

Parliamentary Standing Committee on Public Works

REPORT

relating to

IMPROVEMENTS TO ON-BASE HOUSING, RAAF BASE, DARWIN

(Eighteenth Report of 1984)

THE PARLIAMENT OF THE COMMONWEALTH OF AUSTRALIA
1984

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RAAF BASE, DARWIN, N.T.

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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)

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House of Representatives

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Kilgariff

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R.F.D., M.P.

John Saunderson, Esq., M.P.

EXTRACT FROM THE VOTES AND PROCEEDINGS

NO. 83 DATED WEDNESDAY, 22 AUGUST 1984

- 17 PUBLIC WORKS COMMITTEE - REFERENCE OF WORK - RAAF BASE, DARWIN - ON-BASE HOUSING: Mr Scholes (Minister for Defence) for 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: Improvements to on-base housing, RAAF Base, Darwin.

Mr Scholes presented plans in connection with the proposed work.

Debate ensued.

Question - put and passed.

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PARLIAMENTARY STANDING COMMITTEE ON PUBLIC WORKS

IMPROVEMENTS TO ON-BASE HOUSING.

RAAF BASE, DARWIN, N.T.

R E P O R T

By resolution on 22 August 1984 the House of Representatives referred to the Parliamentary Standing Committee on Public Works for consideration and report the proposal for the improvement of on-base housing at RAAF Base, Darwin, N.T.

The Committee has the honour to report as follows:

THE REFERENCE

1. The proposal referred to the Committee is for the refurbishment of 248 on-base married quarters at RAAF Base, Darwin, which are presently below acceptable maintenance and structural standards. It involves repair of the houses to improve their liveableness and structural strengthening to increase their resistance to cyclones.
2. The estimated cost of the proposed work is \$8.7 million at May 1984 prices.

THE COMMITTEE'S INVESTIGATION

3. The Committee received a joint submission from the Department of Defence (Defence) and the Department of Housing and Construction (DHC) and submissions from the RAAF Women's Association, Ms Carol Hardwick, Mrs S.M. Leane, Mr Barry Coulter, M.L.A., The National Trust of Australia (N.T.) and the Northern Territory Government.

4. The Committee had inspected some of the houses during a visit to Darwin on 15 February 1984.
5. On 6 September 1984 the Committee resolved, on the motion of Senator Jones, that pursuant to sub-section 11(1) of the Public Works Committee Act 1969, a Sectional Committee examine and report on the proposal to the Committee.
6. The Sectional Committee took evidence from representatives of Defence and DHC, the RAAF Women's Association, Mr Barry Coulter, M.L.A., and Mr J.E. Reeves, M.P., Federal Member for the Northern Territory, at a public hearing held in Canberra on 8 October 1984.
7. A list of witnesses who appeared before the Sectional Committee is at Appendix A.
8. The Sectional Committee's proceedings will be printed as Minutes of Evidence.

BACKGROUND

9. In 1974 Cyclone Tracy destroyed most of the operational, technical and domestic support facilities at RAAF Base Darwin. Some facilities, including 73 on-base houses, suffered severe damage and were subsequently demolished.
10. The remaining houses suffered varying degrees of damage and were capable of restoration. They were immediately protected against the weather and repaired during 1975/76. Further work to improve the houses has been postponed because of uncertainties about the future of RAAF Base Darwin and its longer-term housing needs.

11. In 1980, the Committee examined and agreed (Parliamentary Paper No. 147/1980) to a proposal to construct an aircraft maintenance complex and access pavements at a cost of \$4.5 million.

