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THE PARLIAMENT OF THE COMMONWEALTH OF AUSTRALIA
PARLIAMENTARY STANDING COMMITTEE ON PUBLIC WORKS

R E P O R T

relating to

GARDEN ISLAND N.S.W.
MODERNISATION STAGE 2 -
SURFACE PREPARATION AND
PRESERVATION FACILITY
AND OILY BILGE WASTE
TREATMENT PLANT

(Second Report of 1983)

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MEMBERS OF THE PARLIAMENTARY STANDING COMMITTEE ON PUBLIC WORKS

(Twenty-Seventh Committee)

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The Honourable Wallace Clyde Fife, M.P. (Vice-Chairman)

Senate

Senator Gerry Norman Jones

Senator Bernard Francis
Kilgariff

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EXTRACT FROM
THE VOTES AND PROCEEDINGS OF THE HOUSE OF REPRESENTATIVES
NO. 13 DATED 26 MAY 1983

41. PUBLIC WORKS COMMITTEE - REFERENCE OF WORK - GARDEN ISLAND, N.S.W. - MODERNISATION STAGE 2: Mr. Hurford (Minister for Housing and Construction), pursuant to notice, moved - That, in accordance with the provisions of the Public Works Committee Act 1969, the following proposed work be referred to the Parliamentary Standing Committee on Public Works for consideration and report: Garden Island, N.S.W., modernisation stage 2 - surface preparation and preservation facility and oily bilge waste treatment plant.

Mr. Hurford presented plans in connection with the proposed work.

Question - put and passed.

WITNESSES

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- Challis, L.A., Esq., Director, Louis A Challis and
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- Howard, A., Esq., President, Sydney Harbour and
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- Mason, J.M., Esq., 7/2 Billyard Avenue,
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- McDonald, K.R., Esq., Principal Planner, Precinct
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- Miller, N.R., Esq., First Assistant Secretary,
Defence Facilities Division,
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- Mostyn, J.J., Esq., Chairman, Potts Point
Protection Association, 2/20 Wylde
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- Rainford, J., Esq., President, Garden Island
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Stoker, Captain N.J., RAN, Former Naval Project
 Director, Garden Island Dockyard,
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PARLIAMENTARY STANDING COMMITTEE ON PUBLIC WORKS

GARDEN ISLAND NSW MODERNISATION STAGE 2
SURFACE PREPARATION AND PRESERVATION FACILITY
AND OILY BILGE WASTE TREATMENT PLANT

R E P O R T

By resolution on 26 May 1983 the House of Representatives referred to the Parliamentary Standing Committee on Public Works for investigation and report to the Parliament the proposal to construct a Surface Preparation and Preservation Facility and Oily Bilge Waste Treatment Plant at Garden Island, NSW.

The Committee has the honour to report as follows:

THE REFERENCE

1. The proposal involves the construction at Garden Island Dockyard, NSW, of a building to accommodate a surface preparation and preservation facility and an oily bilge waste treatment plant. The surface preparation and preservation facility will enable the bulk of grit blasting to be done under cover, thereby substantially reducing dust and noise pollution. The oily bilge waste treatment plant will enable oily bilge wastes to be pumped directly from ships for treatment and disposal in accordance with NSW State Pollution Control Commission requirements.
2. The estimated cost of the proposed work when referred to the Committee was \$5.775m at April 1983 prices.

THE COMMITTEE'S INVESTIGATION

3. The reference is substantially similar to a proposal which was referred by the Senate to the former Committee on 27 May 1982.
4. The former Committee received written submissions and drawings from the Department of Defence and the (then) Department of Transport and Construction and took evidence from their representatives at a public hearing held in Sydney on 4 August 1982. The former Committee also received written submissions and took evidence from a representative of the Council of the City of Sydney, representatives of the Garden Island Combined Unions Shop Committee; Mr J.M. Mason and Mr S. Spasojevic, a representative of the Sydney Harbour and Foreshores Committee and Mr J.J. Mostyn, representing the Potts Point Protection Association and Bellevue Gardens Pty Ltd.
5. At the conclusion of the public hearing departmental witnesses undertook to provide the Committee with written responses to a number of matters raised by witnesses during the hearing. These responses had not been received before the 32nd Parliament was dissolved on 4 February 1983. The former Committee was unable to report on the reference which lapsed with the dissolution of Parliament.
6. The proposal was re-referred to the present Committee on 26 May 1983. The Committee inspected Garden Island on 28 June 1983 and focussed its attention on present grit blasting and oily bilge waste treatment practices, the height of the proposed building and the proximity of a number of nearby residences in relation to the site proposed for the building. On the same day the Committee also inspected an operational trade waste treatment plant at Hawker de Havilland (Australia) Pty Ltd, Bankstown, and a grit blasting facility at BGC Marine Services (Aust) Pty Ltd,

- Milperra, NSW. The Committee would like to record its appreciation to the management of both organisations for their assistance with the inspections.
7. The Committee considered the evidence placed before the former Committee and resolved that, pursuant to section 24 of the Public Works Committee Act 1969, the evidence taken by the former Committee be considered as evidence taken by this Committee.
 8. The Committee's proceedings, which includes documents received subsequent to the public hearing (and which were received as evidence) will be printed as Minutes of Evidence. These include a submission from the Department of Defence and the Department of Housing and Construction in response to matters raised at the public hearing held in August 1982.
 9. Other documents considered relevant to the inquiry and admitted as evidence, are listed as exhibits at Appendix A. The list of exhibits includes a number of written responses to questions relating to the proposal put by the Committee to Departments.
 10. The Committee resolved that a further public hearing into the proposal was not necessary.
 11. Mr James Watson was appointed as an assessor to assist the Committee's consideration of the evidence.
- PREVIOUS REPORTS
12. Works associated with the Garden Island modernisation scheme have been the subject of three previous reports by the Committee. It is not intended to go over the background to the overall modernisation which has been endorsed by the Committee.

13. Advance Works: In its First Report of 1979 (Parliamentary Paper 41/1979) the Committee endorsed the need for the Advance Works which were urgently required for the support of new guided missile frigates and agreed that the facilities should be constructed in advance of the program of modernisation which would be carried out over a longer term.

14. Modernisation Stage 1: In its Ninth Report of 1980 (Parliamentary Paper 156/1980) on Stage 1 of the Modernisation, the Committee concluded that engineering services and facilities at Garden Island were inadequate, congested and unsuitable for both the present and future fleet requirements. The Committee recommended the construction of facilities comprising Stage 1 which consisted of the following elements:

- a utilities building and the upgrading of high voltage electrical distribution on the Island;
- the first module of a weapons and electronics engineering workshop building;
- a refit control and amenities building to serve the East Dock Wharf;
- improvements to the Ryde waterfront annex for the repair of small craft;
- improvements to landscaping and streetscaping on the Island;
- a liquid waste treatment plant;
- a multi-level carpark on Cowper Wharf Roadway, Woolloomooloo.

15. Modernisation Stage 2: In its Seventh Report of 1981 (Parliamentary Paper 155/1981) the Committee concluded that the need for Stage 2, comprising the following elements, was justified:

- the demolition of Woolloomooloo wharves, berths 2, 3 and 4 and the construction of the New Fleet Base Wharves and Wharfside facilities;
- the completion of the West Dock weapons/electronic and electrical engineering workshops, modules B and C;
- the construction of a guided missile launcher system overhaul facility;
- the conversion of Building 30 to provide a central ready-use store;
- the conversion of Buildings 89 and 90 to provide offices and amenities for dockyard services, planning and management functions;
- the construction of a refit berth support facility for the dry dock and an associated production administrative centre;
- general ground works including construction of service ducts, roads and landscaping;
- the provision of reticulated electricity, water and other engineering services; and

(6)

- relocation and site clearance to permit construction works.

16. Two components were not agreed by the Committee. These were the Surface Preparation and Preservation Facility (SPPF) and Oily Bilge Waste Treatment Plant and a design contingency of \$2.5m.

17. Surface Preparation and Preservation Facility: The SPPF, to be located at the southern end of Captain Cook Dock, was described as a concrete frame and steel roof structure supported on steel piles driven to bedrock. The southern wall would comprise structural glass blocks to give the building a transparent character. The plant enclosures would be clad with acoustic metal panelling.

18. The central axis of the building was to run east/west. Its portal or ridge height was stated in evidence as being 14.25 metres. The horizontal dimensions of the proposed building, stated in the Committee's report, were 73.5 metres by 22.5 metres.

19. The Committee's report questioned the need for a facility of such large dimensions and cost. The report mentioned considerable concern by local residents and the Council of the City of Sydney about the visual intrusiveness of the proposed facility and the possibility of odours from the treatment of oily bilge and trade wastes. The Committee reported that additional information on the costs and benefits of alternative procedures for grit blasting, spray painting and oily bilge waste treatment should be necessary if an informed decision could be made on the necessary size, location and cost of the facility.

(7)

20. Further analysis should fully evaluate:

- the use of grit blasting and other surface preparation facilities outside Garden Island;
- a reduction of the capacity and size of grit blasting and other surface preparation facilities on Garden Island;
- alternative siting on Garden Island; and
- alternative designs for the facility.

21. Further consultations should be held with relevant government authorities and interest groups.

22. The Committee recommended that construction of the SPPF and Oily Bilge Waste Treatment Plant should be deferred. The facilities should be re-examined and referred back to the Committee for separate consideration.

23. Design Contingency: The limit of cost of Stage 2 when referred to the Committee was \$79m at April 1981 prices. In addition the Department of Housing and Construction advised that a special provision of \$2.5m for design contingency was likely to be required. The Committee reported that the particular nature and complexity of the Garden Island site could lead to unforeseen problems and that the design contingency provision was the most visible and readily accountable method for allowing for these problems. The Committee considered that insufficient justification was provided by the Department of Housing and Construction to warrant approval of \$2.5m.

24. The Committee accordingly recommended that provision of \$1.0 million for design contingency should be made with justification for the balance of \$1.5m to be considered when the SPFF and Oily Bilge Waste Treatment Plant were referred back to the Committee for further examination.

