

Minutes of the Second Meeting of the Heating and Cooling Sub-Committee held in the Board Room, Council for Scientific and Industrial Research, Second Floor, Block 1, Visagie Street Government Buildings, Pretoria, on Thursday 27th November, 1947.

Present:

- Dr. Roux - Chairman.
- Mr. Connell - Organising Secretary.
- Mr. Jennings - Director (National Building Research Institute).
- Mr. Scott.
- Dr. Meaker.
- Mr. Swart.
- Mr. Hussey.
- Mr. Mossop.

In Attendance:

- Mr. J. Delpont.

An apology was received from Mr. Cowin.

The Chairman, on opening the meeting welcomed as a full member of the Committee, Mr. C.L. Scott who had agreed to act as honorary consultant to the Council for Scientific and Industrial Research on Solid Fuel and solid fuel appliances. He felt that Mr. Scott's experience on many of the study committees dealing with the problem of heat services in connection with the post-war building programme in Great Britain, would be of great benefit to the committee.

He also welcomed Mr. Hussey, whose services were especially appreciated in view of the fact that he was a practising Architect and thus had little time at his disposal. Mr. Swart from the S.A. Bureau of Standards who attended instead of Mr. Buchanan was also welcomed.

1. Confirmation of Minutes:

- (a) Agreed to delete the word "solar" where it appears in the fifth line of the last paragraph on page 2, as well as in the sixth line of paragraph (b) on Page 3.
- (b) The action of the Organising Secretary in postponing the meeting was ratified and it was agreed to change the date of the meeting where it appears on Page 4, accordingly.

The minutes were then confirmed and signed by the Chairman.

2. Matters arising out of Minutes:

It was noted that this Committee would serve the dual function of serving both the S.A. Bureau of Standards and the Research Committee on Minimum Standards of Accommodation.

Terms of Reference:

After discussion it was agreed to amend the terms of Reference to read as follows:

"To serve as a joint Sub-committee of the Research Committee on Minimum Standards of Accommodation and the S.A. Bureau of Standards:

1. "To examine (a) the conventional types of dwelling in use in South Africa with special reference to the factors of insulation of the enclosing walls, roof and floor;
(b) artificial means of heating;
(c) the maintenance of cool conditions within the house in the hotter parts of the country;
(d) the effects of solar radiation and any other factors effecting the heating and cooling of dwellings in South Africa.
2. "To discover where the conventional types of dwelling fall short in these respects and to make recommendations for the improvement of the standards commonly in use at the present time;
3. "To seek to define the minimum provision for heating and cooling required to conform with the requirements of health and comfort in various parts of the Union;
4. "To prepare a report on the Sub-Committee's findings for submission to the Main Committee".

3. Progress Report and Work Programme:

The above, listed as separate items on the agenda were dealt with simultaneously.

(a) Legislation:

Mr. Connell reported that he had made extracts from building by-laws, itemised under each of the nine sub-committees. The existing legislation governing this committee's subject actually referred to the ventilation of buildings and would be dealt with by the appropriate sub-committee.

On a suggestion from Mr. Scott, Mr. Connell agreed to extract information on the restrictive clauses contained in the legislation under review.

(b) Research Work:

The Chairman gave an outline of the Research work which was being carried out by the National Building Research Institute. He asked the opinion of members on the degree of detail to which he should go in preparing his report.

After considerable discussion the committee felt that the

Chairman/.....

Chairman's report should not be in the form of a highly technical paper, but should contain information easily digestible by the layman, i.e. a set of simple empirical rules giving a general idea of the important factors, and pointing out what other factors could be neglected. The Chairman pointed out that it would be no easy matter to do so. It was then agreed that the Chairman submit a brief report on the research work as a basis for discussion at the next meeting, trying to see whether the available information could be passed on to the public in a simple form.

(c) Physiological optimum:

Dr. Meaker said that he had gone into the question in detail and had prepared a typewritten report of 50 pages. This was handed to the Committee clerk, with a request that it be roneed and circulated to members before the next meeting.

Dr. Meaker had spoken to Dr. Anecke, an expert on the malarial areas of Northern Transvaal and suggested that the sub-committee approach him for his views on the construction of dwellings in these areas.

The committee unanimously passed a vote of appreciation of the very good work Dr. Meaker had done, and the Chairman expressed his regret that he would be leaving Pretoria in the near future.

(d) Survey of existing practices etc.:

Mr. Hussey pointed out that time did not permit of actual case studies, but that he had in mind to approach the problem from a practical viewpoint, because architects did not as a rule go to research in order to discover where conventional dwellings fell short. For the purpose of the interim report he felt that standards could only be laid down for a maximum of ± 2 years.

Mr. Hussey then explained how he anticipated tackling the problem. The report for this committee would be combined with the report for the Ventilation sub-committee, stressing present practice in other countries and regionally in South Africa only.

- (1) A "Critique" of existing legislation which, he stated had no connection with comfort.
- (2) Building controls and their effects on practice. Mr. Hussey pointed out that most builders had no conception of comfort conditions. The effects of the availability or otherwise of certain building materials had far reaching effects.
- (3) There were many examples of local authorities disregarding their own restrictions.
- (4) There existed a very small number of Architects and builders who made comfort their main object. A study of interesting examples of their work which deserve comment, would be valuable.

(f) A/.....

- (5) A general assessment of conditions in common practice, and indicating lines of improvement.

The Chairman said that a report of that nature would no doubt be of great value; it appeared that the main difficulty was to be able to give a simple answer to what constituted a "comfort condition".

Mr. Jennings asked whether Mr. Hussey would consider Native housing in addition to that of Europeans and thought that Mr. Connell could greatly assist.

- (e) Mr. Mossop reported that he had gathered a vast amount of information on Thermal Conductivity, and to some lesser extent on Specific Heat and Emmissivity of walls.

It was agreed that Mr. Mossop would discuss the information gathered with the Chairman, and that he would then prepare a report in some form for criticism by members.

- (f) Study of the various types of heating system:

Mr. Swart, stated that he had not yet prepared a report, but he had prepared a list of references. He thought it best that the information be collated and brought into such a state that Mr. Connell could incorporate it in the full report. Different heating systems would be studied in conjunction with comfort.

The matter was discussed and it was agreed

- (a) That Mr. Swart study and report on Electrical Heat Appliances, and
(b) That Mr. Scott study and report on solid fuel appliances.

General.

New Memberships.

Dr. Meaker suggested and it was agreed that Capt. Cheetham, S.A.M.C. be invited to become a member of the committee with a view to assisting with the physiological data.

Agreed that Dr. Meaker remain on this Committee, and all other sub-committees on which he has been sitting, as a corresponding member.

The Committee noted that the report should be completed by April 1948 for submission to the Main Committee.

The next meeting was determined to be held on 21/1/1947 at 9.30 a.m.

The meeting terminated at 11.15 a.m.

Confirmed,

C H A I R M A N.

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