

**BEFORE THE OTAGO REGIONAL  
COUNCIL**

**IN THE MATTER** of the Resource Management Act  
1991

**AND**

**IN THE MATTER** of an application for resource  
consents for Project Next  
Generation

**BY** **PORT OTAGO LIMITED**  
**Applicant**

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**STATEMENT OF EVIDENCE OF GEOFFREY PHILIP PLUNKET ON  
BEHALF OF PORT OTAGO LIMITED**  
Date 4 April 2011

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## **INTRODUCTION**

1. My full name is Geoffrey Philip Plunket. I am Chief Executive Officer of Port Otago Limited. I have been employed by Port Otago since 1988 in a variety of finance and operational roles. I was appointed Chief Executive in September 2004. I have a Bachelor of Commerce from Otago University.
2. Port Otago Limited ("Port Otago") operates two wharf systems - Port Chalmers and Dunedin - within Otago Harbour. Port Otago is the primary export port for the southern region of the South Island. Port Otago and its predecessor the Otago Harbour Board have operated ports at Dunedin and Port Chalmers for over 100 years.
3. Port Otago is wholly owned by the Otago Regional Council. It owns the land based commercial port infrastructure at both Dunedin and Port Chalmers, and it holds a coastal permit which provides the exclusive right of occupancy for the coastal marine area adjacent to the port operating wharves.
4. Port Otago maintains the commercial shipping channels, berths and swinging basin within Otago Harbour in accordance with the permitted activities within the Otago Regional Council's Regional Plan: Coast.
5. Port Otago operates in a harbour that is renowned for its physical beauty. The abundant sea and bird life provides significant opportunities for recreation and eco-tourism. Port operations are carried out in a way which co-exists with this unique environment.

## **SCOPE OF EVIDENCE**

6. I have been involved with project Next Generation since its inception. My evidence will:
  - a. provide an overview of the project.
  - b. outline a short history of the port and its development.

- c. discuss the ports trade and operation and outline factors that influence both of these.
- d. give an overview of key economics factors associated with the port, and in relation to the project.
- e. discuss community consultation
- f. summarise the importance of the project and the commitment by Port Otago to doing it right.

### **PROJECT NEXT GENERATION**

- 7. To prepare Port Chalmers for the next 20 to 30 years and cement it as a key port in New Zealand's international supply chain, Port Otago has initiated project Next Generation to enable the port to handle visits by larger ships.
- 8. Over the past 10 years, the size of container ships has steadily increased as shipping lines endeavour to move freight around the world in an efficient and cost effective way. Shipping is the most environmentally friendly method of transporting goods over long distances and newer, bigger ships provide both greater efficiencies and environmental improvements by, for example, reducing the carbon footprint. The world trend towards bigger ships is certain to affect New Zealand and, like the 1970s when ports upgraded their facilities for the start of containerisation, there must be planning and investment in infrastructure to make sure the New Zealand ports, including Port Chalmers are able to handle these ships in an efficient manner.
- 9. Currently, the biggest container ships that come to New Zealand call at Port Chalmers. They have a nominal carrying capacity of 4,100 twenty foot equivalent units (TEUs) and are 281 metres long, 32.2m wide and have a maximum draft of 12.5m. It is expected that ships that call at Port Chalmers will continue to increase in size. While the next step is likely to be container vessels with a carrying capacity of up to 5,000 TEUs it is important that Port Otago has in place plans to handle vessels with a carrying capacity of up to 8,000 TEUs. Typically vessels of this size will

be up to 350m long, 43 m wide and have a maximum draft of 14.5 m. In addition we can expect that cruise ships will increase in size over coming years. While the largest cruise vessels are currently 290 metres in length we already have an enquiry for a 317 metre vessel to call in 2013.

