



1972

 PARLIAMENT OF TASMANIA

 PARLIAMENTARY STANDING COMMITTEE OF PUBLIC ACCOUNTS

NEW TOWN RESEARCH LABORATORIES

DEPARTMENT OF AGRICULTURE

Laid upon the Tables of both Houses of Parliament on 2 November 1972

The Committee was appointed under the provisions of section 2 of the Public Accounts Committee Act 1970 (No. 54).

MEMBERS OF THE COMMITTEE

LEGISLATIVE COUNCIL

Mr Bisdee
Mr Gregory
Mr McKay

HOUSE OF ASSEMBLY

Mr Mather (Chairman)
Mr Corby
Mr Lohrey to 5 October 1972
Mr Baldock from 17 October 1972

WITNESSES EXAMINED

E. J. Martyn, Chief Entomologist, R. K. Eltham, Accountant, and W. J. Tréweek, Senior Clerk, Administration, Department of Agriculture, T. K. Cubbins, Assistant Chief Architect, and R. J. Shanks, Mechanical Engineer, Public Works Department, K. R. Irvine, Manager (Hobart), for Messrs W. E. Bassett and Partners Pty Ltd, Consulting Engineers.

REPORT

The Parliamentary Standing Committee of Public Accounts have the honour to report as follows:—

In the course of enquiring into over and under spending on appropriation items, the Committee learned in December last that while \$27,820 had been provided for electricity at the New Town Laboratories in 1970-71, expenditure was only \$12,819. This was revealed in a letter from the Acting Director of Agriculture, in terms which led the Committee to draw the inference that poor estimation by the Hydro-Electric Commission was responsible.

When evidence was heard in February 1972, it was found that the actual situation was more serious than mere over-estimation. Although the building had been occupied for some two years, heating and cool room plant had not been satisfactorily completed, and only limited use had been possible. The estimate had been worked out on the reasonable assumption that the plant would be fully operative during the year. Thus, what had occurred was under spending, rather than over-estimation.

The Committee inspected the laboratories on 7 March 1972. Eight cool or warm rooms had been provided with specified temperature ranges as follow:—

Room G12	....	....	....	....	....	....	....	....	....	60°–95°F
Room G13	....	....	....	....	....	....	....	....	....	60°–95°F
Room G14	....	....	....	....	....	....	....	....	....	25°–70°F
Room G15	....	....	....	....	....	....	....	....	....	25°–70°F
Room G16	....	....	....	....	....	....	....	....	....	25°–70°F
Room G17	....	....	....	....	....	....	....	....	....	40° minimum
Room G18	....	....	....	....	....	....	....	....	....	30° minimum
Room G19	....	....	....	....	....	....	....	....	....	0°–70°F

However, at the time of the visit, officers of the Department of Agriculture told the Committee that neither these rooms nor the building's heating system were operating. Research work had been delayed and the Department had been involved in costs for use of facilities elsewhere. At this stage the Committee's enquiry was interrupted by the dissolution of the House. When the new Committee was appointed, it was decided to complete the investigation, and for the benefit of the new Members, another inspection was arranged for 27 June 1972. On that occasion the heating system was found to be working.

It was stated that temporary repairs had been carried out. This work had been completed on 15 June at a cost of \$800 and was intended to provide heating for the winter, more costly alterations being required later to effect a permanent solution.

Some work had been carried out on the warm room, G13 and the cool room G18, and these rooms had been working for a period of some six weeks since the March inspection by the Committee. However, further problems arose, and the situation when the Committee returned on 27 June was that the plant still required completion.

In a subsequent letter to the Committee, the Director of Agriculture summarised the position at 30 August 1972:—

I wish to advise you that the heating system at the New Town Research Laboratories was returned to service on 15 June after temporary repairs had been effected.

Advice I received from the Director of Public Works on 9 May indicated that these temporary measures would be revised at the close of the heating season, but that the permanent solution would involve a considerable amount of rewiring and replacement of components which are at present unsuitable for the loadings imposed upon them.

The immediate need was to obtain heating of the building and the temporary repairs have achieved this. I must emphasise, however, that no request was made to the Public Works Department to balance the system because the temporary nature of the repairs that were carried out. There is still, understandably, considerable variations in the temperatures between rooms.

I would not consider that the question of the satisfactory operation of the installation could be answered until the proposed permanent alterations have been carried out, the system balanced and the unit operated under test for an appropriate period.

