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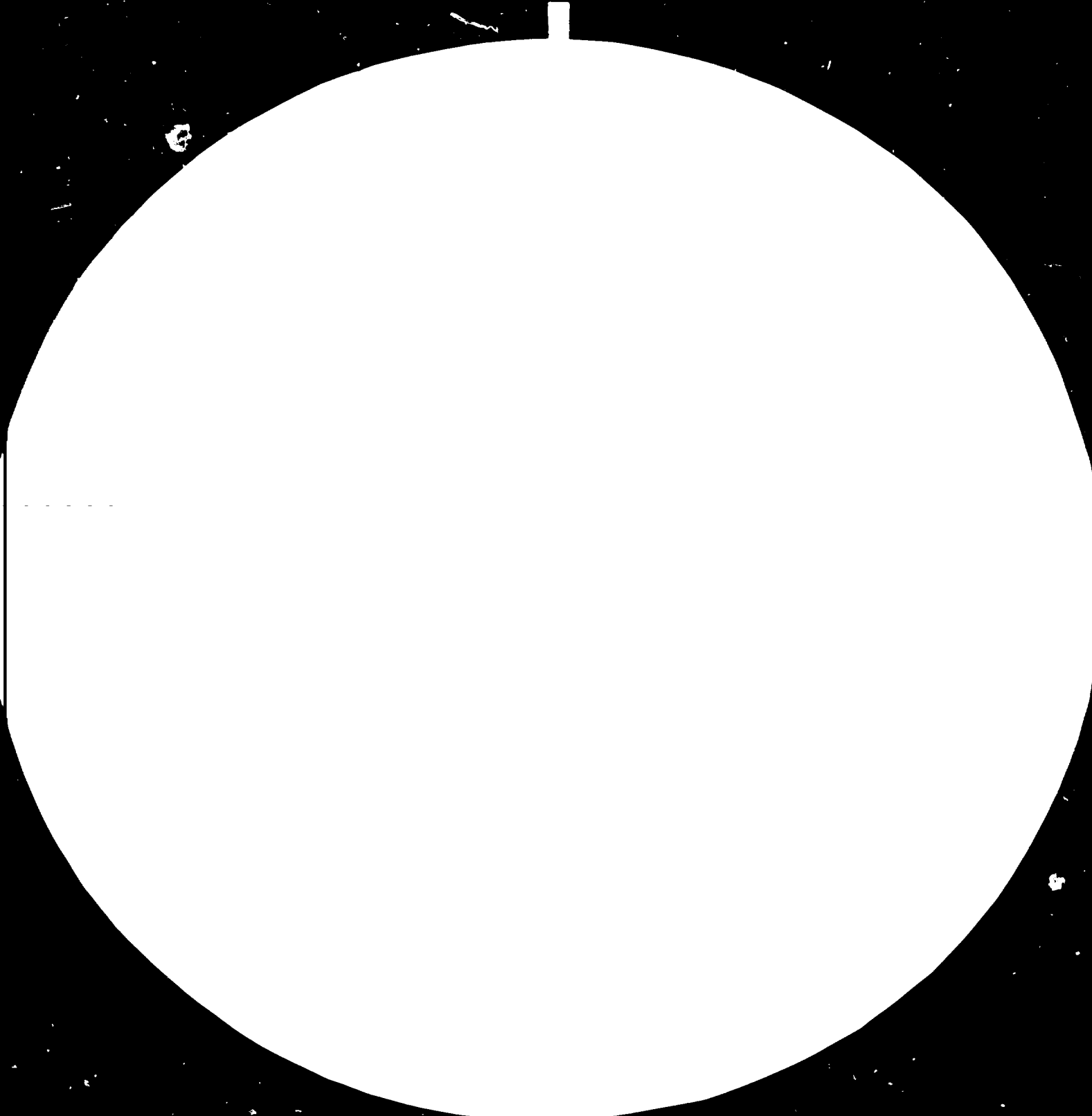
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STANDARDIZATION, QUALITY CONTROL AND QUALITY
CERTIFICATION IN THE IRON AND STEEL INDUSTRY

Brazil

Final Report

by

G. W. DOOLE

UNIDO Expert

in

Quality Certification

INTRODUCTION

The 3 month project commenced with my arrival in Rio de Janeiro on 9th January 1983. My task was to assist the work of project UNIDO/BRA/75/003 by advising on Certification and Accreditation schemes which INMETRO - the national body for Metrology, Industrial Standardization and Certification of Quality - planned to operate as part of its work programme.

