therefore preferred the terms direct and indirect costs.

Identified risks or effects that may give rise to indirect costs

Held discussions with SEES technical specialists in order to confirm our understanding of their findings

Where a quantifiable economic cost is identified, we have sought agreement on an appropriate valuation method with the technical specialist and the lead consultant in the SEES.

In all analysis of this type, decisions need to be made regarding which effects, or possible effects, to include explicitly in the quantitative economic evaluation, and which are best dealt with qualitatively.

We adopt three criteria for the inclusion in the quantitative economic evaluation.

These are that it is possible to estimate with a reasonable degree of confidence:

the magnitude of the effect, if it occurs

the probability that the effect will occur

the economic consequences of the effect.

The effects discussed in this section meet these criteria.

Impact on fuel consumption

As larger vessels are, on average, newer than smaller vessels, deepening will result in a slight reduction in the age of the fleet using the port, and in general more modern vessels are more fuel-efficient than older ships.

(But there will be more of them and THIS IS NOT A CONSEQUENCE OF CHANNEL DEEPENING BUT OF TECHNOLOGICAL EVOLUTION)

3.1.2 Quantification

Fuel consumption

Fuel consumption was estimated without the project and with the project; that is, without channel deepening and with channel deepening.

Channel deepening is estimated to lead to fuel savings in 2010 of 780 tonnes, increasing to 51,200 tonnes by 2035. The difference accelerates as time goes on

because the fleet of ships that would be expected to serve the Australian trades if the channel is deepened looks increasingly different over time from the fleet that would operate if the channel is not deepened. Over the evaluation period, channel deepening is estimated to result in a total of approximately 476,100 tonnes less fuel being used than would otherwise have been the case.

I can't argue against this one other than to say

THIS IS NOT A CONSEQUENCE OF CHANNEL DEEPENING BUT OF TECHNOLOGICAL EVOLUTION)

3.2.1 Commercial fishing activities

The economic impact of the CDP on commercial fishing relates to the reduction in resources, in this case fish, available as a direct result of channel deepening process.

Mayrick has only included a table of the catch but have not taken account the losses to the people employed and displaced by the impact upon the industry

In order to complete the economic assessment of the impact we have drawn on a commercial shipping profile developed from Primary Industries Research Victoria (PIRVic) material supplied in its role as advisor to the SEES on Commercial and Recreational Fishing issues and shown in Table 34 below.

Species	Production (tonnes) ²⁵	Value (\$'000)	% of catch in affected areas
Abalone	113	4,583	10
Pilchards	50	60	40
King George whiting	69	789	5
Southern calamari	52	443	15
Snapper	89	627	60
Rock Lobster	1	28	50
Southern garfish	26	174	10
Southern anchovy	55	138	50
Flathead	31	86	20
Gummy shark	15	121	20
Sandy sprat	16	19	50
Greenback flounder	7	49	5
Australian salmon	30	28	20
Yellow-eye mullet	15	24	60
Other	44	147	15

Meyrick argues

The estimated value of reduction in the commercial catch in the Bay is:

□ \$0.44 million during initial construction phase

- \$0.49 million in the first year following the initial construction phase
- \$0.29 million in the second year following the initial construction phase
- \$0.29 million in the third year following the initial construction phase.

However there is a cost of replacement with imported fish to consider
There is also the cost of loss of economy and capital equipment owned by the commercial and recreational anglers.

The loss of fish stock due to environmental desecration needs further consideration.

3.2.2 Impact on diving activities

The potential economic impact of the CDP on diving in Port Phillip Bay is assessed at \$4.1M by Sinclair Knight Merz (Chapter 5 of SKM 2006) in its role as advisor to the SEES on social issues.

**This does not include costs to the tourist industry that services this sport
For example accommodation and service supplies**

3.3.1 Summary of quantified indirect costs

Mitigation strategies will significantly reduce the indirect economic cost of the project. There will however be some residual effects that can be quantified. In total, we have estimated these upper amounts at \$12.2 million. The magnitude of each of the four components of this cost are summarised in Table 35.