I have not received any official notification from the Public Works Department as to the date on which it is anticipated that the cool and warm room installation will be available for use by my Department.

I understand from my officers at New Town that repairs by White and McAllister were apparently completed about a week ago but that it was found that the drive shafts on two of the compressors were misaligned and that there was a leak in one of the pipes carrying the brine. I believe that these matters have now been rectified.

I have been informed that the Officer-in-Charge, New Town Research Laboratories, in his evidence to your Committee on 29 June, indicated that TCM Pty Ltd, were working on faults in the system on 19 June when White and McAllister closed the system down to enable work to be done in the Plant Room.

Work was recently recommended by TCM and yet another flooding with methylated brine occurred, this time in Room 17. A faulty pump was apparently stated to be the cause of the fault.

The brine was topped up and in the process it was found that one brine tank had not been turned on again after alterations had been completed by White and McAllister.

To my knowledge completion of required work and the running of the installation under test have not yet been carried out, so I am unable to comment on the outcome of the tests.

Despite repeated efforts on my part over a period of almost two and a half years, I have not been able to obtain satisfactory completion and operation of the mechanical services at New Town. The present situation would signify to me that neither the heating system nor the cool room installation will be operating satisfactorily for at least some months. Even after all necessary work has been completed I anticipate that a lengthy period will be necessary for running and adjusting the installations before satisfactory operation is achieved.

The cool room facilities are of course essential to a laboratory of this kind. The completely unacceptable delays which have occurred on this project are such that the Committee feel bound to report the circumstances to Parliament, even though work on the mechanical services has not yet been completed. It is intended to carry out another inspection when advice has been received that all plant is operating satisfactorily and, if necessary, to make a further report.

Evidence

The witnesses who submitted evidence to the Committee represented the Department of Agriculture, the Public Works Department, and the Consulting Engineers, Messrs W. E. Bassett and Partners Pty Ltd.

Cool and Warm Rooms

An account of the history of the installation of these rooms was provided by Messrs T. K. Cubbins, Assistant Chief Architect and R. J. Shanks, Mechanical Engineer, Public Works Department. They said that a consulting engineer located in Melbourne was engaged to prepare the design and documentation for the air conditioning of the cool rooms and also the associated thermal insulation, on 12 November 1965.

The appointment was influenced by a recommendation by the Director of Agriculture on 22 July 1965, in respect of the Huon Horticultural Research Station, Grove, Erection of Cool Store and Fruit Handling Shed.

The witnesses said that whilst this recommendation was in respect of the proposed station at Grove, in view of the concurrent requirement at New Town, the Department acted on the basis of that advice in considering that the same consultant should also design the research cool rooms at New Town.

From the time of the appointment until the end of July 1966, various draft specifications, drawings and estimates were received from the Consulting Engineer until final details and estimates were ascertained on 29 July 1966.

The complete project was deferred by the Department of Agriculture on 10 August 1966.

The Department was then requested by the Director of Agriculture on 24 August 1967, to proceed with the calling of tenders for the project and the tenders for the air conditioning and thermal insulation were advertised on 14 October 1967, and closed on 29 November 1967.

The nomination of the lowest tenderer for the thermal insulation sub-contract was quite normal and the building contractor was advised that Ray Taylor Pty Ltd were the selected sub-contractors on 15 January 1968.

In respect of the tender for the air conditioning of the cool rooms, the acceptance of same was, the witnesses said, not straight forward.

Only one tender was received for the work.

The Board of Tenders for Public Works referred the matter to the Chief Architect for the submission of a report and recommendation as the tenderer was not known to the Department.

On 1 February 1968, the Acting Chief Architect reported to the Board of Tenders for Public Works, that a check of the equipment offered by the tenderer revealed that this was considered to be satisfactory apart from the supply of three compressors which were not acceptable and would be required to be changed to another make which was acceptable to the Department. An additional cost of \$660 would be incurred.

However, enquiries were made by the District Architect North East and he advised that unconfirmed reports revealed that the financial position of the tenderer was not good. It appeared that accounts to the approximate value of \$1,200 had been outstanding for some time. It was also reported that he had carried out work for the Transport Commission at Launceston and as he could not obtain credit for the equipment the Railway Branch purchased same in order to get the work completed. The Tasmanian Trade Protective Institute also advised that an account to the value of \$580 had been outstanding against the tenderer since October 1967.