THE NEED

25. Surface Preparation and Preservation: These are important dockyard activities. Metal and particularly steel require an abrasive preparation to remove mill scale from new material and to remove rust and other contaminants from older material, prior to preservation or painting. The most efficient and thorough means by which metal surfaces can be prepared for preservation is by firing abrasive grit, copper slag or metal shot at the surface requiring treatment at high velocity from a blast gun. (For the purposes of this report the term "grit blasting" will be used to describe the process.)

26. Surface treatment of ships' hulls, structures and fittings prolongs the life of the parts concerned and improves the performance of ships. A trend towards reducing the weight of warships by reducing corrosion tolerances requires corrosion control of a high standard.

27. About 40 per cent of the repair and refit of ships at Garden Island in 1980-81 was associated with rectifying corrosion-related defects.

28. Present Practice: Ships' hulls and very large items of ship and dockyard equipment are surface treated in situ in the Captain Cook Dry Dock. The treatment of ships' hulls accounts for about 45 per cent of all grit blasting carried out in the dockyard. Smaller pieces of equipment and fittings are removed from ships and transported to the open air grit blasting area at the southern end of Captain Cook Dry Dock. A grit blasting

chamber, located in this area, is small in relation to the size of pieces requiring treatment. The chamber is 3 metres high, 3 metres wide and 6 metres long. In evidence the Department of Defence stated items of ships' structures and fittings frequently requiring treatment are up to 6 metres by 9 metres, and therefore require open-air treatment. A further limitation of the existing grit blast chamber is that it is difficult to manoeuvre and handle large numbers of smaller items in the chamber at any one time.

29. The trend in heavy engineering is for open air grit blasting to be replaced where possible by specially designed enclosed grit blast chambers. The advantages of such facilities are:

- work is not interrupted by wet weather;
- they reduce noise impacts and dust; and
- they permit a more efficient recycling of abrasives.

30. Because of size limitations, much of the workload is treated in the open; open air surface treatment adversely affects the efficiency of such operations and the quality of work. Open air treatment also affects the quality of air in adjacent areas and creates considerable noise.

31. In evidence, representatives of the Garden Island Combined Unions Shop Committee stated that lack of proper facilities and equipment have been major factors in any inefficiencies that have occurred in dockyard operations.

32. Waste Disposal: The Committee's report on Stage 1 of the modernisation of Garden Island made mention of a scheme, which the Committee approved, designed to collect and treat liquid industrial waste generated in dockyard workshops at a number of locations. The scheme approved by the Committee involved the

collection and reticulation of trade waste to a waste treatment plant proposed to be located at the southern end of Captain Cook Dock.

33. Present Practice: The need for such a facility was due to:

- the majority of maintenance wastes being heavily contaminated with polluting substances requiring extensive treatment before being acceptable for disposal via the Metropolitan Water Sewerage and Drainage Board's sewerage system; and
- the present practice of industrial wastes being untreated and discharged into sewers and the stormwater drainage system on the island.

34. Oily Bilge Waste Water: An average of 200,000 litres of oily waste water, from ships' bilges and from the cleaning of ships' tanks, is produced daily at Garden Island. Water from bilges is pumped into Sydney Harbour direct from ships and the residues of oil and other substances are collected by a sullage lighter and transferred ashore and taken from Garden Island by road tanker for disposal. Waste water from tank cleaning is pumped into a tank cleaning vessel and discharged into the harbour after oil has been extracted.

35. The Committee was advised that present practices for the disposal of ship-generated waste water give rise to accidental spillages into Sydney Harbour. In 1980/81 40 oil spills were recorded in naval waters in Sydney Harbour.

36. The discharge of oily bilge water and tank washings into Sydney Harbour infringes regulations of the State Pollution Control Commission. Present practice, if continued, would also be inconsistent with the 1973 Convention of the Inter-Government

Maritime Consultative Organisation to Limit Water Pollution, with which Australia has agreed to comply and which is to be implemented in 1985.

37. The annual cost of present methods for the disposal of oily bilge and tank waste water is about \$140,000 per annum. Between January 1981 and August 1982 the period contractor removed 10,223 tonnes of waste water from Garden Island Dockyard. At an average tanker load of 12.5 tonnes, over 810 loads were removed in about 80 weeks.

38. The Committee was advised that the Navy has only one tank cleaning vessel which is old and of limited capacity. The vessel would soon require replacement if present waste disposal methods are to continue.

39. Aims of the Modernisation: It has been consistently stated by Defence that the modernisation of Garden Island was planned to achieve the following objectives:

- (a) to improve the effectiveness and efficiency of Garden Island as a dockyard (in fulfilling its roles in support of the current and future fleet);
- (b) to improve the effectiveness and efficiency of Garden Island as a fleet base; and
- (c) consistent with the above:

- (i) to separate the fleet base and dockyard and provide each with a capability to operate independently (but without duplication);

(ii) to ensure that pollution is minimised and the aesthetics greatly improved; and

(iii) that appropriate historic buildings and relics are retained.

40. **Committee's Conclusions:** The present grit blasting facilities and practices at Garden Island Dockyard are inadequate. Consistent with the objectives of the modernisation, they should be replaced with modern facilities aimed at improving working conditions, increasing efficiency and reducing air pollution and noise.

41. The Committee is concerned that present oily bilge waste disposal and tank cleaning methods currently used at Garden Island give rise to accidental oil spills into Sydney Harbour. Measures designed to eliminate this risk and which comply with State regulations and international conventions require urgent implementation.

THE PROPOSAL

42. **Background:** As already mentioned, the proposal is substantially similar to that referred to the Committee as a component of Stage 2 of the modernisation in 1981.

43. Written departmental submissions presented at the 1981 hearing outlined the needs for the proposed siting and design of a SPPF and oily bilge waste treatment plant. It was proposed that these facilities be collocated with the liquid waste facility, already approved as part of Stage 1, in a single building at the southern end of Captain Cook Dock (the original proposed site).

44. It was submitted at the 1981 hearing that whilst the departmental written evidence stated the building would be carefully designed, having regard to its visibility to nearby residents, and special attention would be given to its sound-proofing, insufficient detail had been made available to permit an assessment of the validity of these assurances to be made. It was further submitted that no details of alternative siting for the facility, either on Garden Island, or in other areas of Sydney, had been provided to justify selection of the site.

45. The Committee's 1981 report questioned the need for a facility of the proposed dimensions and cost. The report mentioned considerable concern by local residents and the Council of the City of Sydney about the visual intrusiveness of the proposed facility and the possibility of odours from the treatment of oily bilge and treated wastes. Commonwealth Departments were requested to fully evaluate the use of grit blasting and other surface preparation facilities outside Garden Island, alternative siting on Garden Island and alternative designs for the facility. Additional information on the costs and benefits and alternative procedures for grit blasting, spray painting, and oily bilge waste treatment would be necessary if an informed decision is to be made on the necessary size, location and cost of the facility.

46. The departmental responses to these directions are contained in their submissions prepared for the public hearing held in August 1982.

47. **Building Description:** A plan of the proposed building, to be located at the southern end of Captain Cook Dock, is at page B-1 of this report. When the proposal was re-referred to the Committee in 1982 the dimensions of the SPPF were stated as follows:

(14)

ridge height 14.25 metres

width 21 metres

length 72 metres

48. Since the 1982 public hearing departments have assessed ways by which the building height could be reduced. The outcome of this assessment is discussed later in this report.

49. The SPFF will be required to accommodate:

- a new grit blast chamber;
- the existing small grit blast chamber;
- a spray paint chamber; and
- a metal spray area.

50. Space will also be required for the following:

- materials storage;
- materials handling;
- mechanical plant associated with grit blast, spray painting; and metal spray chambers;
- flammable liquids store; and
- an office and amenities.

51. The building will be founded on steel piles driven to bed rock. The structure will be a reinforced concrete frame up to the bearing point of the steel roof. The external surfaces of the main structural members will be off white concrete with smooth form finish. The external cladding will be glass blocks on the southern wall. Other solid walls will be flush acoustic metal panels. Major access doors will be constructed with grey tinted double skin polycarbonate panels to admit light.

(15)

52. An overhead 10-tonne double beam travelling crane was originally proposed to allow for the movement of large objects to any point in the building.

53. The transport of objects into and out of the chambers will be by trolleys on rails set in the floor.

54. Justification of Building Size: The Committee requested Departments to justify the dimensions of the building. It was submitted that the horizontal dimensions aim at producing an optimum layout for the facility based on the installation of grit blast chambers of specific sizes, access and handling space and storage areas for work in progress, and areas for brush and roller painting and drying of painted items.

55. The size of the grit blast and spray paint chambers, a major determinant of the size of the building, was determined by the size of items to be treated and the way in which the facility will operate. The proposed dimensions of the grit blast and spray paint chambers are:

width	6 metres
height	6 metres
length	15 metres

56. In justifying the adoption of these dimensions Departments stated that they will enable around 90 per cent of surface treatment work on dockyard equipment, steel plate and manufactured items that are removable from ships to proceed under cover in a controlled environment. Any reduction in the size of the proposed chambers would reduce the capacity and operational efficiency of the chambers and necessitate more work being undertaken in the Captain Cook Dock.

(16)

57. Departments provided the Committee with a list of typical items of ships' and dockyard equipment to be treated in the chambers. In answer to criticism that the chambers seem to have greater capacity than the dimensions of objects shown on the list, departments stated that the maximum size of work that could be handled in the chambers would be smaller than the 6 metre by 6 metre cross section. Operators would require at least 1.5 metres between a large item and the side wall of the chamber. This would allow for the hoses to be handled, clearance between the blast gun and the work and for necessary access platforms.

58. Work will enter the facility on a low loader through the eastern door. The crane will lift objects off the loader onto a trolley which will enter the grit blast chamber through the eastern door. The grit blast and spray paint chambers will be aligned to enable objects to be processed through both chambers on a single trolley.

59. About 25 per cent of objects grit blasted are not painted immediately and must be surveyed prior to painting. These objects should be stored inside the building.

60. Other factors cited by departments as determining the horizontal dimensions of the building include a need for:

- storage space for work awaiting grit blasting;
- manoeuvring space for objects requiring total surface treatment;
- space for holding work in progress; and
- drying areas for work between surface treatment operations.

(17)

61. The latter requirement has potential for requiring significant floor area. Departments submitted that typical paint systems to be used require four coats. Each coat must be allowed to dry for 24 hours before overcoating. The final coat requires curing for 7 days. Based on these requirements and procedures, if each blast and spray operation takes one day, total process time would be four days and drying and curing time would be 10 days.

