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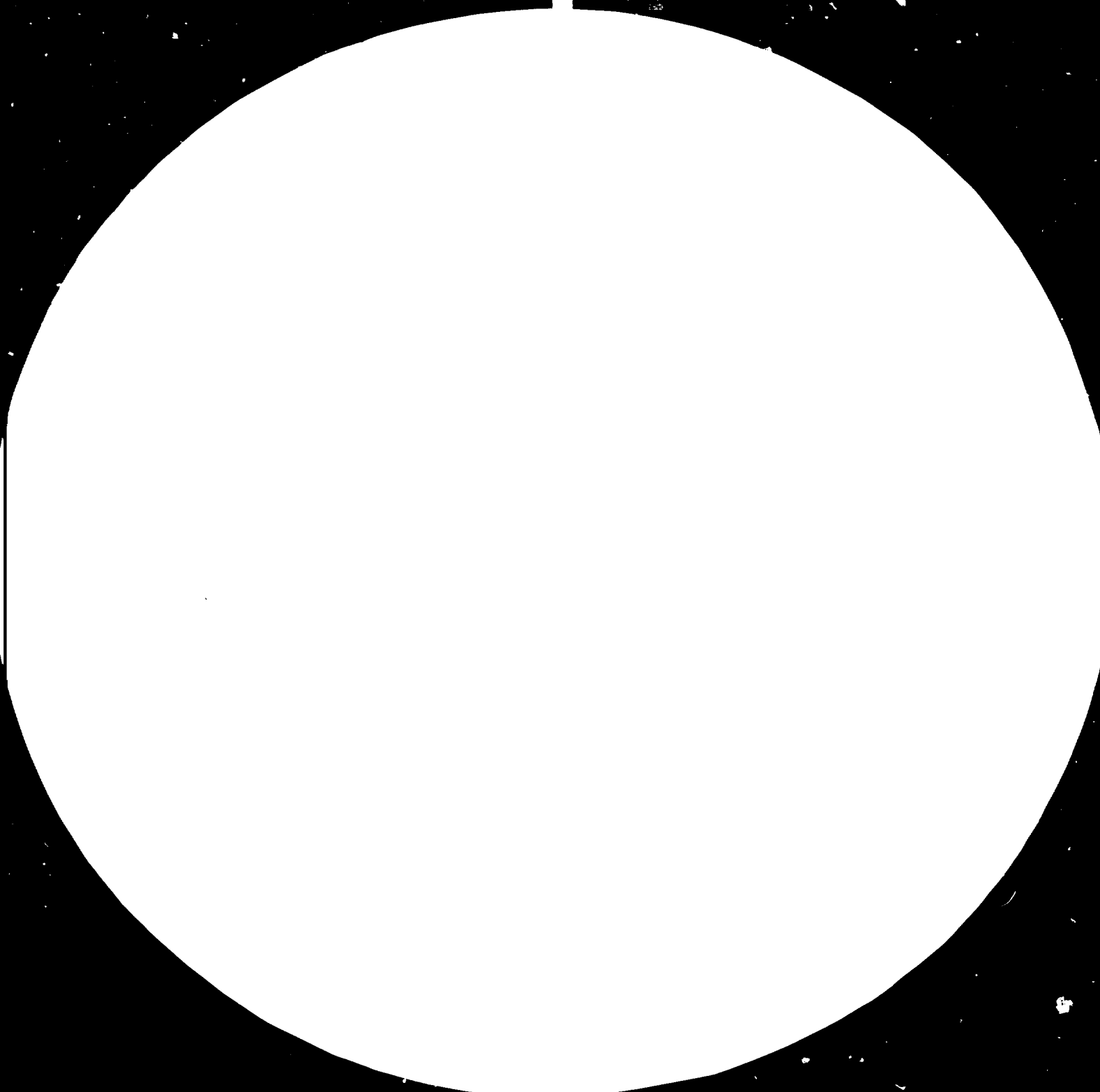
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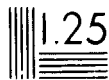
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STANDARDIZATION, QUALITY CONTROL AND QUALITY CERTIFICATION

IN THE

IRON AND STEEL INDUSTRY

BRAZIL

FINAL REPORT

BY

NORMAN BURNETT
UNIDO Expert

in

Special Steel Structures

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1. INTRODUCTION

1.1 This Report summarizes the work carried out by the Expert during a two month Contract from 20th October 1982 to 19th December 1982.

1.2 There was no necessity for a preliminary Report setting out a plan of work for this Short Contract, due to the fact that the Expert had previously worked on the Project for on eighteen month Contract which only terminated in February 1982.