10. The largest container vessel to call Port Chalmers (and on the NZ coast) is the Maersk Detroit, which made one call at both the Ports of Auckland and Port Otago in December 2009. The vessel has a carrying capacity of 5,000 teus, a length of 294 metres and a maximum draft of 13.5 metres. Port Otago does not have sufficient depth in the lower harbour channel to enable this vessel to sail at its maximum draft (fully loaded). With this exception the port call by the Maersk Detroit demonstrated Port Otago's capacity to handle this larger class of vessel. Unless the channel was deepened to 14 metres, a regular service from this size vessel would not be viable.

### **Summary of the project**

11. There are three aspects to the project:
  - a. Dredging of the lower harbour shipping channel on a progressive basis to a maximum depth of 15 metres. As ships increase in size the width of the Port Chalmers turning basin will need to be extended and improvements made to Harrington Bend to ensure the safe navigation of larger vessels. Consent to dispose of the material at sea is also required.
  - b. The berths alongside the Container and Multipurpose Wharfs will need to be deepened on a progressive basis to 16m and be widened from 37m to 50m.
  - c. An extension will be required to the existing Multipurpose Wharf to improve operational flexibility of port operations. This project also includes the construction of a new public fishing jetty.
12. A critical component of project Next Generation is therefore the need to deepen and widen the existing lower harbour channel from the harbour entrance to Port Chalmers. The current depth of the channel is a

minimum 13.0 metres below Chart Datum, increasing to a minimum of 14.5m north of the Mole End at the channel entrance. To accommodate larger ships channel depths will need to be progressively increased to 15m in the Port Chalmers basin, 16m at a point about two thirds of the way around Harrington Bend, and to a minimum depth of 17.5m at the channel entrance. The impacts of this part of the project have been subjected to thorough investigation by experts, who you will hear from in this hearing.

### **Stages of Work**

13. The total project will take place in a series of stages. It is important that Port Otago is able to develop the lower harbour shipping channel and the land based port facilities in line with the commercial demand from shipping line customers. To achieve this objective Port Otago will need to use the appropriate dredging equipment to ensure that the improvements to port infrastructure are in place at a time required by customers.
14. Port Otago is uniquely placed in that it is the only major New Zealand port to operate its own trailer suction dredge, the New Era. This means that Port Otago can potentially undertake some of the dredging work using its own equipment. For this strategy to be successful Port Otago will need to be able to incrementally deepen the lower harbour channel over an extended (several years) period. If however there is a need to complete all or part of the dredging programme on an accelerated basis to meet shipping demand then this work will need to be contracted to a large dredge.
15. In addition to the above some of the work will need to be completed by a backhoe dredge – work which would need to be contracted out.
16. It is important that Port Otago has the flexibility to be able to deploy the appropriate dredging equipment at the right time to ensure that the port is able to provide the required port infrastructure and facilities at the time required by our customers.

17. At this stage we expect that the first stage (for container vessels of up to 5,000 TEU's) will be to deepen the lower harbour channel to 14 metres chart datum. This will require dredging of 2.5 million cubic metres of material. Provided that we have sufficient time available it is likely that all or most of this work can be completed by the New Era.
18. The technical aspects of the project including the channel design and the nature of the dredging and disposal will be provided by Lincoln Coe.

## **PORt HISTORY**

19. The following quote from Gavin McLean's book "Otago Harbour, Currents of Controversy", which was published in 1985 provides an excellent summary of changes at the port. The quote is as relevant today as it was in 1985.