62. The width of the building was determined by the width of the chambers, room for truck access, space for moving objects past the chambers and storage space.

63. The height of the building originally proposed was 14.25 metres. This height was determined by the size of the largest work item standing on a trolley which could fit into the 6 metre high chambers and, consistent with safe rigging practice, by the required height of the lifting appliance to be used to handle the work. At the August 1982 hearing it was stated that the 10-tonne capacity double beam travelling crane was selected as the lifting appliance. This type of crane has a high hook height relative to the crane beam and thus keeps the height of the building to a minimum. The cumulative effects of the pitch of the roof and the depth of the structural roof system resulted in the ridge height of 14.25 metres.

64. At the August 1982 hearing the Chairman suggested Departments investigate the feasibility of reducing the ridge height by installing two 5-tonne overhead travelling cranes in place of the single 10-tonne crane.

65. Departments have now advised the Committee that the installation of two 10-tonne torsion box overhead travelling cranes with a lifting beam would reduce the hook height for slinging purposes and could allow a reduction in the height of the building by 2.25 metres. As a result the ridge height would be 12 metres.

66. The use of two 5-tonne cranes was considered but this combination poses problems of correct load distribution for the asymmetrical loads which could result in overloading one crane.

67. The net additional cost of a reduction in the ridge height and the installation of the two torsion box cranes would be \$60,000.

68. Committee's Conclusion: The dimensions of the Surface Preparation and Preservation Facility (SPPF) have been demonstrated to be necessary. The Committee notes the significant reduction in the ridge height of the building made possible by the installation of two 10-tonne torsion box overhead travelling cranes and the additional cost involved.

69. Waste Treatment Plants: It was proposed that the oily bilge waste treatment plant and the liquid waste treatment plant be collocated at the southern end of Captain Cook Dock at the confluence of the rising mains carrying wastes from wharves on the eastern and western sides of Garden Island. The combination of these treatment plants with the SPPF provide economics in building and achieve maximum utilisation of land. Departments advised that the collocation of the waste treatment plants offers economies in the operation of the two plants.

70. The treatment plant will comprise a system of partially below ground and above ground reinforced concrete tanks. Departmental submissions presented in August 1982 stated the height of the building to house the treatment plant would be 9 metres. Departments have acknowledged this was incorrect. The height of the building will be 10.5 metres.

71. The treatment plant building will be located on the southern side of the SPPF. The western wall will be of pre-finished metal panels and the eastern and southern walls will be pre-finished metal horizontal louvres.

72. The oily bilge waste treatment plant will separate oils and other saltwater borne constituents emanating from:

- bilges from ships alongside Garden Island;
- ballast water and fuel tank cleaning waste water from vessels moored at Garden Island; and
- ballast water associated with the refuelling of submarines at HMAS Platypus, Neutral Bay.

73. The proposed system will comprise:

- provision of cope points to accept bilge, ballast and fuel tank cleanings pumped from ships at the fleet and refit berths, the escort maintenance ship terminal and Captain Cook Dock;
- provision of a rising main network and auxiliary pumping facilities to reticulate waste water to the central treatment plant;
- treatment of waste to reduce biochemical oxygen demand, grease, suspended solids, phenol and toxic heavy metal content and colour by the treatment plant;
- pumping of treated effluent, which is required to meet State Pollution Control Commission requirements, to a submarine outfall located in Naval waters in Woolloomooloo Bay; and
- transportation of the residue to an approved area operated by the Metropolitan Waste Disposal Authority.

74. Oily waste water will be reticulated from wharves and discharged directly into a gravity separator to remove free oil and solids. The clarified effluent will flow to a 1000-tonne storage tank which will be provided with aeration facilities to prevent an accumulation of sediments on the tank floor.

75. The effluent will be pumped at a steady rate to the flocculation and flotation facilities via a mixing facility at which the effluent will be dosed with chemicals. Following coagulation, flocculation, float collection and sludge scraping, the filtered liquor will pass to an oxidation contact tank for dosing with hydrogen peroxide. It will then flow to a holding tank for sampling, prior to pumping to the diffuser outfall.

76. Recovered oil will be collected by a waste retrieval contractor and the primary sludge and dissolved air flotation solids will be transported by road tanker to an approved area operated by the Metropolitan Waste Disposal Authority.

77. At the July 1981 hearing departmental submissions showed a fire booster pump station on each of the incoming fresh water supply mains serving Garden Island. It was proposed that a pumping station, to serve the water main from the Centennial Park Reservoir, be housed within the waste treatment plant. The second pumping station, serving the main from the Crown Street Reservoir, would be located near the main entrance.

78. The Committee has now been advised that since the July 1981 hearing, further development and refinement of the design of the freshwater system has resulted in a system based on one fire booster pump station to be located near the main gate. The need for the pump station within the waste treatment plant building has consequently been eliminated.

ALTERNATIVES, COSTS AND BENEFITS

79. Available options for grit blasting and spray painting operations were identified by Departments at the Committee's request and are as follows:

- (a) continue grit blasting at the southern end of Captain Cook Dock;
- (b) grit blast all items at the bottom of the dock;
- (c) grit blast all objects except ships' hulls and very large items in a naval facility off Garden Island;
- (d) employ contractors to grit blast all objects except ships' hulls and very large items off Garden Island;
- (e) carry out all grit blasting except ships' hulls and very large items in a new under-cover facility on Garden Island.

80. Option A - Continue Present Practice: The Committee has already concluded that present grit blasting facilities and practices at Garden Island are inadequate and inconsistent with objectives of the modernisation.

81. Option B - Captain Cook Dock: The main disadvantages submitted as demonstrating that this option is not feasible include:

- it would compromise the freedom and use of the dock from its major function;
- the dock would be unavailable for this type of work for 25 per cent of the year; and

- it would still be necessary to undertake some preservation such as painting and metal spraying outside the dock due to the likelihood of treated work becoming contaminated with grit blast fall-out.

82. The Committee believes that these disadvantages would affect productivity and the quality of work. The option is even less desirable than Option A.

83. Options C, D and E were evaluated by Departments using a form of cost benefit analysis to determine the most economic option. The analysis involved calculating the total cost incurred over the life of each facility, including the initial capital cost, and recurring costs such as maintenance costs, labour costs, and subtracting any benefit to give the net total cost. The evaluation period used in the analysis was 30 years and the net present value of each option is included in the overall assessment below.

84. Option C - Off Site Naval Facility: This option would result in:

- extra time being required to transport objects - Defence estimated that two days would be added to the turn-around time for items being treated at an off-site facility and delays may require refit times to be extended;
- large work pieces being transported to and from Garden Island would cause nuisance to other road users and on occasion the maximum legal road transport dimensions would be exceeded;

the workforce would be divided between two work areas - the dockyard and the off-site facility, requiring additional administrative effort and duplication of resources; and

- items may require to be transported from Garden Island to the facility and after treatment returned to the Dockyard for construction and repair and returned to the facility for finish blasting and preservation - this type of operation would apply to about 25 per cent of the workload. Defence pointed out that double handling could be reduced by duplicating repair facilities at the off-site facility but this could result in the under utilisation of employees and plant.

85. The Committee believes this option would lead to inefficiencies and greater operating costs and would not be a satisfactory alternative to present practice. The departmental economic analysis of this option in present value terms was \$6.57m.*

86. Option D - Private Contractors: Departments stated two contractors in Sydney appear to be able and willing to carry out the type of work required by the Navy to satisfactory specifications. The use of private contractors would nevertheless suffer from the same disadvantages as an off-site facility discussed above (Option C), although it would avoid the capital expenditure associated with it.

* These figures, from the Executive Summary, were prepared in 1982 and are therefore now not absolute. They establish the order of relativities.

87. Whilst the Committee believes it desirable for some work to be carried out by contractors, to completely rely on them would be unwise and could lead to programming, operation and quality control problems. Furthermore, the departmental economic analysis of this option in present value terms was \$27.47m.*

88. Option E - Garden Island: This option already outlined, would ensure the retention of requisite close interaction between surface preparation and preservation and functionally related refit activities on Garden Island. The departmental economic analysis of this option in present value terms was \$5.57m,* which makes it the most economic option.

89. Committee's Conclusion: The Committee is satisfied that all possible options for grit blasting and spray painting outside Garden Island have been fully evaluated in accordance with directions contained in the Committee's Report on Stage 2 of the Modernisation. A facility on Garden Island offers greatest operation and cost advantages.

* These figures, from the Executive Summary, were prepared in 1982 and are therefore now not absolute. They establish the order of relativities.

SITING ON GARDEN ISLAND

90. The Committee also directed departments to evaluate alternative siting of the facility on Garden Island. Departments submitted details of four alternative sites which had been identified and evaluated and three alternative orientations and configurations at, or in close proximity to, the preferred site at the southern end of Captain Cook Dock.

91. The ability of the sites to satisfy adequately the need without significant disruption to other dockyard functions and without closing off development options for further dockyard development are considered below: (A plan showing the sites examined is at page B-2.)

92. Alternative Site A - Buildings 7 and 8: These buildings are located in the north-east corner near the northern knoll.

93. Departmental submissions stated the buildings could not house the proposed facility and they would need to be demolished. We were advised that an undertaking had been given to the Heritage Commission that the buildings be retained for reasons of architectural merit. Even if the buildings were demolished to provide space for a new facility, the site would need to be enlarged by reclaiming about 2500 square metres of Sydney Harbour.

94. The northern knoll is one of the most sensitive sections of Garden Island from a visual and historic point of view. The visual impact of an SPPF at this site would be considerable and highly undesirable.

95. The Committee emphasised in its report on the Stage 1 works the very large expenditure involved in landscaping the roof of the Utilities Building was considered necessary to preserve the integrity of the parkland area. To locate the grit blasting

and spray painting facility in this area would not be consistent with a major objective of the modernisation. The Committee therefore agrees that this site is unsuitable for an SPPF.

96. Alternative Site B - Building 104: This building is located adjacent to the northern sector of the Cruiser Wharf and had been previously considered for use as the Utilities Building. Boilermaking and sheet metal activities had higher priority and departments advised it was decided to retain the building for those activities. In the longer term the building would be subject to recycling in association with reconstruction of the Cruiser Wharf.