12. Also, in 1980, the previous Government decided to develop RAAF Base Darwin as the home base for a fighter squadron and in March 1982 the Committee examined and, in the main, agreed (Parliamentary Paper No. 99/1982) to a proposal to provide facilities for No. 75 Squadron (equipped with Mirage aircraft) on its planned return to Darwin from Air Base Butterworth in Malaysia in 1983. The proposal comprised aircraft operating and maintenance facilities, sleeping accommodation and the construction of 83 married quarters which the RAAF considered should be replaced as part of the on-going Defence housing program. However, in mid-1982 a study was initiated by the then Minister for Defence to assess the implications of basing an F/A-18 squadron at Tindal, N.T., rather than Darwin. Work consequently ceased on planning a Tactical Fighter Force (TFF) base at Darwin as had, up to then, been proposed. Of the work agreed to by the Committee in March 1982 only an engine run-up facility was constructed.

13. Facilities were subsequently provided at a cost of \$1.9 million for the minimum essential operating support for the interim basing of No. 75 Squadron at Darwin until a long term location for the squadron was determined and became available. These facilities included sleeping accommodation for 80 other ranks, squadron flight line and access taxiways, facilities for equipment storage and ordnance preparation, aircraft traverses, administrative facilities and the run-up facility referred to above. One hundred and sixty houses were leased to meet the requirement for additional married quarters.

14. The Tindal study introduced the possibility that most RAAF activities in Darwin could be transferred to Tindal in the longer term and led to a re-appraisal of the projected tenure of the sub-standard Darwin housing.

15. Following the establishment of an F/A-18 Base at Tindal it is proposed that it be developed as the main manned base in Northern Australia and transfer there most of the functions presently performed at RAAF Base, Darwin. Darwin will be retained as a forward operational base providing, among other activities, for the immediate air defence of Darwin and its maritime approaches. The further development of Tindal beyond the level where it can accommodate 75 Squadron operating F/A-18 aircraft could be staged over several years or it might be undertaken as a single project. The Committee was advised that, in any event, it is estimated that RAAF Darwin will need at least 400 married quarters after Tindal becomes operational and until significant functions presently performed at Darwin are transferred to Tindal. Defence advised that functions additional to those associated with the operation of 75 Squadron are unlikely to be transferred to Tindal before the first half of the 1990's at the earliest.

THE NEED

16. Housing Demand The RAAF requires about 550 houses in Darwin for the current (June 1984) proportion of married personnel. The demand for housing is not expected to change significantly during the next four and a half years.

17. Existing Stock The RAAF's present housing need is met by 394 permanent, RAAF-owned married quarters and 160 houses leased from the local rental market. These leased houses are in good condition but it is intended that the leases be terminated when 75 Squadron is re-equipped with F/A-18 aircraft and relocated to

Tindal in 1988. When that occurs the housing requirement will reduce to and remain at around 390 houses until any further activities are transferred from Darwin to Tindal.

18. Defence advised that the strategy for providing married quarters in Darwin is based on the provision of satisfactory houses in the numbers required until the early 1990's but without seeking to match in every respect the provisions of Defence Scales and Standards for new housing.

19. Deficiencies In evidence the Committee was advised that only 146 of the 394 RAAF-owned married quarters are in good condition and meet local authority standards. The balance of 248 houses require extensive work to improve them to acceptable standards. The deficiencies include:

- leaking roofs and windows;
- rotted or termite affected timbers;
- poor floor finishes and deteriorated fittings and plumbing in kitchens, bathrooms and laundries;
- the poor standard of painted surfaces; and
- structural weaknesses in the buildings, particularly with respect to high wind resistance.

20. There are few RAAF-owned married quarters which are classified higher than Group 1. This means that most personnel live in married quarters which are below their entitlements. However, they pay a lower rental appropriate to the classification of the houses they occupy.

21. Committee's Conclusion The RAAF has a need for approximately 394 RAAF-owned married quarters in Darwin at least until the early 1990's. All 394 houses are below Scales and

Standards and only 146 are in good condition. Rectifying the deficiencies of the 248 houses is a matter requiring urgent attention.

OPTIONS

22. The Committee was advised that the Departments considered three options in determining the most cost efficient method of upgrading 248 sub-standard houses having a limited but uncertain tenure:

- Option 1 - repair of the existing houses;
- Option 2 - construction of 248 new houses on existing sites;
- Option 3 - replace 248 houses from the local rental market.