On the basis of the information received, the Acting Chief Architect recommended that the tender be passed over and that local offers be obtained for the work.

The Board of Tenders for Public Works, on 9 February 1968, referred the matter back to the Chief Architect to obtain a report on the technical and physical capacity of the tenderer. A report was also to be obtained from the Transport Commission on work undertaken for the Commission and a report from the Tasmanian Trade Protective Institute concerning his financial position.

The Chief Architect on 8 February 1968, reported to the Board of Tenders for Public Works that the tenderer's workshop, which was a timber shed about the size of a double garage, was not conducive to good engineering but the quality of condensers produced was quite good. Previous work performed by the tenderer at the Abattoirs and the Launceston General Hospital had been inspected by the Mechanical Inspector and the finished article and workmanship was good. A report from the Tasmanian Trade Protective Institute dated 7 February 1968, had advised that they could not recommend him as a tenderer at that time.

The Board of Tenders for Public Works directed that a letter be forwarded to the Main Contractor, South Eastern Builders, setting out the position concerning the tenderer and requesting advice if they would be prepared to come to an arrangement with him.

At a meeting of the Board of Tenders for Public Works on 15 March 1968, a letter was tabled from South Eastern Builders dated 14 March 1968, advising that they had investigated the tenderer's capacity to perform the contract as well as his financial ability to carry out major contracts and considered his standard of workmanship, capability of performance and capacity was satisfactory but his financial status was causing concern. The contractors requested an undertaking by the Public Works Department to indemnify them in the case of default or bankruptcy by the tenderer.

The Board of Tenders for Public Works directed that a meeting be arranged between South Eastern Builders, the tenderer and members of the Public Works Department to discuss the matter.

The Public Works Department said that a meeting was convened on 19 March 1968, with all parties concerned when all items were considered including doubts by South Eastern Builders that the system would perform satisfactorily if carried out in accordance with the specification and the financial position.

South Eastern Builders were informed that the Department would be responsible for any alterations to the system that were required and not covered by the documents, and that the Department could not give any undertaking to indemnify them in the case of default by the tenderer. If necessary, they would have to include such clauses in the contract between themselves and the tenderer to provide adequate protection.

Subsequently, South Eastern Builders Pty Ltd advised that they were prepared to enter into a contract with the tenderer for the work. On 22 April 1968, South Eastern Builders Pty Ltd and the tenderer were both notified of his selection as the selected sub-contractor for the Warm and Cold Rooms—Air Conditioning.

Immediately after the acceptance of the tender, the Department was notified, during a visit to the office by the person who designed the air conditioning plan, that he was no longer practising as a Consulting Engineer.

It was necessary, therefore, to appoint another Consultant and Messrs W. E. Bassett and Partners Pty Ltd were engaged on 26 August 1968, to supervise the installation of both the thermal insulation and also the air-conditioning of the cool rooms.

These consultants requested from the sub-contractor additional design criteria relating to the equipment being supplied for the air-conditioning on 25 September 1968, and these details were supplied on 13 December 1968.

However, W. E. Bassett and Partners requested on 28 October 1968, a design check to establish that the performance of the air-conditioning system would meet the client Department's requirements. This request was transmitted to the Director of Agriculture on 6 November 1968.

At a subsequent meeting between all parties concerned it was agreed that the tolerances on the performance of the plant could be increased to $\pm 5\%$ for relative humidity control.

As a result of this decision, the Consulting Engineers did not press for the design check; this information was confirmed in a memorandum to the Agriculture Department dated 15 November 1968.

Messrs Cubbins and Shanks said that during the period between January and November 1968, the installation of the thermal insulation to the cool rooms proceeded satisfactorily.

A variation covering relocation of doors and supply of a gas tight door was authorised on 14 November 1968.

In response to an additional requirement by the Department of Agriculture the Consultants were instructed on 29 November 1968, to prepare documentation for the installation of a controlled atmosphere system to the Cool Rooms.

A variation request to the builder was issued on 17 December 1968, to replace oregon door jambs in the Cool Rooms with 'rot proofed' radiata pine.

As a result of further details submitted by the air-conditioning contractor the consultants requested further equipment details on 17 December 1968, and these were supplied on 15 January 1969.