97. The following significant factors were advanced against selecting the building for a grit blasting and spray painting facility:

- the building could house grit blast and spray painting activities but its height and that of existing crane rails dictate a chamber height of 4.5 metres (as against a height of 6 metres in the proposed facility);
- the smaller chamber height would reduce the percentage of work capable of being handled - the balance would need to be carried out elsewhere;
- Building 108, on the northern side, would require demolition to provide access;
- even if the building could be used for spray painting and grit blasting, the boiler-making and sheet metal workshop functions now performed would require relocation in a new workshop elsewhere.

98. The Committee agrees that the disadvantage of inadequate capacity of Building 104 for grit blasting and spray painting demonstrate this option would fall far short of satisfying the need.

99. Alternative Site C - Buildings 110 and 112: These buildings, which are located adjacent to the Oil Wharf on the western side of the northern knoll, would need to be demolished to provide space for an alternative site. The Departments advised that development of this site as an alternative location would be inconsistent with modernisation planning. It is certainly intended to remove the buildings in the longer term, but this will be aimed at enhancing the northern knoll which, as already stated, is one of the most sensitive sections of Garden island from a visual and historic point of view.

100. Alternative Site D - Building 52: This building is a large structure located on the eastern side of Captain Cook Dock. Boiler making activities are carried out in the southern end and a machine shop for fitters is in the northern end. Height and access requirements would be satisfactory to accommodate the grit blasting and spray paint plant. However, departments pointed out the building will eventually need to be extended to the south to provide space for expanded boiler making activities. Therefore, to locate the grit blasting and spray painting plant in the building would reduce the area given over to boiler making thereby reducing what were described as the capacity of the dockyard to react to short time and emergency operational requirements. To accommodate the grit blasting and spray painting plant in Building 52 would require extensions to the south to be undertaken now and would require future expansion of boiler making activities to be housed in a new building located elsewhere on the island. The most logical site for this building would be at the southern end of Captain Cook Dock, on the original proposed site for the SPPF and Oily Bilge Waste Treatment Plant.

101. Based on this assessment the Committee agrees that Building 52 should continue to be used for current purposes in its present or expanded form. To house grit blasting and spray painting facilities in Building 52 offers no real advantages and would require extensions to be located elsewhere.

102. The Original Proposed Site: According to departmental submissions the Garden Island Modernisation Planning Study identified a need for the SPPF to be located at the southern end of Captain Cook Dock. It was submitted that the siting of the SPPF at the original proposed site was based on operation and organisational aspects such as:

- grit blasting activities are carried out at the site now and the relevant workforce is concentrated there;
- workforce supervision and supplies are based on the adjacent dock;
- the site offers far more open area and ease of road traffic access for major loads than any other site available;
- the site is too remote for refit activities requiring constant ship to shore movements or labour intensive ship to shore trades.

103. In summary, it was stated that location of the SPPF at the original proposed site at the southern end of Captain Cook Dock would be more efficient operationally and offers lower capital construction costs. Furthermore, as the area is already given over to grit blasting, the location of the SPPF at the site would not affect redevelopment options for other areas of the dockyard.

104. Committee's Conclusion: The original proposed site at the southern end of Captain Cook Dock offers advantages over other alternative sites examined.

ALTERNATIVE SITES AT THE SOUTHERN END OF CAPTAIN COOK DOCK

105. Departments also submitted for consideration details and associated costs of possible alternative sites at the southern end of the dockyard. These alternatives are assessed below and are illustrated at Plan B-3.

106. Alternative Site 1: This alternative would involve retaining the SPPF at the preferred site but relocating the Waste Treatment Plants to an area to be excavated adjacent to the southern utilities building. A concrete slab roof with soil on top would extend over the building so it would not be visible from above. This alternative would require a minor relocation of a corner of Endeavour Road.

107. Alternative Site 2: Under this alternative the Waste Treatment plants would be located as in Alternative 1 and the SPPF would be moved as far to the south as possible. Endeavour Road would need to be relocated between the facility and the dock. All traffic to and from the dock would need to cross the main circulation road around the island.

108. Alternative Site 3: Under this alternative the waste treatment plant would be located as in Alternatives 1 and 2 and the SPPF would be moved to the east as far as possible. A minor relocation of Endeavour Road would be required and a large area, which could be landscaped, would be created to the west of the facility. Factors advanced by departments making this alternative undesirable from an overall planning point of view include:

- problems of access to and from the site and through traffic;
- open space required for plate storage and other dockyard purposes would be replaced by landscaping.

109. Comparison of Costs: Departments submitted the following costings for each alternative and the preferred site at April 1983 prices:

	\$m	Difference over original proposed site \$m
Original Proposed site	5.775	-
Alternative 1	6.380	+ 0.605
Alternative 2	6.254	+ 0.479
Alternative 3	6.422	+ 0.647

110. Committee's Conclusion: Based on costings provided by departments, collocation of the Surface Preparation and Preservation Facility, the Oily Bilge Waste Treatment Plant and the Liquid Waste Treatment Plant at the original proposed site is the most economical option.

IMPACT ON LOCAL RESIDENTS

111. At the 1981 hearing representatives of local residents expressed concern about increased noise levels generated by operations within the facility, air pollution and odours from grit blasting, spray painting and waste treatment, and the intrusiveness of the facility on harbour views from nearby apartments.

112. It was stated these impacts would significantly affect the lifestyles of local residents and cause a diminution in property values.

113. Noise from the Facility: When the proposal was first referred to the Committee in 1981 departments advised that the design of the SPPF had been based on appropriate acoustic criteria, although little evidence was made available at the time to enable the Committee and local residents to assess the likely noise impact on nearby apartments.

114. Evaluation of noise levels and engineering principles designed to minimise its impact are complex technical matters beyond the Committee's competence. The Committee therefore sought independent specialist advice from an acoustic consultant who has assessed the acoustic performance of the building based on information provided by departments and their acoustic consultant.

115. Grit blasting and associated activities produce a high level of noise emission. A considerable proportion of such activity is currently carried out at the original proposed site in the open and within the small existing grit blast chamber.

116. Noise measurements made by an acoustic consultant retained by the Department of Housing and Construction show that existing grit blasting operations at the original proposed site cause high noise levels at the nearest residential building, Bellevue Gardens.

117. In the proposed facility high noise level processes will be contained in acoustically treated chambers which, in turn, will be enclosed inside the outer building envelope. Even from a non-expert viewpoint it is obvious that the double enclosure principle will significantly reduce the level of noise from grit blasting at nearby properties.

118. The enclosure proposal does, however, introduce a secondary noise source in the form of high pressure air blowers and associated mechanical equipment. Details of proposed means of controlling such noise by way of acoustic enclosures and attenuators were provided in evidence by the departmental acoustic consultant. Similar details of noise control measures within the liquid waste and oily bilge waste treatment plants were also provided.

119. Having examined these proposed measures the Committee's consultant advised that the proposed control measures are "sound in principle and adequate in extent".

120. The departmental acoustic consultant has made detailed noise emission predictions for the fully operational facility. It is predicted that for most of the time noise levels from the facility when perceived at the nearest residences will be below the background or ambient noise levels due to traffic and other community noise, even at night-time.

121. Independent checking of these predictions indicates that they are soundly based with the possible exception of those periods when the door at the western end of the facility is open. Departments advised the Committee that this door is intended for occasional use to facilitate manoeuvring of large vehicles and that the door will not be open during normal blasting operations.

122. Committee's Conclusion: The operating facility will not significantly add to existing noise levels provided that:

- (a) noise attenuation measures as proposed are implemented;
- (b) the western door is not used for normal or regular access and is only opened when and for so long as needed to manoeuvre large objects;

(c) for such periods as the western door is open the doors of any grit blasting or metal spraying chamber shall not remain open; and

(d) notwithstanding the above the western door shall not be opened during night time.

123. Air Pollution: The SPFF and oily bilge waste treatment plant will include features designed to reduce atmospheric pollution.

124. A down draught type grit blast chamber is proposed. Grit and rust, scale, old paint and marine growth blasted off objects being treated will be exhausted to the side of the chamber through an open grill floor. Airborne grit and dust will pass through a dry cyclone which will separate the grit from the waste. The waste will be screened and passed through a wet scrubber to catch fine dust. Departments stated scrubber efficiency will be 96 per cent.

125. Exhaust air, containing a maximum dust concentration of 0.18 grammes per cubic metre, will be exhausted to the atmosphere through large ducts facing towards the dock.

126. The Committee was advised that scrubber efficiency will comply with the NSW Clean Air Act 1961.

127. Departments stated the spray paint chamber will be designed to comply with the requirements of NSW Factories (Health and Safety - Spray Painting) Regulations 1977 and the exhausted air will comply with the NSW Clean Air Act 1961.

128. Paint solvent vapours will not be filtered as ventilation rates will ensure that solvent concentrations in the discharge air will be below perception levels.

129. The metal spray chamber will also be designed to comply with the NSW Clean Air Act 1961.

130. Metal spray exhaust will be drawn into small movable bench type exhaust hoods with water bath separation and connected by flexible ducts to a general exhaust ductwork system which will incorporate a wet scrubber type separator to eliminate overspray and to reduce noxious gases. The exhaust will discharge through the roof above the metal spray area.

131. Committee's Conclusion: Measures designed to reduce airborne particulates emanating from grit blasting, fumes and gases from spray painting and metal spraying areas are justified, and appear to be adequate.

132. Water Pollution and Odours: The waste treatment plant building will contain a small laboratory to monitor and adjust chemical reactions and the quality of salt water discharged into Sydney Harbour.

133. The 1000-tonne holding tank represents a holding capacity of five days. In the event of plant failure oily bilge waste water from ships could be delayed, vessels with oil/water separators could discharge their treated water at sea or waste would or could be disposed of by tanker at an approved waste disposal site.

134. Pilot studies, conducted to prove the design of the treatment process, revealed no discernible odours. Departments stated in the event it would be possible to maintain the liquids in an oxygenated state, minimising the likelihood of odours, in the event of a plant breakdown.

135. Storage and treatment tanks will be vented. It was originally proposed that vents be fitted with activated alumina filters but it is now proposed that activated carbon be used as a filter media. These filters will give added insurance against odours from processes causing offence to the neighbourhood.