*"The history of the Port of Otago cannot be fully understood outside the context of wider economic history. The cycles of trade flow in and out of it just as surely as the tides and with just as an immediate impact on those who depend on it for their livelihood. The same with shipping. After all, a port exists solely to serve shipping and as the last decade has shown very clearly, technological changes in the shipping industry are the driving forces behind the whole process of harbour development". (McLean,)*

20. Since New Zealand's first refrigerated meat export sailed from Port Chalmers in 1882, shipping has been the life blood of the Otago and the New Zealand economy. From the beginning Port Otago has been at the forefront of every new stage of shipping development including the establishment of the container port, at the start of containerisation in the mid 1970's.
21. Important milestones in the port's development include:

- d. May 1844 a surveyor, Frederick Tuckett selected Otago for settlement as the New Edinburgh because of its sheltered harbour and suitable agricultural land;
  - e. February 15, 1882 the Albion Line sailing ship "Dunedin" left for London from Port Chalmers with the first shipment of frozen meat from New Zealand, pioneering a revolution in transport methods and making possible the start of a major New Zealand industry;
  - f. June 28, 1971 the Columbus Line vessel "Columbus New Zealand" left Port Chalmers for North America inaugurating the first cellular container ship service from New Zealand and pioneering a further revolution in the transport of New Zealand produce;
  - g. September 10, 1977 the container terminal was opened.
  - h. In 2002 P&O Nedlloyd selected Port Otago as its sole South Island port call for its new Round the World Service using the Albatross (or 4100) class of vessels.
22. Throughout the 1990's ports were subject to significant change and reform. The Port Companies Act 1988 required ports to have an enhanced commercial focus by operating as successful businesses (Section 5 of Port Companies Act 1988) and from the Resource Management Act 1991 which placed emphasis on sustainable development of port and harbour facilities.
23. During this period international trade agreements saw New Zealand manufacturers, producers and suppliers facing increased competition from international companies entering the New Zealand market, but also gaining greater opportunities for access to world markets. This increase in imports and exports generated growth in trade at the port and led Port Otago to invest in and grow the infrastructure of the port.
24. These trends continue today as planning is underway to ensure that Port Chalmers maintains its status as a primary gateway to world markets for the Region's producers.

25. To continue to support regional growth and development, as well as the national economy Port Otago needs to continue to enhance its infrastructure in order to retain its position as the key South Island deep water port.
26. Harbour deepening through capital as well as maintenance dredging has played an important part historically in the development of the port and thereby Dunedin City as the commercial capital of New Zealand in the 1800's, and through the placement of dredged materials onto shore in the creation of large tracts of waterfront land. Dredging continues to play a vital role today, in the development of Otago Harbour as a South Island's container port.
27. Dredging was first carried out in 1866, when:

*"...spoon dredging by hand labour the berthage alongside the Rattray Street jetty. The work proceeded steadily to such effect that in the following September the harbour master was able to report that a channel 220 feet long and 26 feet wide had been deepened five feet by prison labour. By the beginning of 1867, the channel provided a depth of six feet at low water. Thirteen convicts had been employed for a period of one hundred and sixteen days and, said the report," the work, although hard, and subjecting the prisoners to great exposure, had been apparently preferred..."*

*(The Port of Otago," A.H. McLintock, 1951)*

28. Dredging work in the lower harbour (including the development of the mole at the harbour entrance), the development of the upper harbour channel (also referred to as Victoria channel), and the formation of the Dunedin basin and berths in the late 1800's involved dredging some 5.6

million cubic metres. This is a similar quantity of material to that presently being contemplated (in a series of stages) to accommodate the new larger vessels.

29. Through history as ships have progressively increased in size port operations have progressively moved from the Dunedin wharves to the deeper draft available at Port Chalmers. This is consistent with global trends where ports have moved to deeper draft facilities closer to the open sea.
30. When there was a requirement to develop the container terminal, the lower harbour channel and the harbour entrance to accommodate the larger dedicated container vessels, capital dredging involving some 4 million cubic metres of material was undertaken in stages from 1971 through to 1977 by external dredging contractors, working 24 hours a day when on site. Up until this time dredging had been largely undertaken by Harbour Board owned and operated plant. This resulted in the channel depth being increased from 11 metres to 12.2 metres.
31. Between 2002 and 2005 the lower harbour channel was deepened on an incremental basis, using the New Era, from 12.2 metres to the current 13 metres.
32. These dredges have maintained the channels and berths and, at the same time, carried out channel alignment and incremental depth improvements of the harbour channels. These activities are permitted under the Otago Regional Council's Regional Plan: Coast and Port Otago's resource consent for disposal of maintenance dredging material (RC 2000.472).
33. It is estimated that the development of Otago Harbour commencing in the mid to late 1870's has involved the dredging of some 34 million cubic metres of material with 17 million cubic metres used for reclamation and the balance being disposed of at sea.