23. Comparison of Options The Committee was informed that comparison of these options was undertaken using the Present Value economic analysis technique. The Committee understands that the method of analysis excludes inflation factors. Factors such as initial capital and leasing costs, on-going maintenance costs for the life of the buildings, the resale value of house and land and leasing costs for houses to accommodate personnel displaced during renovation activities were taken into account. The results of the analysis are illustrated in the graphs at Appendix B to this report and are summarised in the following paragraphs.

24. Option 1 - Repair would involve the expenditure of an average of about \$35,000 per house for the structural upgrading and repairs and maintenance works. Although the houses could suffer some internal damage in cyclonic winds, complete failure of the houses would not be expected to occur in a cyclone of Cyclone Tracy's magnitude and therefore, would not be expected to

cause any significant damage to neighbouring properties from wind borne debris, provided a house does not itself sustain abnormal major impact damage (something that could happen to a new house).

25. Option 2 - Construction would involve an initial expenditure of about \$70,000 per house. Houses built under this option would fully comply with the Northern Territory Building Code cyclone protection provisions for new houses. However, it would involve an outlay of approximately \$18.5 million for houses required for a limited tenure.

26. Option 3 - Leasing would involve an expenditure of about \$2.5 million annually. Leasing of this number of houses would place strains on the local housing market.

27. Consideration of Options 1-3 Both Options 1 and 3 involve initial capital outlays very much less than Option 2. However, the capital cost to repair the houses is approximately the same as the costs involved with leasing replacement houses for about three and a half years at the most likely real rate of interest on capital. Hence, as the projected tenure of the houses is at least seven years, repair appears to offer the least cost option, and is the course of action proposed by the Departments.

28. In the event that some of the on-base houses are found to be in such poor condition that it is not economical to proceed with the refurbishment, their replacement will be effected through leasing.

29. Option 4 The Committee believes there is a fourth option involving a mixture of Options 1 and 2 that could have been considered by the Departments. Under this option the following arrangements would apply bearing in mind the requirement is for 394 houses after 75 Squadron moves to Tindal with a diminishing housing requirement into the 1990's as Stage 2 of Tindal is proceeded with.

- (a) Construction of 100 new houses with a cost estimate based on the \$70,000 per house quoted under Option 2 - total cost \$7.0 million; these houses would be constructed on sites currently occupied by sub-standard houses.
- (b) Refurbishment of 148 houses as proposed at a cost of \$5.2 million.
- (c) The additional cost of the new houses is therefore \$3.5 million.
- (d) This would then leave the situation, prior to the departure of 75 Squadron to Tindal, where there are 246 houses which are at Scales and Standards or slightly below, plus 160 houses on lease and 148 houses which are refurbished but which are below Scales and Standards.
- (e) When 75 Squadron departs in the early 1990's the requirement will be as follows:
 - (i) 246 houses at Scales and Standards or slightly below;
 - (ii) the balance to come from the 160 leased houses;
 - (iii) the remaining 148 houses being sold.

(f) The latter point (e) (iii) is made following Departments indicating that it is intended to sell off houses as they become excess to requirements. It would be expected that a minimum of \$30,000 per house and land could be obtained from disposal, i.e., about \$4.5 million, which would recover the initial investment of \$3.5 million for 100 new houses. The Northern Territory Housing Commission has expressed interest in obtaining the land and houses.

(g) The Departments indicated that there would be further reductions in the requirement for housing into the 1990's as Stage 2 of the Tindal development is progressively achieved. As houses become excess to requirements they would be relinquished from the leased stock.

30. Given the above steps there would be minimum cost differences to the overall project and the RAAF would have as its base housing stock in Darwin 246 units with life expectancies of 20 years all of which meet current cyclone protection requirements and current Scales and Standards.