136. Committee's Conclusion: The design of the oily bilge waste treatment plant and measures to minimise water pollution and odours from treatment processes appear to be adequate.

137. Loss of Views and Property Values: It was stated at the August 1982 hearing by representatives of local residents that construction of the facility at the proposed site would significantly affect harbour views and cause a reduction in the value of nearby properties.

138. Departments prepared comprehensive photomontages which were presented at the August 1982 hearing showing the building in relation to views from two levels of Bellevue Gardens, a residential apartment building nearest to the original proposed site. The photomontages were prepared for the Department of Housing and Construction by a leading firm in the specialised field of architectural rendering. The Committee has no reason to doubt that the photomontages are an accurate representation of likely views.

139. Further photomontages of the facility with the reduced ridge height of 12 metres were submitted to the Committee with written responses to matters raised at the August 1982 hearing. The Committee believes the impact of the SPPP on easterly views from Bellevue Gardens will be considerably reduced. As a result of the re-examination, the ridge height could be reduced by 2.25 metres.

140. Commonwealth departments provided the Committee with a copy of a memorandum, dated 29 June 1982, addressed to the Chief Property Officer, Department of Administrative Services, Sydney, from the Deputy Commissioner of Taxation, Australian Taxation Office, Sydney, which makes the following general points about the effects of the proposed construction of the facility on property values of Bellevue Gardens apartments:

- the processes which are to be contained within the proposed building are currently carried out in the open within the immediate area;
- it is reasonable to assume, therefore, that prior to knowledge of the development the effect of these industrial processes was already inherent in the value of the units;
- assuming that the design of a building will significantly reduce the adverse effect of noise and dust pollution, it would follow that the value of surrounding residential properties could only be enhanced by its construction;
- the question of any detrimental effect on value would therefore appear to arise from either the direct restriction of views or any other adverse effect to existing views by having a large industrial building in close proximity above that detrimental effect created by the existing storage area.

141. The Deputy Commissioner provided qualified valuations of the properties, based on external inspections, which indicate that apartments on the upper floors would remain unaffected whilst on the lower floors there could be some loss of value.

142. Since the proposal was first referred to the Committee in 1981 the Committee has been mindful of the need to ensure that the interests of local residents are given careful consideration before a recommendation is made. Commonwealth departments have demonstrated, consistent with the objectives of the Garden Island modernisation, a need to improve grit blasting facilities and oily bilge waste water disposal facilities. They have demonstrated to the Committee's satisfaction that the original proposed site offers operational and capital cost advantages over alternative sites and options examined.

143. Committee's Conclusion: The location of the SPFF at the original proposed site and with a ridge height of 12 metres has been demonstrated as necessary.

ENVIRONMENTAL IMPACT STATEMENT

144. The Administrative Procedures under the Environment Protection (Impact of Proposals) Act 1974 provide, under section 4.2, that:

"The proponent (Defence) shall consult with the Department (of Science and the Environment, now the Department of Home Affairs and Environment) with a view to agreeing upon the matters to be dealt with, and the extent to which those matters shall be dealt with, by an environmental impact statement." (Words in brackets added.)

145. It was asserted at the August 1982 hearing that the Draft Environmental Impact Statement (EIS) was deficient in failing to make specific reference to the location and dimensions of the SPFF, the presence of Bellevue Gardens and an assessment of the impact of the former on the latter. As a consequence, it was asserted, the draft EIS did not comply with the direction of the Minister responsible for administering the Environment Protection

(Impact of Proposals) Act 1974 and the Administrative Procedures made pursuant to the Act that an EIS be prepared and submitted to him in relation to the proposal to modernise and redevelop the Garden Island Naval Complex, Sydney, NSW.

146. The Committee was advised that the then Department of Science and the Environment examined the Final EIS and prepared an assessment report. The Minister for Science and the Environment advised the Minister for Defence on 22 October 1969 that on the basis of the report he was satisfied that the matters affecting the environment to a significant extent with respect to the proposal had been appropriately examined and taken into account and that he considered the Department of Defence had satisfied the requirements of the Environmental Protection (Impact of Proposals) Act 1974 with respect to the proposal.

147. As to the consultations between Defence and the Department of Science and the Environment (now the Department of Home Affairs and Environment) on the contents of the Draft EIS, the Committee was advised that consultations took place as follows:

- 22 November 1977 - consultation concerning the scope and content of EIS including discussion of a set of guidelines;
- 27 October 1978 - consultations on the adequacy of content of a first preliminary draft EIS; and
- 11 April 1979 - consultation on second preliminary draft EIS which after amendments became the published Draft EIS.

148. As far as the Committee is concerned there is no question that the EIS did not comply with the Minister's direction.

CONSULTATIONS

149. The Committee's 1981 report directed Departments to hold further discussions with relevant Government authorities and resident groups. It is understood that meetings were subsequently held between departmental officials and a representative of the Potts Point Protection Association and that considerable detailed technical information was made available to the Association.

150. The Committee understands relevant NSW Government Departments were consulted on the proposal and have raised no significant objections. An offer to brief a number of resident groups on the proposal was made by Commonwealth Departments. The offer was accepted by one group. A similar offer was made to officials of the Council of the City of Sydney. The Committee understands written responses were made to questions raised by Council officers.

151. The Garden Island site office has featured a display of the proposal and the overall Garden Island modernisation project since the present reference was first referred to the Committee.

152. The consultative process continued with the proposal being referred to the Committee. A notice calling for submissions from interested persons and organisations appeared in the "Sydney Morning Herald" prior to the public hearing. Copies of departmental submissions giving details of the proposal were forwarded to State and government authorities by the Committee Secretary to facilitate the preparation of submissions for presentation at the public hearing.

153. The Committee believes sufficient opportunities were given to the public and Government authorities to enable them to be acquainted with the extent of the proposal and for their views to be presented.

DESIGN DEVELOPMENT PROVISION

154. The Committee's 1981 report recommended that a \$2.5m design development provision for Stage 2 of the modernisation be reduced to \$1.0m pending further justification of the balance being provided by the Department of Housing and Construction.

155. Departmental submissions presented at the August 1982 hearing provided further background and justification for the provision.

156. In essence the provision is required due to complexities which past experience with a project of this magnitude indicates may be expected to emerge as design solutions are further developed and as unforeseen works are identified with further design development. The works require to be undertaken concurrently with a continuation of dockyard operations. The Department of Housing and Construction submitted that it is reasonable to assume that provision should be made for additional items that have not been recognised. As a consequence a design development provision for Stage 2 comprising the following general categories was sought:

	\$m (April 1982 prices)
Unforeseen development factors	1.0
Unforeseen and essential modifications to briefed requirements	1.5

157. Previous references when design development provisions were sought and approved include the Darwin Patrol Boat Base (Committee's Seventh Report of 1979). In that case the Department of Housing and Construction required a \$0.5m design development provision for unforeseeable costs associated with dredging and breakwaters, with a vertical lift facility and other technical aspects.

158. The Committee was assured that the design development provision, if approved, would be vigorously controlled by senior departmental officers to ensure that the funds are not used for any purpose other than originally intended.

159. Committee's Conclusion: The Committee recognises that there may be a need for extra funds to overcome unforeseen development factors and to permit modifications to briefed requirements. The Committee agrees to the allocation of an additional \$1.5m at April 1982 prices as a design development provision. Details of the reasons and purpose of any expenditure from this provision and the \$1.0m already approved should be given in the Department of Housing and Construction Annual Report to Parliament.

(42)

ESTIMATED COST

160. The estimated cost of the proposed work when referred to the Committee was \$5.775m at April 1983 prices made up as follows:

Grit Blast Building including plant and Equipment with attached Enclosure for Waste treatment and Freshwater Pumphouse	3.203
External Paving/Site Works	0.220
Roadworks and Associated Stormwater Drains	0.084
Carparking	0.047
Clearance and Relocating underground Engineering Services	0.074
Landscaping	0.037
Waste Treatment Works Plant and Equipment	2.110
TOTAL	5.775

<u>LESS</u> provision of Fresh Water Pumping Station (see para 78)	0.160
<u>PLUS</u> net additional cost of reduction in ridge height and the installation of two 10-tonne torsion box travelling cranes (see para 67)	0.060
TOTAL	5.675

(43)

PROGRAM

161. The estimated construction period for this work is about 80 weeks. Assuming approval is given to proceed with the work by the end of November 1983, it is anticipated that construction would commence in November 1984 with completion in about November 1986.

162. Committee's Recommendation: The Committee recommends the construction of the work in this reference, namely at the original proposed site, with the ridge height of the SPPF at 12 metres and with a limit of cost estimate of \$5.675m at April 1983 prices.

RECOMMENDATIONS AND CONCLUSIONS

163. The recommendations and conclusions of the Committee are set out below. Alongside each is shown the paragraph in the report to which it refers.