On 5 February 1969, the Director of Agriculture was requested to authorise additional funds to install return ducting in the cool rooms to increase efficiency of air distribution. This recommendation was initiated by the Consultants.

The Consulting Engineers confirmed on 18 February 1969, that the cool rooms would be 'set up' complete with controls as a test room for performance.

Comments were received from the Agriculture Department on 11 March 1969, concerning the proposed controlled atmosphere system and the appropriate specifications were received on 18 April 1969.

On 22 April 1969, the Consultants confirmed that the Supervising Architect had advised them that the floor slabs to the Cool Rooms had not been constructed as specified by the Thermal Insulation Contractor.

The Department indicated details concerning this defective work to the Consultants on 2 May 1969, clarifying that either no reinforcement had been provided or that which had was not to the specification.

Subsequent to discussions with the parties concerned the Department instructed the Main Contractor that the floor slabs were to be removed from Rooms G12, G13, G15, G16, G17 and G18 and replaced to the specification. Rooms G14 and G19 were to receive alternative treatment.

This was reiterated again after an independent opinion had been obtained from the C.S.I.R.O. After further discussions with the Department of Agriculture the Thermal Insulation Contractor was instructed to re-lay all floors to Specifications.

Pressure testing of the doors associated with the Thermal Insulation Contract was satisfactorily performed and the practical completion issued in April 1970.

Subsequent reports of faulty operation of the door screwing jacks were rejected by the Consulting Engineers as being damage due to careless operation on 15 December 1971.

The Director of Agriculture was advised on 28 May 1969, that quotations had been received for the controlled atmosphere system and that additional funds would be necessary. Authority for funds was issued on 6 June 1969.

The Public Works Department said that financial problems were evident in so far as the air-conditioning contractor was concerned during December 1969 as the main contractor accepted full responsibility in regard to payment for controlled atmosphere equipment being supplied by Wessberg and Tulander Pty Ltd.

This situation was subsequently repeated when on 7 May 1970, a legal firm representing the air-conditioning sub-contractor requested payment of money for completed works; this claim being rejected on the grounds of non-completion of contract.

The Consultants requested, on 17 March 1970, the main contractor to expedite the air-conditioning contractor to complete the works so that the Thermal Insulation Contractor could carry out appropriate tests.

Practical completion of the Building Construction was issued on 23 March 1970, with the exception of the air-conditioning of the Cool Rooms and replacement of certain defective doors.

The controlled atmosphere system was tested on 2 June 1970, and appeared to be satisfactory.

On 11 June 1970, the Consultants reported that the air-conditioning sub-contractor was not performing satisfactorily and on several subsequent occasions over the next four months this situation was again confirmed by the Consultants.

The main contractor was reminded of this non-completion of the air-conditioning contract on 13 October 1970, and instructed to expedite the progress of his sub-contractor.

On 23 November 1970, the Consulting Engineers recommended practical completion of the air-conditioning to the cool rooms with effect from 23 October 1970. They reported that the system had been in operation for some four weeks, apparently successfully, under the control of the Department of Agriculture.

Operating instructions and confirmation of operation were indicated to the Department of Agriculture on 1 December 1970.

The Public Works Department witnesses said that during April 1971, a copy of a memorandum from the officer in charge of the New Town Laboratories to the Director of Agriculture was received relating to operational problems of the cool rooms. This information was confirmed on 25 June 1971, in a memorandum from the Director of Agriculture.

A memorandum was sent to the Director of Agriculture on 5 July 1971, indicating that it was impossible to achieve final completion of the air-conditioning plant with the sub-contractor, and it was recommended that the contract be cancelled and a full design check be carried out to prepare documents for completion of the works.

In response to a request from the Minister for Lands and Works, a full report was issued concerning the complaints of the operation of the plant.

Apparently the plant was closed down on 4 August 1971, due to faulty operation and a memorandum from the Director of Agriculture of the same date requested investigation by the Department.

A letter to the Consultants dated 17 August 1971, instructed them to attend to the mal-performance of the plant and also confirmed that the main contractor had been advised on 16 August 1971, to take immediate steps to rectify the defects in order that the equipment might function correctly.

The builder reported on 20 August 1971, that he had received no previous complaints but would carry out further investigation.

On 24 August 1971, a memorandum from the Minister for Lands and Works to the Minister for Agriculture indicated, the witnesses said, the need for a design check.