31. Committee's Conclusion Option 4 is the preferred option as it meets two requirements; first, the immediate upgrading of current housing standards to an acceptable level, and second, providing a base of 246 houses which are at Scales and Standards and which would meet the RAAF's current housing requirements for Darwin into the 1990's. This would be achieved at minimal cost difference to the overall proposal.

THE PROPOSED WORK

32. The project put to the Committee comprises the structural improvement and repair and maintenance of 248 married quarters grouped by their age as follows:

<u>Construction Date</u>	<u>No.</u>
Before 1950	19
1950-1960	36
1961-1965	70
1966-1969	81
1970-1973	<u>42</u>
	<u>248</u>

33. In November 1981 a comprehensive report was prepared (by DHC and Defence) which examined various options for improving the housing and the extent of the work necessary to upgrade existing houses. The Committee was informed that this and subsequent studies have served as the basis for determining the scope of the works contained in the proposal.

34. Extent of Work The extent of work proposed varies and is dependent on the age and type of house. Typically it comprises the work described in the following paragraphs.

35. Roofs Removal and replacement of existing roof sheeting; improved structural joints at eaves and ridges; replacement of existing fascias with pre-finished metal fascias.

36. New Structural Fittings Provision of strapping to rafters and joists in ceilings and floors; installation of new holding down bolts from eaves to floor bearers and connections from piers to bearers.

37. Structural Cladding Replacement of the existing asbestos cement sheeting with pre-finished metal sheeting to improve shear resistance and to resist penetration by wind borne objects and deformation of the house frame.

38. Cross-bracing to Piers Installation of diagonal bracing to resist movement of the piers.

39. Kitchen Stripping of paint, making good and repainting of all walls and ceilings, rebuilding of cupboards, tiling of walls and floors and replacement of fittings.

40. Bathroom Stripping of paint, making good or replacement of plumbing, fixtures, wall sheeting, floors and fittings; and provision of some new hot water systems where required.

41. Laundry Installation of full height walls and additional concrete plinths where required to improve storm protection.

42. Painting Internal and external painting of walls, ceilings and eaves.

43. Doors Replacement of damaged and warped doors with waterproof ply doors where required and installation of flywire doors to front and rear entrances.

44. Windows Replacement of existing louvres and timber flyscreens with storm louvres and aluminium flyscreens.

45. Floor Finishes Installation of new carpet and vinyl floor coverings over existing floors.

46. Drainage/Plumbing Replacement of water supply and sewerage lines to houses where required.

47. Termite/Wood Rot Removal and replacement of any defective timbers and repair to existing ant caps where these have been bridged.

48. Stairs and Balconies Replacement of timber stair treads with concrete treads and installation of additional rails to balustrades where required.

49. Electrical Replacement of aged or defective wiring where required.

50. The Committee was informed that performance of the work proposed will produce a life expectancy for the houses of between 10 and 15 years. When they are no longer required by the RAAF they will be disposed of.

51. The Committee was advised that the occupants of the houses will be accommodated in leased houses for the duration of the work on their residences. It is expected that it will take an average of 14 weeks to refurbish each house.

52. Committee's Consideration The Committee expresses its concern that families posted to Darwin will continue to be required to live in accommodation which is below current Scales and Standards though it understands and accepts that the limited prospective tenure of the houses is the cause of this situation. The Committee urges Defence and DHC to sympathetically consider carrying out the suggested improvements which are contained in the submission by the RAAF Women's Association but which are not included in the works proposed. It is the Committee's view that work to improve the water supply to houses, increase the number of power points, particularly in the kitchen, instal an exhaust fan in the kitchen, re-wire the houses entirely so that a reasonable number of appliances can be used simultaneously, provide boundary fences to each house, and seal

the unenclosed covered area beneath each house to provide amenity and avoid ponding should be included in the works proposed. The Committee notes that, during the public hearing, departmental representatives undertook to include in the scope of work the provision of an exhaust fan in the bathroom of each house. They further undertook that, in cases where the hot water service requires replacement, it will be replaced with a solar appliance. The Committee is most disturbed at the alleged deleterious effect which the poor condition of these married quarters has on the family life of their occupants.