Paragraph

1. THE PRESENT GRIT BLASTING FACILITIES AND PRACTICES AT GARDEN ISLAND DOCKYARD ARE INADEQUATE. CONSISTENT WITH THE OBJECTIVES OF THE MODERNISATION, THEY SHOULD BE REPLACED WITH MODERN FACILITIES AIMED AT IMPROVING WORKING CONDITIONS, INCREASING EFFICIENCY AND REDUCING AIR POLLUTION AND NOISE. 40
2. THE COMMITTEE IS CONCERNED THAT PRESENT OILY BILGE WASTE DISPOSAL AND TANK CLEANING METHODS CURRENTLY USED AT GARDEN ISLAND GIVE RISE TO ACCIDENTAL OIL SPILLS INTO SYDNEY HARBOUR. MEASURES DESIGNED TO ELIMINATE THIS RISK AND WHICH COMPLY WITH STATE REGULATIONS AND INTERNATIONAL CONVENTIONS REQUIRE URGENT IMPLEMENTATION. 41
3. THE DIMENSIONS OF THE SURFACE PREPARATION AND PRESERVATION FACILITY (SPPF) HAVE BEEN DEMONSTRATED TO BE NECESSARY. THE COMMITTEE NOTES THE SIGNIFICANT REDUCTION IN THE RIDGE HEIGHT OF THE BUILDING MADE POSSIBLE BY THE INSTALLATION OF TWO 10-TONNE TORSION BOX OVERHEAD TRAVELLING CRANES AND THE ADDITIONAL COST INVOLVED. 68

Paragraph

4. THE COMMITTEE IS SATISFIED THAT ALL POSSIBLE OPTIONS FOR GRIT BLASTING AND SPRAY PAINTING OUTSIDE GARDEN ISLAND HAVE BEEN FULLY EVALUATED IN ACCORDANCE WITH DIRECTIONS CONTAINED IN THE COMMITTEE'S REPORT ON STAGE 2 OF THE MODERNISATION. A FACILITY ON GARDEN ISLAND OFFERS GREATEST OPERATION AND COST ADVANTAGES. 89
5. THE ORIGINAL PROPOSED SITE AT THE SOUTHERN END OF CAPTAIN COOK DOCK OFFERS ADVANTAGES OVER OTHER ALTERNATIVE SITES EXAMINED. 104
6. BASED ON COSTINGS PROVIDED BY DEPARTMENTS, COLLOCATION OF THE SPPF, THE OILY BILGE WASTE TREATMENT PLANT AND THE LIQUID WASTE TREATMENT PLANT AT THE ORIGINAL PROPOSED SITE IS THE MOST ECONOMICAL OPTION. 110
7. THE OPERATING FACILITY WILL NOT SIGNIFICANTLY ADD TO EXISTING NOISE LEVELS PROVIDED THAT:
 - (a) NOISE ATTENUATION MEASURES AS PROPOSED ARE IMPLEMENTED;
 - (b) THE WESTERN DOOR IS NOT USED FOR NORMAL OR REGULAR ACCESS AND IS ONLY OPENED WHEN AND FOR SO LONG AS NEEDED TO MANOEUVRE LARGE OBJECTS;
 - (c) FOR SUCH PERIODS AS THE WESTERN DOOR IS OPEN THE DOORS OF ANY GRIT BLASTING OR METAL SPRAYING CHAMBER SHALL NOT REMAIN OPEN; AND

Paragraph

- (d) NOTWITHSTANDING THE ABOVE THE WESTERN DOOR SHALL NOT BE OPENED DURING NIGHT TIME. 122
8. MEASURES DESIGNED TO REDUCE AIRBORNE PARTICULATES EMANATING FROM GRIT-BLASTING, FUMES AND GASES FROM SPRAY PAINTING AND METAL SPRAYING AREAS ARE JUSTIFIED, AND APPEAR TO BE ADEQUATE. 131
9. THE DESIGN OF THE OILY BILGE WASTE TREATMENT PLANT AND MEASURES TO MINIMISE WATER POLLUTION AND ODOURS FROM TREATMENT PROCESSES APPEAR TO BE ADEQUATE. 136
10. THE LOCATION OF THE SPPF AT THE ORIGINAL PROPOSED SITE AND WITH A RIDGE HEIGHT OF 12 METRES HAS BEEN DEMONSTRATED AS NECESSARY. 143
11. THE COMMITTEE RECOGNISES THAT THERE MAY BE A NEED FOR EXTRA FUNDS TO OVERCOME UNFORESEEN DEVELOPMENT FACTORS AND TO PERMIT MODIFICATIONS TO BRIEFED REQUIREMENTS. THE COMMITTEE AGREES TO THE ALLOCATION OF AN ADDITIONAL \$1.5M AT APRIL 1982 PRICES AS A DESIGN-DEVELOPMENT PROVISION. DETAILS OF THE REASONS AND PURPOSE OF ANY EXPENDITURE FROM THIS PROVISION AND THE \$1.0M ALREADY APPROVED SHOULD BE GIVEN IN THE DEPARTMENT OF HOUSING AND CONSTRUCTION ANNUAL REPORT TO PARLIAMENT. 159

Paragraph

12. THE ESTIMATED COST OF THE PROPOSED WORK WHEN REFERRED TO THE COMMITTEE WAS \$5.775M AT APRIL 1983 PRICES. 160
13. THE COMMITTEE RECOMMENDS THE CONSTRUCTION OF THE WORK IN THIS REFERENCE, NAMELY AT THE ORIGINAL PROPOSED SITE, WITH THE RIDGE HEIGHT OF THE SPPF AT 12 METRES AND WITH A LIMIT OF COST ESTIMATE OF \$5.675M AT APRIL 1983 PRICES. 162

D.J. Foreman
(D.J. FOREMAN)
Chairman

Parliamentary Standing Committee
on Public Works,
Parliament House,
CANBERRA A.C.T. 2600

5 October 1983

APPENDIX A

LIST OF EXHIBITS

Exhibit No.

Public Works Committee Reports and Minutes of Evidence

Workshop and Amenities Building and Services Garden Island, New South Wales (First Report of 1979) February 1979.
Parliamentary Paper 41/1979

1

Minutes of Evidence relating to the Construction of Workshop, Amenities Building and Services at Garden Island Dockyard, New South Wales, 1979.

2

Modernisation of Fleet Base and Dockyard, Garden Island, New South Wales, Stage 1 (Ninth Report of 1980), September 1980.
Parliamentary Paper 156/1980

3

Minutes of Evidence relating to the Modernisation of Fleet Base and Dockyard, Garden Island, New South Wales, 1980.

4

Garden Island, New South Wales, Modernisation Stage 2, (Seventh Report of 1981), August 1981.
Parliamentary Paper 155/1981

5

Minutes of Evidence relating to the Proposal for Garden Island, New South Wales, Modernisation Stage 2, 1981.

6

Department of Defence and Department of Housing (or Transport) and Construction

Garden Island Modernisation Planning Team and Department of Defence: "Garden Island (NSW) Modernisation, Draft Environmental Impact Statement", AGPS, Canberra, 1979.

7

(2)

"Garden Island (NSW) Final Environmental Impact Statement, A Supplement to the Draft Environmental Impact Statement of June 1979, AGPS, Canberra, 1979.

8

Department of Housing and Construction, Central Office, memorandum signed for Secretary, reference 22497, dated 6 August 1981.

9

Department of Housing and Construction, Central Office, memorandum signed for Secretary, reference 22497, dated 18 August 1981 and attachments.

10

Department of Defence memorandum signed by First Assistant Secretary, Defence Facilities, reference 555/8/90, dated 19 August 1981.

11

Department of Housing and Construction, NSW Region, memorandum signed by Director, reference 81/2084, dated 19 August 1981 and attachments.

12

Department of Housing and Construction, NSW Region, memorandum signed by Director, reference 81/2084 dated 27 August 1981, and attachments.

13

Department of Housing and Construction, Central Office, memorandum signed for Secretary, reference 81/2700, dated 26 October 1981.

14

Department of Housing and Construction, NSW Region, memorandum signed by Director, reference 81/2084, dated 5 November 1981, and attachments.

15

Department of Housing and Construction, Central Office, memorandum signed by First Assistant Secretary, Major Projects 2, reference D83/597, dated 13 September 1983.

16

Telex from General Manager, Garden Island Dockyard, dated 21 September 1983.

17

(3)

Technical Reports

Louis A. Challis and Associates Pty Ltd,
"Preliminary Specification of Acoustic
Treatment for Surface Preparation and
Preservation Facility at Garden Island
Dockyard", Draft Report No. 3757-1-81, dated
January 12, 1980.
Louis A. Challis and Associates Pty Ltd,
Report No. 3757-2-81.

18

19

Louis A. Challis and Associates Pty Ltd,
Technical Appendices to Report No.
3757-3-81.

20

Louis A. Challis and Associates Pty Ltd,
letter to Department of Transport and
Construction dated 26 July 1982.

21

Louis A. Challis and Associates Pty Ltd,
letter to Department of Transport and
Construction dated 27 July 1982.

22

Department of Home Affairs and Environment

Memorandum signed for Secretary dated
9 September 1983.

23

Council of the City of Sydney

Memorandum and submission, signed for Town
Clerk, reference WA/IC, dated 14 August
1981.

24

Memorandum, signed for Town Clerk, reference
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and attachments.

25

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Bellevue Gardens Pty Ltd

Memorandum, signed by Chairman, dated
4 August 1981, and attachments.

26

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Modernisation Environmental Impact
Statements and Evidence to the Parliamentary
Standing Committee on Public Works", Planner
West Pty Ltd, Consulting Chartered
Engineers, 156 Pacific Highway, Greenwich,
NSW, 2065, July 1981. (Confidential)

27

(4)

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Construction Response to Questions Relating
to Garden Island Modernisation Stage II",
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NSW, 2065, October 1981. (Confidential)

28

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Bellevue Gardens Residential Units of a
Proposed Surface Preparation and
Preservation Facility at Garden Island
Dockyard", Peter R. Knowland and Associates,
North Sydney, NSW, 2060, November 1981.
(Confidential)

29

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Island Modernization Plan - Further Advice",
Murray Wilcox, QC, 15 June 1982.
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30

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31

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Point Protection Association, from the Right
Honourable the Lord Mayor, Alderman Douglas
W. Sutherland, AM, JP, dated 3 August 1982.

32

Telex to Mr J. Mostyn, Bellevue Gardens Pty
Ltd, Potts Point Protection Association,
from Secretary, Parliamentary Standing
Committee on Public Works, dated 5 August
1982.