Extensive correspondence was exchanged between the Department, the Consultants and the main contractor between August 1971 and January 1972, relating to the completion of outstanding items concerning the air-conditioning to the cool room.

During this period of time, the air-conditioning sub-contractor made infrequent visits to the site but no satisfaction was obtained and the contract not completed as required.

The Agriculture Department, on 20 January 1972, refused to authorise a design check until the outstanding works had been completed.

On 14 February 1972, a meeting was convened on site between the air-conditioning sub-contractor, the consultants and the department to determine the outstanding items to be completed to comply with the contract requirements. A subsequent meeting was held in the Department and final agreement reached on the outstanding work to be completed.

A letter dated 17 February 1972, informed the main contractor that unless this outstanding work was completed within fourteen days the Contract would be cancelled.

The statement by Messrs Cubbins and Shanks of the Public Works Department, of which the above is a summary, was prepared late in July 1972. They concluded by saying:—

These works were completed at the end of April, and further maintenance was arranged.

The Department also considered that further additional works should be incurred beyond requirements of the contract to ensure that the plant would then perform with greater reliability, although the limits of performance could not be guaranteed at this stage.

Quotations were invited and Messrs White and McAllister entered into an agreement to carry out the additional works on 15 May 1972.

A site check on 27 July 1972, has indicated that these works are practically completed, except for the delivery of vibration isolators from Melbourne for the compressor units. It is anticipated that these units will be in Hobart within two days and that the air-conditioning plant will be recommissioned during the week commencing 31 July 1972.

The Public Works Department made it clear that they considered the difficulties experienced with the cooling plant installation were primarily caused by the reluctance of the sub-contractor to complete his work:—

Failure of a sub-contractor to adhere to a contract condition can result in cancellation of the contract. We have on a number of occasions initiated this action, but to carry the action through is not so simple. To cancel a contract four weeks notice has to be given, and this is followed by legal opinion. Cancelling a contract has a lot of demerits. There is a certain long wastage of time whilst the contract is being cancelled

and a further wait while another set of documents are being prepared to complete the job. Although this process could have been used in this instance, I would not be prepared to say that there would have been any time saved. The fact that the contractor was not really financially sound and as such would obviously come under difficulties in obtaining supply of equipment without payment, which can delay a job tremendously was certainly a factor. I think his condition was fairly general. He was offered no credit and there were delays in equipment coming on to the site. I feel there are lot of circumstances around the installation which have in fact created delays together with the fact that we did have a change of Consulting Engineers for the supervision of the installation, which necessitated of great deal of work and checking being carried out by them in relation to the equipment that was being supplied in accordance with specifications. The contract seemed to be proceeding well to us. The situation was a difficult one in that the contractor mainly responsible for the delay with this work had a contract with the main contractor. Therefore, we did not have any direct control over him. If our Department did take any direct action, we would have had to cancel the whole of the contract with the builders. This is what we threatened to do in the finish. We were loathe to do this. I don't feel it is their fault. They got caught with him. They did protest in the first instance and things did not work out too well, but to cancel the builder's contract seemed to us to be most unfortunate.

A critical stage in the installation was reached on 23 November 1970, when the Consulting Engineers recommended practical completion of the air-conditioning to the cool rooms, with effect from 23 October 1970. In view of the difficulties which had occurred since that time, the Committee questioned Mr K. R. Irvine, Manager for Hobart, of Messrs W. E. Bassett and Partners Pty Ltd, the Consulting Engineers, about the justification for this recommendation. Mr Irvine said that the installation had been inspected in October 1970 in company with an officer of the Department of Agriculture and the sub-contractor:—

At that point of time the cool rooms were all apparently operating and had been maintaining satisfactory temperatures in accordance with the design, but we withheld our recommendation until 23 November to give the plant a further month to operate because of the trouble we had had with it, to make sure it was over its problems.

The Department had been asked at the time to let the Consultants know if any faults developed. No such notification was received and consequently the recommendation was duly issued.

Mr Irvine attributed some of the difficulties that have been experienced to laboratory staff. He said that the cool rooms were designed to operate with a working load of fruit, and should therefore have been operated throughout the twelve month warranty period under load. The controls were quite complex and though written operating instructions were given to the Department of Agriculture, they were apparently not used. In support of this suggestion, Mr Irvine said that some six to eight months after the installation had been taken over, the Department had asked for operating instructions, claiming that none had been received. The consulting engineers contradicted this, and following a search of files, two copies of the instructions had been found in different locations in the laboratory building.