53. Committee's Conclusion The Committee agrees that the work proposed by the Departments should be carried out and it recommends that the following additional works also be performed:

- improve the water supply to the houses;
- re-wire the houses entirely so that a reasonable number of appliances can be used simultaneously;
- increase the number of power points, particularly in the kitchen;
- instal an exhaust fan in the kitchen;
- provide boundary fencing to each house; and
- seal the unenclosed covered areas beneath the houses to provide amenity and avoid ponding.

54. Cyclone Protection The standard of cyclone protection to be built into the upgraded houses will be in accordance with the requirements of the Northern Territory Department of Lands in relation to the upgrading of houses constructed prior to Cyclone Tracy.

55. The Committee was assured that the upgrading of houses constructed prior to Cyclone Tracy to fully comply with the provisions of the Northern Territory Building Code relating to

new construction would be uneconomic. It would involve reducing them to their basic structures, strengthening their piers and frames and fully upgrading the structures to the requirements of the Code before re-cladding the internal and external walls. The Committee accepts that this would be a major undertaking which, considering the limited projected tenure of the houses, would be uneconomic.

56. The Committee was advised that Service personnel and their dependants living on-base at RAAF Darwin are required to comply with certain standard procedures in the event of a cyclone. Specified buildings on the base are used as cyclone refuges and can accommodate the entire on-base population. No personnel are permitted to stay in either their single or married quarters during a cyclone.

57. Particular attention will be paid to the minimisation of debris generation in the refurbishment.

58. Committee's Conclusion The level of cyclone protection to be built into the upgraded houses is appropriate to the circumstances.

CONSULTATION

59. In determining the scope of structural enhancement works consultations were held between technical representatives of the Department of Housing and Construction and Professor G.R. Walker, Associate Professor of Engineering at James Cook University, Queensland. Also, the proposed structural works have been agreed to by representatives from the Building Branch of the Northern Territory Department of Lands.

60. In addition, the views of the RAAF wives were sought during the initial inspections of the houses. The submission made by the RAAF Women's Association and the Committee's reaction to it have been discussed in paragraphs 52 and 53.

PROJECT COST ESTIMATE

61. Limit-of-Cost Estimate The Limit-of-Cost estimate for the work referred to the Committee was \$8.7 million at May 1984 prices comprising:

	\$m
Repairs and maintenance	5.2
Structural improvement	<u>3.5</u>
	<u>8.7</u>

62. Option 4 Costs Under Option 4, and based on unit costs given in evidence the following costs would apply:

	\$m
Repairs and maintenance (148 houses at \$35,000)	5.2
Construction of 100 new houses	<u>7.0</u>
	<u>12.2</u>

63. The Committee's recommendation that additional upgrading work be performed would increase the cost of upgrading the 148 houses.

64. Leasing Costs Leasing of 20 houses to accommodate people whilst their residences are being repaired will cost an additional \$210,000 per year for the duration of the project.

65. As previously stated in paragraph 28 there is a probability that some houses are uneconomical to repair. The number of such houses cannot be determined until cladding is physically removed and their condition examined. In that event, the cost of leasing an additional house would be in the order of \$10,000 per year (\$200 per week) for the period that the house is required.

PROGRAM

66. Subject to the necessary approvals being given tenders for the Departmental proposal are planned to be called so that initial works can commence in late 1984 with completion late in 1987.

67. The Committee was unable in the time available to ascertain a time-table for the construction of new houses. It is reasonable to expect given the overall time-span of 3 years for the project the provision of 100 new houses would not delay the improvement of the Darwin housing situation.

68. Committee's Recommendation Subject to the adoption of Option 4 and the performance of additional upgrading work (see paragraph 53) the Committee recommends the construction of the work in this reference.