33

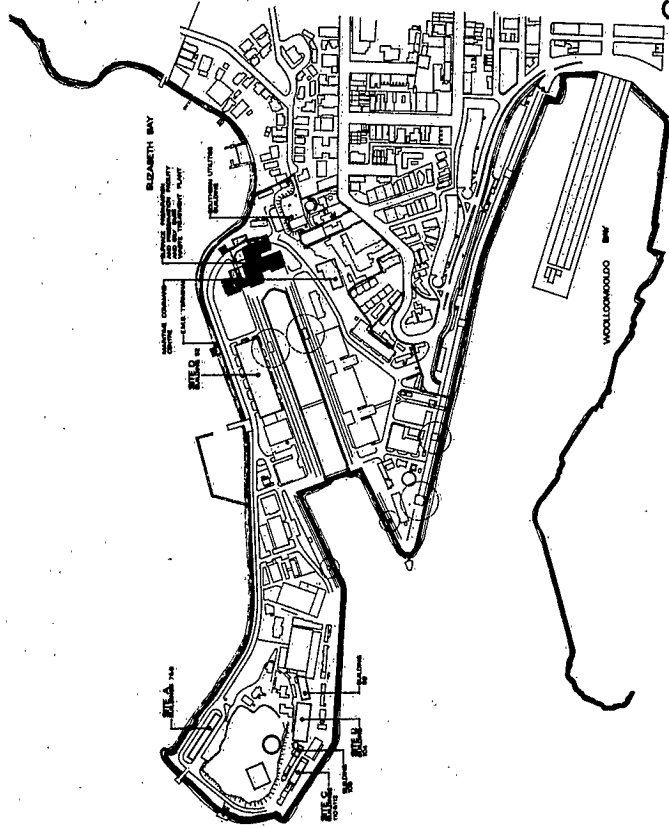
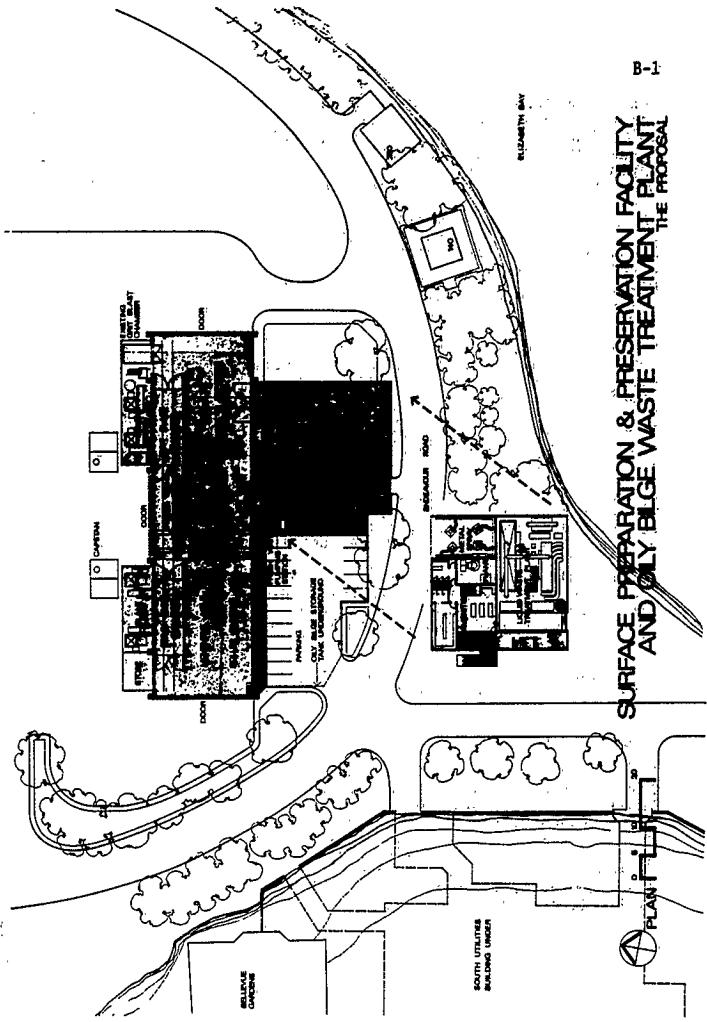
Telex (undated) from Mr John Mostyn to
Public Works Committee (received 16 August
1982).

34

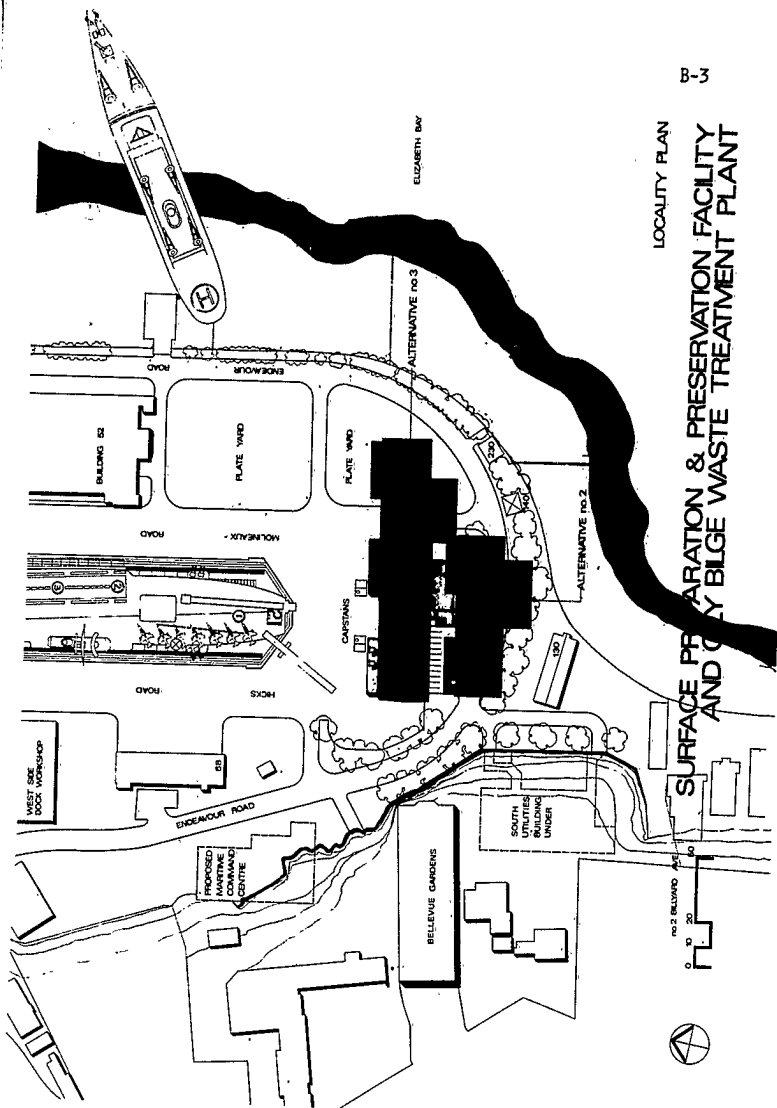
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Surface Preparation and Preservation
Facility and Oily Bilge Waste Treatment
Plant, Assessment of Evidence put forward in
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Control", James H. Watson, Watson Moss
Growcott Acoustics Pty Ltd, 444 Burwood
Road, Hawthorn, Victoria, 3122, September
1982. (Confidential)

35



GARDEN ISLAND
SITE PLAN



LOCALITY PLAN
SURFACE PREPARATION & PRESERVATION FACILITY
AND CITY BILGE WASTE TREATMENT PLANT

THE SENATE

ROLL

19-10-83

SENATORS—

- | | |
|---|---|
| 1. ADAMS | 33. JONES |
| 2. BROWN | 34. JONES |
| 3. DAVE MCGIBBON | 35. MURPHY |
| 4. DEANE | 36. MURPHY |
| 5. DEWEY | 37. NEALE |
| 6. DUNN | 38. MURPHY |
| 7. GARDNER John | 39. MACGIBBON LEAVE |
| 8. GRANT | 40. MCINTOSH LEAVE |
| 9. GRANT | 41. MURPHY |
| 10. GRANT | 42. MURPHY |
| 11. GRANT | 43. MARTIN |
| 12. GRANT | 44. MURPHY |
| 13. GRANT | 45. MURPHY |
| 14. GRANT | 46. MURPHY |
| 15. COOK | 47. MURPHY |
| 16. CRITCHFIELD | 48. RAE, Peter — <i>Care</i> |
| 17. CRITCHFIELD | 49. MURPHY |
| 18. CRITCHFIELD | 50. MURPHY |
| 19. CRITCHFIELD | 51. MURPHY |
| 20. CRITCHFIELD | 52. MURPHY |
| 21. CRITCHFIELD | 53. MURPHY |
| 22. CRITCHFIELD | 54. RYAN <i>WILL LEAVE.</i> |
| 23. CRITCHFIELD | 55. SCOTT |
| 24. CRITCHFIELD | 56. SCOTT |
| 25. CRITCHFIELD | 57. SCOTT |
| 26. CRITCHFIELD | 58. SCOTT |
| 27. CRITCHFIELD <i>John Margaret</i> | 59. SCOTT |
| 28. CRITCHFIELD | 60. SCOTT |
| 29. CRITCHFIELD | 61. SCOTT |
| 30. CRITCHFIELD | 62. SCOTT |
| 31. CRITCHFIELD | 63. SCOTT |
| 32. CRITCHFIELD | 64. SCOTT |

66.

THE SENATE

ROLL

19-10-83

SENATORS—

~~1. ARCHER~~
~~2. BARME~~
~~3. BJELKE-PETERSEN~~
~~4. BOMBUS~~
~~5. BOSWELL~~
~~6. BUFFON~~
~~7. CARRICK, Sir John~~
~~8. CHANEY~~
~~9. CHILDS~~
~~10. CHIFF~~
~~11. COATES~~
~~12. COLEMAN~~
~~13. COLLARD~~
~~14. COLSTON~~
~~15. COOK~~
~~16. CRIGGTON-BROWNE~~
~~17. CROWEY~~
~~18. DURACK~~
~~19. EBBING~~
~~20. EVANS, Gareth~~
~~21. EVANS, Jack~~
~~22. FOREMAN~~
~~23. GEORGES~~
~~24. GIEZELT~~
~~25. GILES~~
~~26. GYMES~~
~~27. GUNFOYLE, Dame Margaret~~
~~28. HAINES~~
~~29. HAMER~~
~~30. H. BRADINE~~
~~31. HERN~~
~~32. HILL~~

~~33. HESOP~~
~~34. JONES~~
~~35. KILBARRIFF~~
~~36. LAOVIC~~
~~37. EDWARDS~~
~~38. MCELLELAND~~
~~39. MACGIBBON LEAVE~~
~~40. MCINTOSH LEAVE~~
~~41. MACKLIN~~
~~42. MAGUIRE~~
~~43. MARTIN~~
~~44. MASON~~
~~45. MESSNER~~
~~46. MISEN~~
~~47. PRIMMER~~
~~48. RAE, Peter LEAVE~~
~~49. RAY, Robert~~
~~50. REID~~
~~51. REYNOLDS~~
~~52. RICHARDSON~~
~~53. ROBERTSON~~
~~54. RYAN~~
~~55. SCOTT LEAVE~~
~~56. SHERRA~~
~~57. TATE~~
~~58. TEAGUE~~
~~59. TENNENBY~~
~~60. WASH~~
~~61. WALTERS~~
~~62. WATSON~~
~~63. WITHERS~~
~~64. ZAKHAROV~~