1.3 He was therefore, already familiar with the aspects of the Project relevant to his special field and after discussion with the Project Manager, it was clear that the work was in reality, a continuation and development of that on which he had previously been engaged.

1.4 This work is described in the Expert's Final Report, reference 11.04/17/R-608 dated 1st February 1982.

2. COMMENTS ON EXPERT'S WORK

2.1 During the Expert's absence from the Project, comments were received on two of his Technical Reports.

On returning to the Duty Station, the Expert drafted replies to these comments.

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3. TRANSLATION OF EXPERT'S WORK

3.1 During his previous Contract, the Expert prepared five Technical Reports on various aspects of analysis and design in structural steelwork.

3.2 Two of these have already been translated into Portuguese and the Expert in conjunction with the Project Manager has now arranged for the translation of the remainder.

3.3 The translations are being undertaken by Brazilian Engineers from the Structural Steelwork Industry, which is good, because it is essential that the translator understands the technical content in order to convey the true meaning.

3.4 Following completion of the translations it is intended that these will be edited and published by INMETRO.

4. BRAZILIAN MANUAL OF STEEL CONSTRUCTION

4.1 The Draft of this document has been prepared by three Consultancy Organizations in Brazil and AÇOMINAS (The Company who will be responsible for producing profiles for structural steelwork) are currently editing it.

4.2 One particular area of concern to them was that of connections in structural steelwork and at their request the Expert undertook a complete review of the existing material on this subject.

4.3 A detailed Report was prepared giving recommendations for re-arranging the existing work in a more logical and rational manner.

4.4 The Report also included suggestions for curtailing the large volume of material and an evaluation of many of the Tables.

4.5 This work was carried out over a three week period which the Expert spent in the AÇOMINAS office, in Belo Horizonte, working with their Engineers.

5. STRATEGY FOR PROMOTION OF STEEL

5.1 While working in the AÇOMINAS office, the Expert, at the request of the Project Manager, prepared a short Report summarizing various points to be considered in the promotion of steel for the Construction Industry.

6. BROCHURE FOR FACTORY/WAREHOUSE BUILDINGS

6.1 During the time spent in the AÇOMINAS office, it was suggested to the Expert that they would like assistance in producing a Brochure on the analysis and design of single storey buildings for use as factories for light industry and warehouses.

6.2 On his return to the duty station the Expert discussed the matter with the Project Manager, and it was agreed that due to the short time available within the Expert's Contract and due to other commitments on the Project, it was not possible to undertake this work.

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6.3 However, it was agreed to provide AÇOMINAS with a few notes and recommendations of what should be included in such a Brochure and this the Expert did.

7. FIRE SAFETY CODE FOR BUILDINGS

7.1 There are three committees in Brazil separately currently studying and commenting on a Draft Code prepared through a UNIDO Contract with the Fire Research Station in England.

7.2 A representative from INMETRO is acting as a co-ordinator for the preparation of comments to be sent to the Fire Research Station.

7.3 The Expert was able to assist by providing a true English translation of the comments.

8. BRAZILIAN CODE FOR STEEL BRIDGES

8.1 A first draft of this, prepared by Chapman & Dowling from England through a UNIDO Contract, was received in Brazil at the beginning of November, 1982.

8.2 It is proposed that UNIDO/INMETRO set up three committees (as in the case of the Fire Safety Code) to study and comment on the document.

8.3 Following a discussion between the Expert and the Project Manager, it was felt that it would be useful if the Expert prepared some initial comments in advance of the committees being organized.

8.4 As many as possible of the Chapters were studied in detail by the Expert during the time left available in his Contract.

8.5 A number of comments have been prepared and sent to Chapman & Dowling for their consideration.

9. LIST OF DOCUMENTS

9.1 A list of documents prepared by the Expert during this Contract is given in Appendix A.

9.2 It should be noted that the reference numbers are a continuation of those for the work undertaken on his previous Contract.

10. CONCLUSION

10.1 Most of the observations and recommendations made by the Expert in the Final Report of his previous Contract (already referred to in the Introduction) are still valid and it was felt that they need not be repeated here.

APPENDIX ALIST OF DOCUMENTS

<u>Reference</u>	<u>Title</u>
11.04/18/R-665	MBCM - Draft - Review of Work on Connections
11.04/19/R-666	Strategy for Promotion of Steel
11.04/20/R-667	Report of Visit to Açominas offices - Belo Horizonte 4th to 24th Nov. 1982
11.04/21/R-700	Notes on a Design Brochure for Factory or Warehouse Buildings
11.04/22/R-702	Comments on Draft Brazilian Code for Steel Bridges.
11.04/23/R-703	This Report