Mr Irvine said that in such an installation, a single staff member should be responsible for running the plant. A trained engineer was not necessary, but merely a person who could remain familiar with the controls and become conversant with its faults and operation.

Messrs E. J. Martyn, Chief Entomologist and officer in charge at the New Town Laboratories, and W. J. Treweek, Senior Clerk, appeared as witnesses representing the Department of Agriculture. They outlined the problems that had been encountered with the cool rooms and gave examples of the correspondence that had flowed between their Department and Public Works. Mr Martyn took the position that the supervision of the installation and operating of mechanical plant had left much to be desired and that staff of his Department, as clients in the project, should not have been expected to take the lead in spotting and correcting faults. He said that he had encountered long delays when telephone complaints had failed to bring response from the Public Works Department. He attributed part of the problem to having had to deal with different officers of the Public Works Department on each occasion, rather than with a single person or office. When verbal approaches had failed, his procedure had been to advise headquarters, so that the Director of Agriculture would write to the Director of Public Works requesting action.

On 15 August 1972, Mr Martyn addressed a memorandum to the Committee which explained some of the effects of the delay on this project:—

Your Committee requested, during the taking of evidence on 29 June 1972, information on additional costs incurred by the Department of Agriculture as a result of the non-functioning of the Cool and Warm Room Installation at these laboratories.

Relevant information has now been compiled to meet this request.

Six major projects have been deferred because of the unavailability of the cool rooms. No attempt is made to place a monetary value on the deferral of these projects but it should be noted that they comprise industry-oriented research of direct application to the fruit industry.

These projects are—

- (i) Studies on Controlled Atmosphere Storage for Apples and Pears.
- (ii) Brown heart Development in Poly-lined Pears.
- (iii) Storage of 'Super-sized' Quality Fruit.
- (iv) Fruit Storage at a Range of Temperature.
- (v) Packaging Apples for South East Asian Markets.
- (vi) Berry Fruits Storage.

Direct additional costs relating to studies currently being carried out using other facilities are—

	\$
(i) Cool Storage Charges	860
(ii) Additional time—92-man days	1,850
(iii) Additional mileage—6,300	630
	<hr/>
<i>Total</i>	\$3,340
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In addition to these costs two commercial firms (Jones and Co., and Clements and Marshall Pty Ltd) have donated cool storage space for unitisation trials because of the unavailability of the Department's installation.

A large, cooling trial was transferred to C.S.I.R.O. facilities because of the malfunction of the cool rooms at the New Town Research Laboratories.

Heating System

As mentioned above, the heating system has been working since mid-June 1972, though further works are required. Messrs Cubbins and Shanks of the Public Works Department tendered a summary of the history of this section of the mechanical services. They said that Messrs W. E. Bassett and Partners Pty Ltd were commissioned as Consulting Mechanical Engineers for the abovenamed services in 1965.

A tender was accepted and the main contractor advised in January 1968.

Confirmation of the supervision of the installation of the heating and ventilation services was issued to the Consultants in the same month.

The witnesses said that apparently this contract proceeded satisfactorily without any unusual problems associated with the installation of the services to the practical completion stage.

In May 1969, the Mechanical Contractor reported that preliminary air balancing was delayed pending the connection of a permanent power supply.

At the completion of the mechanical services contract arrangements were finalised for the future maintenance of the services up to 31 December 1971.

In June 1971, a major failure of equipment associated with the heating system occurred involving defective elements, wiring and contactors. The cause of the failure proved difficult to isolate.

Although the contract for the installation of the services had been completed sometime before the failure the consultants were acquainted with the details.

On 29 June 1971, the consulting engineers furnished a report on their investigation in which they enumerated several possible areas of failure, and a subsequent site meeting was held between the Consultants and Public Works Department officers.

As a result of this discussion the consultants were informed on 20 July 1971, that although contract covering the installation of the services was complete, the mechanical contractor was prepared to rewire the system at no cost to the Department. Defective elements and contacts were replaced and those removed returned to the manufacturer for report. The heating was restored to service on 19 July 1971.

Subsequent correspondence passed between the consulting engineers and the Public Works Department concerning the further apparent unsatisfactory operation of the contactors and control circuit of the heating and ventilating system.