The job description supplied prior to my appointment to the project defined my duties on:

- 1) To assist in the development and implementation of the national certification and quality programmes;
- 2) To establish and implement training programmes on quality certification.

In his introduction the Project Manager described the position of INMETRO within the Brazilian standardization and metrology fields and indicated the legal status of the organisation and its links with other bodies such as ABNT (the National Standards organisation) and CONMETRO. I was introduced to my INMETRO counterpart, Mr. João Carlos A. da Silva and, after initial discussions concerning the current state of developments within the Department of Industrial Quality of INMETRO, a project plan was developed for the following 3 months. This plan was detailed in my Preliminary Report (Doc. nº 11.18/01/R-715-83) which was prepared with the agreement of both my INMETRO counterpart and the Project Manager.

It was decided that the duration of the project was not sufficient to allow training programmes to be conducted in accordance with the original job description. Instead, emphasis was to be placed on preparing the basic scheme details for Accreditation schemes for Laboratories and Inspection Agencies and the Certification scheme for Conformity Marking. Guidance on the implementation of

these schemes together with recommendations on training requirements were to be provided at the end of the project.

THE PROJECT PLAN

The objectives set for the project were to develop a coordinated system of Certification and Accreditation Scheme criteria with associated documentation describing their use and implementation. The aim was to prepare all three sets of criteria based on the common philosophy of an orderly Quality Management System which would require the development of Quality Manuals by companies wishing to operate under Accreditation or Licensing schemes. The use of these manuals would allow INMETRO to more closely monitor the situation in these companies by means of routine inspection visits.

The training needs of INMETRO were to be examined and suggestions made regarding how these needs could be met. It would also be necessary for INMETRO to provide training for assessors from the Inspection Agencies and guidance was also required on the type and form of training required.

ACTIVITIES

In developing the project plan an analysis was made of the current situation with regard to the existing INMETRO Accreditation and Certification Schemes. At the time of commencement of the project one laboratory had been accredited and 6 manufacturers licensed to use the INMETRO logo for Conformity Marking against n^os. 6743/4 and 5. These companies had been assessed against the existing criteria which were considered due for revision, and plans had been made to complete this by 31st March.

Current documentation provided little information to the company which was to be subjected to assessment. The only explanation of the criteria was in the form of an inspection manual to be used by company assessors. This document also included a 'score system' by which to evaluate companies. However, use of this system had shown it not to be effective and INMETRO were looking for an alternative method.

In early discussions with my counterpart it was agreed that we would adopt a common approach to the 3 schemes. It would be necessary to provide more information to the companies in the form of explanations to the criteria to allow them to prepare the basis of their Quality Management Systems. In addition, the assessors would require a guidance document on which they could base their evaluation of the company. For each scheme, therefore, we intended to produce 3 documents

- i) Scheme Criteria
- ii) Guidance Notes to the Criteria
- iii) Inspection Aids for Company Assessment.

The manner in which this was achieved for the 3 schemes is as follows:

I. INSPECTION AGENCY ACCREDITATION SCHEME

It was not considered necessary to Accreditate Inspection Agencies in the early stages of development for the schemes and, consequently, the documentation associated with the aspect of the work was not very advanced. Using the basic philosophy we had agreed upon together with a view to CERTICO's work on the subject I prepared the criteria for the scheme. After detailed discussions with my counterpart we agreed the final format of the criteria to be presented to his INMETRO colleagues and I subsequently prepared the guidance notes and inspection aids. During the course of this work

it was apparent that there was a need to define the qualifications and experience of Inspectors to be employed by the Agencies. This topic formed the subject of a separate paper which also included the need for training of assessors by INMETRO personnel.

II. LABORATORY ACCREDITATION SCHEME

INMETRO had recently revised the documentation for this scheme and had used ISO Guide 25 as a basis. It was more profitable, therefore, to limit my work to commenting on their current proposals and providing suggestions for additional criteria. After agreement on the proposed modifications to their document with my counterpart I redrafted the criteria into our established format and prepared the associated guidance notes and inspection aids.

III. CONFORMITY MARKING CERTIFICATION SCHEME

Whilst this scheme was working in practice it was apparent that the documentation did not adequately represent the situation. The companies holding licenses were using Quality Manuals in their presentation of information to INMETRO but this was not an established requirement of the scheme. The pre-license questionnaire issued to applicants contained 38 requirements and, using this as a basis together with the British Standard for Quality Management Systems BS 5750 part 1. I prepared a set of criteria in a similar format to that used for the Accreditation schemes. The accompany guidance document was also produced.