34. Further details on the importance of dredging in developing and maintaining a safe and navigable waterway in Otago Harbour will be outlined by Mr Maurice Davis within his evidence in support of this application.

### **The Port Trade Today**

35. Port Otago is New Zealand's third largest port (by cargo value), and in its role as a key South Island container export port, Port Otago is the international gateway for some of the country's most important export cargo.
36. A number of global carriers call at Port Chalmers including Maersk Line, Hamburg Sud, Hapag Lloyd, Malaysian Shipping and Mediterranean Shipping amongst others. These are well established carriers providing largely containerised services to global markets on a weekly basis.
37. To put this into context, some 99.64% of New Zealand's export trade and 99.3% of imports (both figures by volume) are transported by sea (statistics NZ 2001).
38. Current annual import/export container throughput at New Zealand ports is estimated to be 2.36 million TEU's (year ended June 2009). This volume has been growing at about 8% per annum for the last 20 years.
39. Port Otago's container growth over the last 10 years has exceeded the national average with volumes, measured in TEU's, increasing by approximately 12% per annum and almost doubling between 2004 and 2009.
40. Otago, Southland and South Canterbury are primary producing and exporting regions which require access to a deep water port to access world markets. Key export cargoes include refrigerated products of meat

products, fish, apples, butter and cheese. Non-refrigerated cargoes include dairy products, forestry and a wide range of manufactured products from the Region. Many businesses rely on access to the shipping services from Port Otago to maintain their international competitiveness.

41. Port Otago is NZ's second largest meat exporting port. 40% of its export cargo is refrigerated. Port Otago has 1,850 refrigerated container plugs to support this trade. This is the largest number in any single NZ port.
42. In addition to the container trade logs, sawn timber and woodchip are also exported in bulk. Port Otago also receives bulk supplies of raw material for the manufacture of fertiliser, oil, fuel and bitumen products, liquefied petroleum gas, cement and motor vehicles.
43. Recent forecasts using more conservative base growth figures of between 4-5% indicate that the current container volume of around 220,000 TEU could increase to between 450,000 TEU's and 550,000 TEU's by the year 2030.
44. These forecasts demonstrate the need for the ongoing development of facilities at Port Chalmers to cater for this growth. It is essential for Dunedin and the lower half of the South Island that Port Otago remains a strong and significant part of New Zealand's international supply chain.
45. Otago harbour is seen increasingly as a destination for cruise vessels and Port Chalmers has become either the first or last New Zealand port call depending on the coastal call rotation selected by the operator. This has grown from a few vessels calling in the mid 1990's to 42 calls during 07/08, 64 calls in 08/09, less calls in 09/10 due to the global financial crisis, returning to 65 vessel calls in the 10/11 season. The expected vessel calls for the 11/12 season are expected to exceed 77 with further growth the year after that.

46. The cruise industry provides a vital boost for tourism with 88,380 passengers visiting Dunedin and its environs in the 08/09 season, increasing to just over 115,749 passenger visits in the 09/10 season.
47. As with container vessels there is a trend of increasing size of cruise vessels with the largest currently being some 290 metres long. Further, with the number of vessel calls received in any one season it is not uncommon to have two vessels arriving on the same day, creating a conflict in demand for berth space, and resulting in 5000 passengers needing to be safely transported to and from their vessels without compromising the container terminal operations. The proposed extension to the port's Multi-purpose wharf will improve the ability to handle this situation.