TABLE 35: SUMMARY OF ECONOMIC COSTS (DISBENEFITS) FOR COMMERCIAL AND OTHER BAY USERS

Risk Group	Economic Costs (\$) Proposed Project Case
Commercial Fishing	\$1.5M
Recreational Diving	\$4.1M
Shipping Delay	\$6.6M
Blockage of Channel	\$21K
Total	\$12.2M

These costs are the only ones considered and it is hard to believe that is all for the next 30 years

Other costs not included

4.1.1 Impact on tourism and recreational activities

Chapter 5 of the Social Impact Assessment report²⁸ (SKM 2006) assesses that the CDP will have limited impacts on the following activities:

- Recreational fishing
- Ecotourism
- Land based tourism activities.

The impact of the CDP is not expected to lead to either a temporary or permanent change in the economic resources required to undertake these activities.

Consequently, no economic cost has been assigned to the impact of the project on these activities

BENEFITS WILL BE

TABLE 36: DETAILS OF PROJECT BENEFITS IN SELECTED YEARS (\$ M)

	2010	2015	2020	2025	2030
Containerships					
Saving due to use of larger ships					
- Operating costs	6.3	27.7	56.2	151.2	261.6
- Maritime services					
- Pilotage	0.5	2.0	4.1	10.6	18.1
- Towage	0.5	2.3	4.6	12.1	20.8
- Mooring	0.1	0.3	0.5	1.3	2.2
Saving because of improved vessel operations					
- Avoidance of delays	6.9	8.7	11.4	14.2	17.8
- Avoidance of land bridging and duplication of port calls	11.9	21.0	33.6	45.6	61.2
Total for containerships	26.2	62.0	110.4	235.0	381.7
Other vessel operating cost savings					
- Grain ships	4.2	4.7	4.6	5.2	5.8
- Crude oil tankers	13.5	16.5	19.3	22.2	24.7
- Petroleum product carriers	0.4	0.4	0.4	0.4	0.4
Environmental gas emissions	-	-	-	0.9	1.6
Total	44.3	83.6	134.7	263.7	414.2

COSTS DO NOT INCLUDE –

4.2 Uncosted risks and effects

The risks and effects discussed in this subsection will not be completely eliminated by mitigation measures, however, in each case, with mitigation in place the expected economic consequences of the effect will be extremely small, though difficult to quantify with precision.

The costs are related to construction only and only go till 2011

WHAT ABOUT COSTS FROM 2011 to 2030 – Maintenance for example?

TABLE 37: PRESENT VALUE OF TOTAL PROJECT COSTS BY CALENDAR YEAR (\$000)

	2007	2008	2009	2010	2011	Total
Project Direct Costs	46,710	310,653	265,735	3,513	0	

						626,612
Project Indirect Costs						
Recreational Diving		2,573	1,532			4,105
Commercial Fishing		\$435	\$490	\$291	\$291	1,508
Vessel Blockage		\$21	\$11			32
Vessel Delay in Channels		\$808	\$404			1,212
Vessel Delay at Heads		\$802	\$802			1,605
Vessel Delay in Yarra		1,916	1,916			3,832
Project Indirect Costs		6,555	5,155	291	291	12,293
Total Project Costs	46,710	317,208	270,890	3,804	291	638,906
Total Project Costs Present value in 2007 @6%	46,710	299,253	241,091	3,194	230	590,478

We pay \$590,478,000 till 2011 (Without considering costs till 2030)

And accrue benefits of \$414,200,000

In conclusion I, Ilias Grivas have read the Meyrick and Associates *Channel Deepening: Benefit-Cost Analysis*, prepared for the Port of Melbourne Corporation (February 2007 and I have made all inquiries that I believe were desirable and appropriate that no matter of significance which I regard as relevant have to my knowledge been withdrawn from the Panel.

12 June 2007