RECOMMENDATIONS AND CONCLUSIONS

69. A summary of the Committee's recommendations and conclusions and the paragraph in this report to which each refers is set out below:

Paragraph

1. THE RAAF HAS A NEED FOR APPROXIMATELY 394 RAAF-OWNED MARRIED QUARTERS IN DARWIN AT LEAST UNTIL THE EARLY 1990's. ALL 394 HOUSES ARE BELOW SCALES AND STANDARDS AND ONLY 146 ARE IN GOOD CONDITION. RECTIFYING THE DEFICIENCIES OF THE 248 HOUSES IS A MATTER REQUIRING URGENT ATTENTION.

21

2. OPTION 4 IS THE PREFERRED OPTION AS IT MEETS TWO REQUIREMENTS; FIRST, THE IMMEDIATE UPGRADING OF CURRENT HOUSING STANDARDS TO AN ACCEPTABLE LEVEL, AND SECOND, PROVIDING A BASE OF 246 HOUSES WHICH ARE AT SCALES AND STANDARDS AND WHICH WOULD MEET THE RAAF'S CURRENT HOUSING REQUIREMENTS FOR DARWIN INTO THE 1990's. THIS WOULD BE ACHIEVED AT MINIMAL COST DIFFERENCE TO THE OVERALL PROPOSAL.

31

3. THE COMMITTEE AGREES THAT THE WORK PROPOSED BY THE DEPARTMENTS SHOULD BE CARRIED OUT AND IT RECOMMENDS THAT THE FOLLOWING ADDITIONAL WORKS ALSO BE PERFORMED:

- IMPROVE THE WATER SUPPLY TO THE HOUSES;
- RE-WIRE THE HOUSES ENTIRELY SO THAT A REASONABLE NUMBER OF APPLIANCES CAN BE USED SIMULTANEOUSLY;

Paragraph

- INCREASE THE NUMBER OF POWER POINTS,
PARTICULARLY IN THE KITCHEN;
- INSTAL AN EXHAUST FAN IN THE KITCHEN;
- PROVIDE BOUNDARY FENCING TO EACH HOUSE;
AND
- SEAL THE UNENCLOSED COVERED AREAS BENEATH
THE HOUSES TO PROVIDE AMENITY AND AVOID
PONDING.

53

4. THE LEVEL OF CYCLONE PROTECTION TO BE BUILT
INTO THE UPGRADED HOUSES IS APPROPRIATE TO
THE CIRCUMSTANCES.

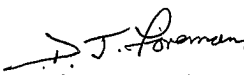
58

5. THE LIMIT OF COST ESTIMATE FOR THE WORK
REFERRED TO THE COMMITTEE WAS \$8.7 MILLION.
THE COST OF OPTION 4 IS \$12.2 MILLION. THE
COMMITTEE'S RECOMMENDATION THAT ADDITIONAL
UPGRADING WORK BE PERFORMED WOULD INCREASE
THE COST OF UPGRADING THE 148 HOUSES.

61-63

6. SUBJECT TO THE ADOPTION OF OPTION 4 AND THE
PERFORMANCE OF ADDITIONAL UPGRADING WORK THE
COMMITTEE RECOMMENDS THE CONSTRUCTION OF THE
WORK IN THIS REFERENCE.

68


(D.J. FOREMAN)