#### **Importance of shipping for the Otago and NZ economies**

48. New Zealand's isolation means it has an almost total reliance on sea transport and sea port operations for the importation, and in Dunedin's case the export of goods. The transport of goods to and from New Zealand's markets is becoming increasingly more competitive. New Zealand's exporters are competing internationally with exporters from other countries and New Zealand's economic well being is dependant on all parts of the supply chain being efficient.
49. The ability of businesses to compete internationally is a function of product quality, timeliness to market and price, all of which is either in part or largely dependant on efficient cost effective transportation of product.
50. With the move to a globalised economy, New Zealand as a nation of producers and manufacturers is required to be continually looking at ways to improve not only how and where it processes its goods, but also for the most cost effective transport networks, "the supply chain". It is imperative products are delivered to overseas markets in such a way that retain their quality while at the same time remaining competitive.

51. Shipping lines as part of the global supply chain are also continually reviewing their operations to improve the efficiency and cost effectiveness of their service offering. The continuing trend to larger vessels, and the economies of scale they bring, is a key part of shipping line strategy.
52. This competitive pressure naturally translates through to shipping line service providers such as port companies. As well as demanding efficient and timely services the shipping lines increasingly look to reduce time in port, requiring the operators to start work on the vessel on arrival and optimising the resources utilised on the vessel exchange to enable a quick turnaround of the vessel to be achieved. Being able to sail at the completion of a cargo exchange is also a critical part of this efficiency drive.
53. New Zealand's export trade would become uncompetitive if it did not embrace the economies of scale that the bigger ships provide.

### **Economic Impact**

54. While evidence is to be presented as part of this hearing on the economic benefits that Port Otago brings to the region I would like to highlight some of the main findings here.
55. As New Zealand's third largest port (by cargo value) and as the international gateway for some of the country's most important export product, cargo volumes since 1997 have increased by more than 300%. Staff numbers directly employed by Port Otago have risen by 120% in the same period.
56. In just six years the economic contribution of Port Otago to the region has grown more than fourfold in terms of the rate of economic growth in Dunedin and Otago as a whole. University of Otago research shows the Port's economic value has doubled in that time.

57. As you will hear from Mr Butcher, an economic analysis has assessed that Port Otago currently generates direct economic output of \$53 million per annum, \$41 million of which is business and household income (including \$21 million in wages and salaries) and 300 jobs. The inclusion of the downstream multiplier effects means that operation of Port Otago currently generates regional output of \$85 million per annum, (\$56 million of which is regional business and household income - including \$26 million in wages and salaries) and generates 480 jobs in the region. This does not include the employment and income generated by land freight taking cargo to and from the port.
58. In addition to maintaining the current benefits Port Otago provides the region, if the port is developed to enable it to handle the larger vessels, then the region will benefit by having lower freight rates than if the cargo is shipped through Lyttelton, Auckland or Tauranga. Having to transport cargo to either of these ports would result in freight increases of up to \$600 per container (Lyttelton) or \$1200 (Auckland) which would add 20% to 40% on to freight costs.
59. At current cargo levels, the net benefits for cargo being shipped from Otago and Southland through Port Chalmers rather than Lyttelton are expected to be \$10.6 million per annum. This is expected to grow to \$44 million by the year 2028.
60. The Net Present Value ("NPV") of these benefits is estimated to be \$202 million.
61. If the alternative port to Port Chalmers was Auckland or Tauranga, the net reduction in total freight costs for Otago and Southland businesses by developing Port Chalmers is expected to be \$73 million per year at current volumes, rising to \$233 million per year by 2028 and having an NPV of \$1210 million.

62. It is essential for Dunedin and for the lower half of the South Island that Port Otago remains a strong and significant part of New Zealand's international supply chain. The cost impost of moving cargo north past the Port Chalmers gateway will, according to Mr Butcher:

*"reduce farming profitability and rural land values, and will affect manufacturer's location choices. This will put at risk existing regional manufacturing employment as well as future employment and population growth, property values and eventually civic amenities."<sup>1</sup>*

63. To ensure that this does not occur, Port Otago must be in a position to handle the 'next generation' of vessels that will over time enter the New Zealand trade.