THE SENATE

ROLL

19-10-83

SENATORS—

- | | |
|--|---|
| 1. FRONER | 36. IBBOP |
| 2. BAUME | 37. JONES |
| 3. BUCKE PETERSEN | 38. MCCHARLIE |
| 4. BOGUS | 39. MAJLOVIC |
| 5. BOWELL | 40. MCINTOSH |
| 6. BRYFON | 41. MCLELLAND |
| 7. BURNER <small>John</small> | 42. MACGIBBON <small>LEAVE</small> |
| 8. BURNEY | 43. MCINTOSH <small>LEAVE</small> |
| 9. BURNS | 44. MALCOLM |
| 10. BUTT | 45. MARTIN |
| 11. COATES | 46. MARTIN |
| 12. COLMAN | 47. MASON |
| 13. CONRAD | 48. MCCOMER |
| 14. COOPER | 49. RAE |
| 15. COOK | 50. RAE <small>Peter</small> |
| 16. CRICHTON BROWNE | 51. REID |
| 17. CROWLEY | 52. ROBINSON |
| 18. DURACK | 53. ROBERTSON |
| 19. ELSTON | 54. RYAN |
| 20. EVANS <small>Garth</small> | 55. SCOTT |
| 21. EVANG <small>Jack</small> | 56. SCOTT |
| 22. EDSMAN | 57. SMITH |
| 23. GEORGES | 58. THOMAS |
| 24. GIBBERT | 59. TOMMIEY |
| 25. GIBBS | 60. WALSH |
| 26. GIBSON | 61. WALTERS |
| 27. GILROY <small>Dona Margaret</small> | 62. WATSON |
| 28. GRIBBS | 63. WATSON |
| 29. GRIBBS | 64. WATSON |
| 30. HARRISON | 65. WATSON |
| 31. HARRN | 66. WATSON |
| 32. HARRN | 67. WATSON |

19 day of September

Question,

Social Security Legislation
Amendment Bill 1983~~Senate~~Amendment to cl. 30 moved
by Sen. Messner.

Committee

AYESSENATORS—

~~1. ARCHER~~
~~2. BAUME~~
~~3. BIELKE-PETERSEN~~
~~4. BOLKUS~~
~~5. BOSWELL~~
~~6. BUTTON~~
~~7. CARRICK, Sir John~~
~~8. CHANEY~~
~~9. CHILDS~~
~~10. CHIFF~~
~~11. COATES~~
~~12. COLEMAN~~
~~13. COLLARD~~
~~14. COLSTON~~
~~15. COOK~~
~~16. CRICHTON-BROWNE~~
~~17. CROWLEY~~
~~18. DURACK~~
~~19. ELSTOR~~
~~20. EVANS, Gareth~~
~~21. EVANS, Jack~~
~~22. FOREMAN~~
~~23. GEORGES~~
~~24. GIETZELT~~
~~25. GILES~~
~~26. GRIMES~~
~~27. GUILFOWLE, Dame Margaret~~
~~28. HAINES~~
~~29. HAMER~~
~~30. HARRADINE~~
~~31. HEARN~~
~~32. HILL~~

~~33. JESSOP~~
~~34. JONES~~
~~35. KILGARIFF (Teller)~~
~~36. LAJOVIC~~
~~37. LEWIS~~
~~38. MCCLELLAND~~
~~39. MACGIBBON~~
~~40. MCINTOSH~~
~~41. MACKEN~~
~~42. MAGUIRE~~
~~43. MARTIN~~
~~44. MASON~~
~~45. MESSNER~~
~~46. NISSEN~~
~~47. PRIMMER~~
~~48. RAE, Peter~~
~~49. RAY, Robert~~
~~50. REID~~
~~51. REYNOLDS~~
~~52. RICHARDSON~~
~~53. ROBERTSON~~
~~54. RYAN~~
~~55. SCOTT~~
~~56. SIBRAA~~
~~57. TATE~~
~~58. TENOUE~~
~~59. TOWNLEY~~
~~60. WALSH~~
~~61. WALTERS~~
~~62. WATSON~~
~~63. WITBERS~~
~~64. ZAKHAROV~~

Ayes

Noes

TELLER FOR THE AYES—SENATOR

19th day of October

Loc. Sec. Legis. Amend. Bill

Question,

leave out words
(sub-clauses 30(2)(3)).

~~Senate~~

Committee

NOES

SENATORS—

- 1. ARCHER
- 2. BAUME
- 3. BJELKE-PETERSEN
- 4. ~~BOLWELL~~
- 5. BOSWELL
- 6. BUTTON
- 7. CARRICK, Sir John
- 8. CHANEY
- 9. ~~CHILDS~~
- 10. CHIPP
- 11. COATES
- 12. ~~COLEMAN~~
- 13. COLLARD
- 14. ~~COLLISON~~
- 15. COOK
- 16. CRICHTON-BROWNE
- 17. ~~CROWLEY~~
- 18. DURACK
- 19. ~~ELSTON~~
- 20. ~~EVANS, Gareth~~
- 21. EVANS, Jack
- 22. ~~FORBES~~
- 23. GEORGE
- 24. ~~GIBBELT~~
- 25. GILES
- 26. ~~GRIMSBY~~
- 27. GUILFOYLE, Dame Margaret
- 28. HAINES
- 29. HAMER
- 30. ~~HARRADINE~~
- 31. ~~HEARN~~
- 32. HILL

- 33. JESSOP
- 34. ~~JONES~~ (Teller)
- 35. KILGARIFF
- 36. LAJOVIC
- 37. LEWIS
- 38. ~~MCLELLAND~~
- 39. MACGIBBON
- 40. MCINTOSH
- 41. MACKLIN
- 42. ~~MAGUIRE~~
- 43. MARTIN
- 44. MASON
- 45. MESSNER
- 46. MISSEN
- 47. ~~PRINER~~
- 48. RAE, Peter
- 49. ~~RAE, Robert~~
- 50. REID
- 51. ~~REYNOLDS~~
- 52. RICHARDSON
- 53. ROBERTSON
- 54. RYAN
- 55. SCOTT
- 56. ~~SHAW~~
- 57. ~~TATE~~
- 58. TEAGUE
- 59. TOWNLEY
- 60. ~~WALSH~~
- 61. WALTERS
- 62. WATSON
- 63. WITHERS
- 64. ~~ZANTHROY~~

Ayes 29
Noes 27

TELLER FOR THE NOES—

1983

2

19 day of October

Question,

Traction (Unpaid Company
Tax) Assessment
Amendment Bill 1983

Senate

Committee

2°

AYESSENATORS—

1. ARCHER
2. BAUME
3. BJELKE-PETERSEN
4. BOLKUS
5. BOSWELL
6. BUTTON
7. CARRICK, Sir John
8. CHANEY
9. CHILDS
10. CHIPP
11. COATES
12. COLEMAN
13. COLLARD
14. COLSTON
15. COOK
16. CRICHTON-BROWNE
17. CROWLEY
18. DURACK
19. EUSTON
20. EVANS, Geoff
21. EVANS, Jack
22. FOREMAN
23. GEORGE
24. GIFFERT
25. GILES
26. GRIMES
27. GUILFOYLE, Dame Margaret
28. HAINES
29. HAMER
30. HARRADINE
31. HERRN
32. HILL

33. JESSOP
34. JONES
35. KILGARIFF
36. LAJOVIC
37. LEWIS
38. MACLELLAND
39. MACGIBBON
40. MCINTOSH
41. MACKLIN
42. MAGUIRE
43. MARTIN
44. MASON
45. MESSNER
46. MISSEN
47. PRIMMER
48. RAE, Peter
49. RAY, Robert
50. REID
51. REVNOLDS
52. RICHARDSON
53. ROBERTSON
54. RYAN
55. SCOTT
56. SHAW
57. TATE
58. TEAGUE
59. TOWNLEY
60. WALEN
61. WALTERS
62. WATSON
63. WITHERS
64. ZAKHAROV

Ayes

Noes

TELLER FOR THE AYES—SENATOR

SENATE

1983

2

19th day of October

Question,

Taxation (Worship
Cafay Tax) Amendment
Amendment Bill 1983
20R.

Senate

Committee

NOES

SENATORS—

- 1-ARCHER
- 2-BALME
- 3-BELLET-DUBROEN
- 4-BOLKUS
- 5-BOSWELL
- 6-BUTTON
- 7-CARRON, Sir John
- 8-CHANCE
- 9-CHILDS
- 10-CHIPP
- 11-COATES
- 12-COLEMAN
- 13-COLEMAN
- 14-COLSTON
- 15-COOK
- 16-CROFTON-BROWNE
- 17-CROWLEY
- 18-DONNER
- 19-ELSTON
- 20-EVANS, Gareth
- 21-EVANS, Jack
- 22-FOREMAN
- 23-GEORGES
- 24-GIETZELT
- 25-GILES
- 26-GRIMES
- 27-GUILFOYLE, Dame Margaret
- 28-HAINES
- 29-HAMER
- 30-HARRADINE
- 31-HEARN
- 32-HILL

- 33-JESSOP
- 34-JONES
- 35-KILGARRIE
- 36-LAJOIE
- 37-LEUNG
- 38-MCCLELLAND
- 39-MACGIBBON
- 40-MCINTOSH
- 41-MCGILLIN
- 42-MAGUIRE
- 43-MARTIN
- 44-MASON
- 45-MEGERA
- 46-MOODIE
- 47-PRIMMER
- 48-RAE, Peter
- 49-RAY, Robert
- 50-REID *telw*
- 51-REYNOLDS
- 52-RICHARDSON
- 53-ROBERTSON
- 54-RYAN
- 55-SCOTT
- 56-SIBRAA
- 57-TATE
- 58-TRAGUS
- 59-TOWNLEY
- 60-WALSH
- 61-WALTERS
- 62-WATSON
- 63-WITHERS
- 64-ZAKHAROV

Ayes 28
Noes 28

TELLER FOR THE NOES—SENATOR

Robert Reid