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BANGALORE - 560 037.

No.CEMILAC/5390

Dated: 3 Jan 2001

AIRWORTHINESS DIRECTIVE: 4

Sub: Certification of Metallic Materials/Mill Forms and Castings/Forgings.

Introduction

Metallic Materials are being indigenised through different RCMA's. The procedure adopted for indigenisation by different RCMA's were reviewed by CEMILAC and found to be varying from Centre to Centre. The uniformity of certification is an issue of serious concern. The RCMA (Materials) and RCMA (F&F) are the primary work centres dedicated to development of Metallic materials/ Mill Forms and Castings/Forgings etc where as all other RCMA's have different objectives and these are denoted as user RCMA's.

The following Airworthiness Directive is therefore issued to clearly delineate the functions of RCMA's dedicated to certification of Metallic materials/Mill Forms and Castings/Forgings from that of user RCMA's.

5390

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End-①

1). Case - 1: Material for Indigenisation:

a). Where, specification details and Production Acceptance Test requirements are available. Example GOST, Rolls Royce & Turbomeca Specifications.

b) End Component is clearly identified.

1.1) All User RCMAs can process the materials intended for Class 'B' components.

1.2) Raw Material (ingredients that are used as a charge to the furnace) issue need not be addressed in indigenisation of Class 'B' and Class 'C' Components. Continued adherence to the standard of component should be taken care of by the test schedule given by user RCMAs.

1.3) Ingots/Mill Forms could be processed by the user RCMAs to meet the requirements of the particular end product.

1.4) Scope and extent of evaluation will be to meet requirements of the particular end product.

1.5) Approval will be "END SPECIFIC" and not generic "MATERIAL APPROVAL".

1.6) Type approval will also be "SPECIFIC TO END APPLICATION".

1.7) A copy of the provisional clearance given by the user RCMA, to be sent to RCMA (M) along with a copy of test procedure.

1.8) RCMA (M) to forward comments on PC and allied documents within 15 days of receipt of PC.

- 1.9) It is mandatory for the user RCMA to amend the PC whenever necessary by incorporating the views of the RCMA (M) before taking up the case with CEMILAC for issuance of Type Approval. The amendments to PC to be restricted to Class 'A' and Class 'B' components only.

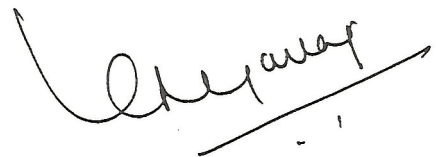
2) **Case – 2: Development of New Materials:**

- 2.1) Processing of certification of all new materials and Class 'A' (Critical) Castings/Forgings and Mill Forms to be done only by RCMA (M)/RCMA (F&F).
- 2.2) If however new materials are taken-up for development at locations of user RCMAs, these can be processed for approval by user RCMAs subject to views of RCMA (M) or RCMA (F&F) as the case may be, being obtained in finalising the type test schedules. Whenever necessary, representatives of RCMA (M) or RCMA (F&F) to visit the user RCMAs for finalising the Test Schedules of such materials. During development of new materials deviations could be expected to the agreed test procedure and iterative cycles cannot be ruled out. All the deviations in the above cases should be referred to RCMA (M)/RCMA (F&F) and views should be obtained and incorporated.
- 2.3) In such cases described in para (2.2) all the follow up actions in indigenisation of materials subsequent to finalisation of Test Schedule, to be completed by the user RCMAs.

Encl-3

3) CASE - 3: Other Cases:

- 3.1) All the previous TA and PCs issued in respect of Metallic Materials/Mill Forms and Castings/Forgings to be reviewed and necessary follow up action to be taken to bring in uniformity in all these cases.
- 3.2) While approving Components of all categories (Class A, Class B & Class C), user RCMAs need not verify the raw materials used in making the Alloys/Materials, if such Alloys/materials were being procured from the approved sources. The verification to be limited to the Certification requirements, with additional requirements based on end use of the components.
- 3.3) RCMAs should not certify the materials already developed and approved at any other work centre without co-ordinating with the particular centre wherein it was initially cleared. The test and evaluation procedure followed for Second and Subsequent sourcing to be the same as that followed for approval of First sourcing.
- 3.4) The route for clearance of imported alloys, Mill Forms, and Castings/Forgings would be identical with that method followed for indigenous development.



(K. NAGARAJ)

Chief Executive (Airworthiness)

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