Chairman

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

8 October 1984

APPENDIX A

W I T N E S S E S

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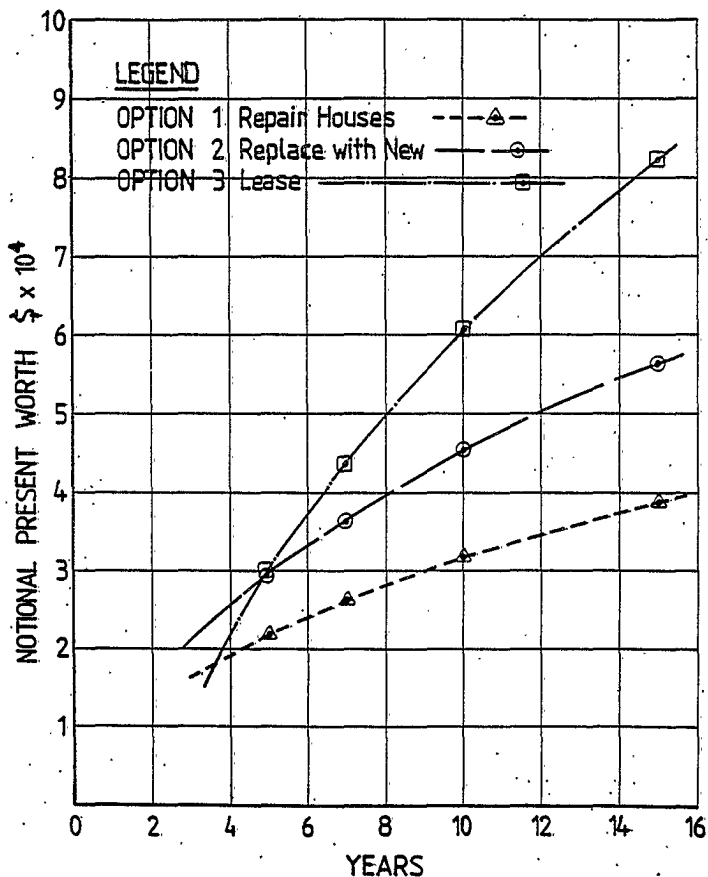
Letamendia, Mrs A.M., President, RAAF Women's
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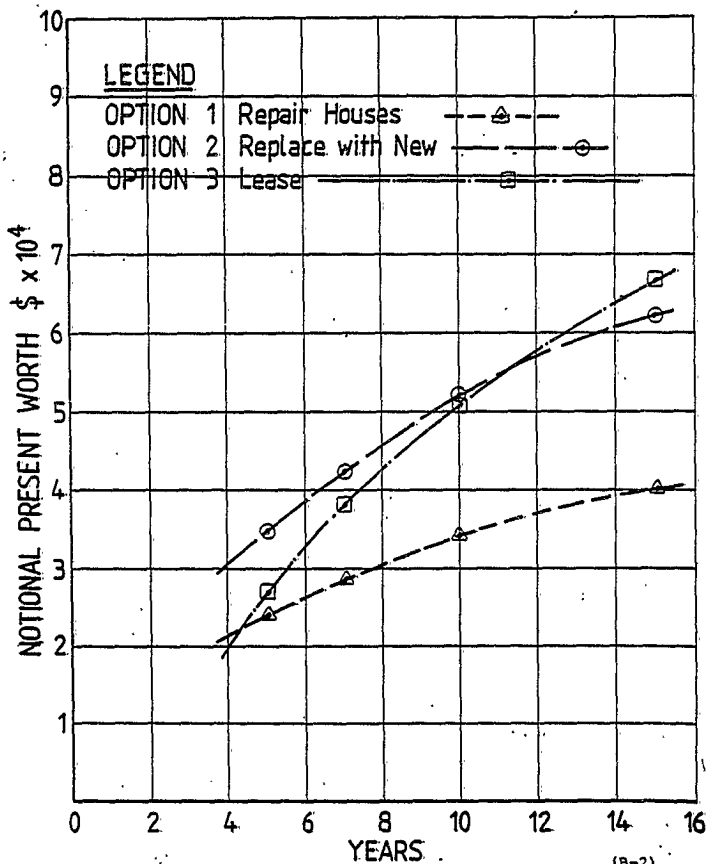
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PRESENT WORTH COMPARISON OF OPTIONS
AT INTEREST RATE OF 7%



PRESENT WORTH COMPARISON OF OPTIONS AT INTEREST RATE OF 10%



PRESENT WORTH COMPARISON OF OPTIONS
AT INTEREST RATE 15%