In a letter dated 20 October 1971, it was intimated that the Crown Solicitor would be consulted re recovery of costs incurred in replacing contactors and control systems after receiving the consultants' observations in this matter.

The consultants reported that no such failures had occurred during the twelve months warranty period and recommended certain site adjustments to the equipment.

These recommendations were checked and it was found that the consultant's suggestions were already incorporated.

However, the plant became inoperative again on 4 November 1971, owing to a failure of the wiring to the electric elements, this being similar in appearance to the first breakdown on 28 June 1971.

At a meeting on site on 17 January 1972, the consultants agreed that the failure could be due to defective wiring and the Department suggested that both the University and the Hydro-Electric Commission be approached to supply suitable instrumentation to determine the primary cause of the breakdown.

As a result of these further site investigations it was determined that the wiring associated with the contactors and the elements be replaced to comply with regulations.

The Public Works Department, in a letter dated 29 February 1972, to the consulting engineers requested that the works be carried out before the heating season commenced. The Department of Agriculture was advised accordingly.

Messrs Frigrite Air-Conditioning Co. were instructed on 9 March 1972, that owing to the failure of their previous works, the system was to be rewired again.

The consultants informed the Public Works Department on 24 March 1972, that Frigrite refused to carry out these works.

On 12 April 1972, the Director of Agriculture asked about the position concerning rectification of the faults. This enquiry was again reiterated on 2 May 1972. The Public Works Department wrote to the Consulting Engineers on 9 and 11 May 1972, and indicated that works would be put in hand to correct the situation; the cost being charged to their account. This action had been decided after discussion with Crown Counsel and the Department of Agriculture was advised and requested to authorise \$800 for the necessary repairs. Authority was received on 12 May 1972.

A subsequent meeting was convened between the Consulting Engineers and the Chief Architect when it was agreed that the former would inspect the site again and forward a complete detail of all works they considered necessary to restore the system to satisfactory condition.

This information was received on 19 May 1972, and quotations immediately obtained for the necessary corrective works.

An agreement was signed on 23 May 1972, with contractors and the repairs completed on 14 June 1972 when the consulting engineers were invited to inspect the system again to certify their satisfaction.

This inspection was carried out on 16 June and the heating and ventilation services restored to operation on the same day.

Messrs Cubbins and Shanks said that the plant has apparently operated satisfactorily since 15 June 1972, and the Consultants were advised on 26 July 1972, that the cost of the works would be charged against their account.

Mr K. R. Irvine, representing Messrs W. E. Bassett and Partners Pty Ltd, the consulting engineers, said that breakdowns in the heating plant had not been caused by poor design, but by wiring that was not in accordance with regulations. He explained that wiring for such a project is not specified precisely, but that a clause in the contract requires the contractor to provide wiring which complies with regulations and other appropriate standards. He said that the heating services had operated well at first and that neither his firm nor the Hydro-Electric Commission inspectors had detected sub-standard wiring before the first breakdowns occurred.

CONCLUSIONS

Despite the fact that over two years have elapsed since the New Town Laboratory building was occupied it is not possible to say that finality has been reached with the mechanical services. Whatever difficulties may have been encountered, the Public Works Department is responsible for seeing that the requirements of client departments are met. This Committee take the view that the use of contractors and consultants does not absolve the Public Works Department from overall responsibility.

Because of breakdowns in the operations of both the cool rooms and the heating services, it was clear that there were problems in the installation. It was inevitable that there should be some delays. However, in

a case like this, where the client department turns to the Public Works Department, the delays will be intolerably long if the latter fails to take the most active part. The Committee accept the evidence from the Department of Agriculture witnesses who said that there had been frequent communication at all levels from their Department to Public Works. On the other hand, from the State's point of view, the Public Works Department appears to have relied too heavily on the consultants.

It is recommended:—

1. that as a matter of urgent priority, the mechanical services be brought up to the required standard;
2. that the Public Works Department supervise closely the maintenance of plant, at least initially;
3. that the Department of Agriculture designate an officer employed at the Laboratories as responsible for the operation of the cool and warm rooms and also the heating system; and
4. that the Public Works Department develop improved procedures for supervising such installations in future projects, for dealing with complaints, and for instructing client departments in the methods of operation.

Ministerial Party Room,
Parliament House,
HOBART, 23 October 1972

R. MATHER, Chairman.