#### **Environmental and Community Consultation**

64. Port Otago acknowledges that Otago Harbour is important environmentally, culturally, recreationally and economically and supports commercial and recreational activities including tourism and education. Shipping and its associated port operations are but one of the activities that take place within the harbour and Port Otago is cognisant of the communities located directly adjacent to the harbour, as well as the diverse range of biological species that inhabit the harbour and its surrounds.
65. As Dr James identifies in his evidence port operations and development over the last 150 years have co-existed with the biological species inhabiting the same areas.

66. Port Otago is committed to ensuring that this continues and that the harbour and the resources on which it depends are managed in a wise and sustainable manner and in conjunction with the community and other commercial and recreational interests which the harbour supports.
67. Port Otago has undertaken a comprehensive study of the project. This has included an extensive programme of consultation. A Special Consultative Group was formed which met on 12 occasions. In order to encourage participation and to make sure that all voices were heard the group was chaired by an independent chairman. In addition scientific reports and other documentation relevant to the project have been published on Port Otago's website to enable the public to be informed of developments.
68. We recognise the environmental sensitivity of the project and we have been focused on ensuring that there is no significant environmental impact from the project. We acknowledge the sensitivity of the disposal site A0. As there are no viable large scale land disposal options we have been focused on ensuring that the selected disposal site has been carefully considered to optimise its location when balancing a wide range of environmental and social considerations.
69. We have engaged consultants with national and/or international standing in their respective fields to study all aspects of the project. Recognising the sensitivity of the disposal site we also commissioned an independent peer review to further gain confidence in the work that we had done.
70. As part of our community consultation we have endeavoured to incorporate community feedback and concerns within the briefs for study by independent experts. We have also proposed an Environmental Management Plan and conditions of consent which support the outcome from the various studies and to address concerns from various community groups.

71. Port Otago has a history of working with its community through initiatives such as the Port Environment / Liaison Committee, Port Environment Plan, the Port Noise Management and Acoustic Treatment Plans. Port Otago is also working with the Harington Point community on a beach renourishment plan for the Te Rauone Beach, an area subject to erosion. Other projects which we have completed in recent years include development of the Hotere Gardens and a public viewing platform on Flagstaff Hill and landscaping and construction of walking tracks on Flagstaff Hill. Port Otago has also contributed 50% of the cost of the Boat Harbour – Ravensbourne cycleway.

## **SUMMARY**

72. The ability for Port Otago to meet market demand for larger ships through Project Next Generation is very essential for Port Otago, Dunedin and the wider Region.
73. While timing maybe uncertain change is inevitable. As an infrastructure provider Port Otago must prepare and when appropriate put in place facilities to handle in an efficient manner larger vessels, both container vessels and cruise vessels. Economies of scale and increasing volumes of trade will lead shipping lines to introduce larger vessels on NZ coast.
74. Port Otago has extensive plans in place to develop Port Chalmers to handle larger vessels. As timing of larger vessels is uncertain it is important that Port Otago has the flexibility to be able to deepen and widen the lower harbour shipping channel in line with commercial demand. Putting in place the resource consents for the long term development is of critical importance for the ongoing development of the port.
75. As you will hear from other witnesses and experts Port Otago has undertaken a comprehensive study of all aspects of the Next Generational

project and is committing to undertaking the project in an environmentally sensitive manner.

76. The comprehensive suite of conditions of consent, as well as the detailed environmental management plan is designed to support an adaptive management regime. Ongoing measurement and monitoring of key project effects provides information to enable alteration or changes, if required, to the operation in order to minimise effects, and Port Otago will undertake this process in an open and transparent way and in a way which will ensure all relevant data is available to interested parties.

**Geoffrey Philip Plunket**