The concept of using assessment teams for company evaluation was suggested as one way of achieving a uniformity of approach between assessors. In addition this could allow areas of assessment requiring

specialist skills to be undertaken by established experts in the field and also provide a means of training new assessors. Documents concerned with the use of specialist assessors together with a description of assessment procedures were produced as part of the implementation guidance associated with the Conformity Marking Scheme.

In addition to examining the 3 areas of Accreditation and Conformity Marking the INMETRO certificate system was examined and comments made concerning its use.

The training needs of the Industrial Quality department were examined and recommendations made as to the most effective way of providing this training and increasing the level of experience of members of the department.

A list of documents and reports prepared during the course of the project is included in Appendix I.

RECOMMENDATIONS

My proposals for the modification of existing documentation associated with the schemes operated by INMETRO have been made in the various papers produced during the course of the project. My understanding is that the final drafts of the criteria prepared with the agreement of my INMETRO counterpart will be translated into Portuguese for implementation after final discussions with his INMETRO colleagues.

Three points associated with other areas of my work that I fell require emphasis are:

- 1) Consideration should be given to producing a general set of regulations for the Conformity Marking Scheme rather than the current system where by minor changes are made to the

regulations for each scheme which is developed.

- 2) The Certificate Conformity Scheme should not be used as a form of official 'type test' certificate as this will eventually conflict with the aims of the Conformity Marking Scheme.
- 3) INMETRO staff will need to obtain experience of company assessments as a matter of urgency and, to save time, it may be advisable to gain some of this experience overseas, in countries where there are established Inspection Agencies operating Certification Schemes. Training within Brazil should concentrate on developing a practical awareness in INMETRO staff of quality control techniques within Industry. Secondment of staff to selected companies where they can work with the practical problems facing contemporaries in industry would achieve this objective and also develop their capability at communicating with all levels of factory management.

CONCLUSIONS

The development of Conformity Marking Schemes in Brazil is just beginning and the crucial period will be the next 5 years, during which time INMETRO must establish a reputation for the integrity and accuracy of their work together with a professional approach to product certification. The work they have done so far indicates that they appreciate the need for caution during this early stage in their development.

The time has arrived when INMETRO have to finalize their proposals for Accreditation and Certification Schemes and explain these schemes to both manufacturing industry and the consumers. Further changes to the schemes should only be made in the light of experience obtained through practical operation of these schemes. To develop this

experience a steady planned growth is required. Government assistance in identifying priority areas for certification schemes and adjustment of its purchasing policies to accept only certified products in those areas will help INMETRO to govern the pace of its growth. Too rapid a development with the current level of experience would not be advisable.

Acknowledgements

I would like to express my sincere thanks for the assistance provided by my INMETRO counterpart, the UNIDO Project Manager and the staff of project BRA/75/003.

APPENDIX I

DOCUMENTS PREPARED FOR PROJECT BRA/75/003

QUALITY CERTIFICATION

1. Project Plan
2. Comments on INMETRO Inspection Criteria
3. Draft proposals for Criteria for the Accreditation of Inspection Agencies
4. Comments on INMETRO Laboratory Criteria
5. Comments on the INMETRO Regulations for Conformity Marking
6. Comments on the INMETRO Certificate of Conformity System
7. Guidance Notes for the Criteria for the Accreditation of Inspection Agencies
The guidance notes are intended to explain the requirements of the criteria (doc. nº 3) in more detail.
8. Inspection Aids for the Accreditation of Inspection Agencies
This document is provided as a guide to assessors when examining the capability of Inspection Agencies and is complementary to doc. nº 7.
9. Guidance Notes for the Criteria for the Accreditation of Laboratories
These guidance notes provide a more detailed explanation of the Laboratory Accreditation criteria (doc. nº 11).
10. Inspection Aids for Laboratory Assessment
This document is to provide guidance to Laboratory assessors when examining the capability of Laboratories seeking Accreditation from INMETRO. It is complementary to doc. nº 9.
11. Criteria for Laboratory Accreditation
After discussion with my INMETRO counterpart this document has been prepared as representing our combined views. At this point in time the document is part in Portuguese and part in English. INMETRO's intention is to produce a document in 2 languages - Portuguese and English.
12. Technical Assessors for Laboratory Accreditation and Conformity Marking Inspections
13. Requirements for Qualifications and Experience of Inspectors
14. Pre Licence Company Assessment Procedures
15. Criteria for Conformity Marking Scheme
16. Guidance Notes for the Criteria for the Conformity Marking Scheme
17. INMETRO Industrial Quality Department Training Requirements
18. Final Report

