POLICY ON SPECIFICATIONS OF CEMENT FOR USE IN MES WORKS

1. Please refer to the following letters :-
   (a) Govt of India, MoD No 5(2) 97-DO-II/D (Works) dated 02 Jan 98
   (b) Policy No 04/98 issued vide letter No A/ 90154/E2 Des-1 dated 09 Mar 98

2. The Policy has been reviewed based on inputs from the environment. To formulate this policy extensive consultation(s) with all the stake holders, experts in the field, publication(s) and industry practices have been carried out. The use of RMC extensively in larger part of the country, which use PPC/Slag cement has also been factored in, while formulating this policy. More importantly, the availability and aspect of quality assurance, pricing etc have also been taken into account.

3. The Use of Pozzolana Portland Cement (PPC) as also OPC for the MES works is now permitted. The guidelines for use of cement in MES works are as elucidated in subsequent paras. These may be read in conjunction with the provisions contained in SSR Part-I 2009, Section 4 (Para 4.3). The points/guidelines may be suitably incorporated in the contract, documents with immediate effect.

4. Types of Cement The types and grades of cement available along with relevant IS provisions are enumerated below :-
   (a) Ordinary Portland Cement. Grade 43 (IS : 8112-1989)
   (b) Ordinary Portland Cement. Grade 53 (IS : 12269-1987)
   (c) Rapid Hardening Portland Cement (IS : 8041-1990)
   (d) Portland Pozzolana Cement (IS : 1499 -1991 Pt-I)
   (e) High Allumina Cement (IS : 6452 -1989)
   (f) Sulphate Resisting Portland Cement (IS : 12230 -1988)

Cont....2/-
5. The type of cement to be selected for use will invariably depend upon the specific usage in the work (s). 33 grade OPC will not be used in works. Use of PPC of required strength with the fly ash content as per IS 1489-1991 Pt-1 is also permitted.

6. **Use of PPC.** While using PPC, the following conditions will generally be met:

   (a) Strength criteria for PPC cement will be as per IS-8112-1989.

   (b) Stripping time shall be 14 days.

   (c) Both OPC and PPC shall not be permitted for use in the same building except for plaster and mortar.

   (d) Mandatory certificates of testing and quality assurance will continue to be submitted as hither-to-fore, with fly ash content as per IS 1489-1991-Pt-1.

   (e) The specifications for use of PPC would be compiled and incorporated suitably by Accepting Officers for inclusion in tender documents.

7. **Procurement, Storage, Testing and Documentation.**

   (a) **Procurement.** The Cement supplied by the Contractor will only be procured from main producers of cement (as approved by this HQ - ref Appx A). The particulars of the manufacturers of cement along with the date of manufacture shall be obtained from the Contractor for each lot of cement separately. The documents in support of the purchase of cement shall be recorded and verified by GE and site staff.

   (b) **Testing.** The manufacturer will carry out inspections and testing of cement in accordance with the relevant BIS provisions. The Contractor shall submit the Manufacturer's Test certificate in original along with the Test Sheet giving the result of each physical test as applicable and chemical composition of the cement or authenticated copy thereof, duly signed by the manufacturer with each consignment. The Engineer-in-Charge shall record these details in the Cement Acceptance Register, as given at Appendix ‘B’ after due verification. The GE shall also organise independent Physical Tests from NABL Laboratories as National Test House, SEMT, Wing CME, Regional Research Laboratories IITs, MES Zonal Laboratories, Govt. Engg Colleges and National Institutes of Technology as per relevant BIS and shall be recorded in the respective portion of Appx ‘B’. The random samples of cement to be tested shall be drawn as per MES Quality Assurance Manual. For repair, maint and works where entire requirement of cement is less than 300 bags, same can be procured from authorised dealers of the firms approved by this HQ.

   (c) **Storage.** Cement shall be stored over dry platform at least 20 cm high in such a manner as to prevent deterioration due to moisture or intrusion of foreign matters. In case of store rooms, the stack should be at least 20 cm away from floors and walls. The stacking of Cement shall not be more than 10 bags high. It shall be ensured that tested and untested cement are segregated and stored separately with distinct identification.

Cont....3/-
(d) **Documentation.** The contractor shall submit original vouchers from the manufacturer for the total quantity of cement supplied under each consignment to be incorporated in the work. All consignments received at the work site shall be inspected by GE and documents verified before acceptance. The original vouchers and the **Test Certificates** shall be defaced by the Engineer –in –Charge, signed by contractor and kept on record in the Office of GE duly authenticated and with cross reference to the Control Number recorded in the Cement Acceptance Register. This register will be signed by JE, Engineer –in –Charge, GE and the Contractor. The Accepting Officer may order a Board of Officers for random check of cement and verification of connected documents. The entire quantity of cement shall also be suitably recorded in the Measurement Book (Not to abstracted) for record purposes before incorporation in the work and shall be signed by the Engineer –in –Charge and the Contractor.

8. **Contract Specifications.** Particular specifications for supply of cement by the contractor shall be carefully framed so that no ambiguity is left with regard to its quality, testing, storage and source of procurement in the contract. Specifications should cover the entire relevant requirement specific for the particular work and should not have general specifications covering all types of works and grades of cement. For details on Delivery, Inspection, Testing facilities, identification and marking of Cement bags by the Manufacturers, reference be made to the relevant BIS Codes. Following points, inter alia, shall be suitably covered in the contract Specifications :-

(a) Source of Procurement.

(b) Testing and Test Certificates. Also provision/procedure should be made if test results of samples are not within the acceptable limits.

(c) The cost of test, samples etc shall be governed as per the condition of the contract.

(d) Schedule of supply shall be so ensured and specified so as to match with the progress contemplated in the CPM prepared for that project.

9. This Policy has been approved by the competent authority and supersedes all the policy letters on the subject.

10. Please acknowledge.

(A K Wahi)
Brig
DDGW (PPC)
For E-in-C

Cont 4.../
Copy to :-

Commandant, CME Pune  - for info
QMG’s Branch
ADG ESP
DG (MAP)
ADGTE
CDA, Southern Command, Pune
CDA, Eastern Command, Patna
CDA, Central Command, Meerut
CDA Northern Command, Jammu
CDA, Western Command Chandigarh
CDA, Cubban Road Cross, Bangalore
CDA, Guwahati
CDA, Carriappa Road, Lucknow
CDA, Teynampet Madras.

Internal :-

TS to E-in-C, TS to DGW, E2 (Army), E2 (Navy), E2 (Air), E2W (PPC), E4 (U), E6, E-8
LIST OF APPROVED MANUFACTURER FOR CEMENT

FOR OPC AND PPC

(i) The Associated Cement Companies Ltd.
(ii) Grasim Industries Ltd
(iii) Ultra Tech Cement
(iv) The India Cement
(v) Dalmia Cement
(vi) Andhra Cement Ltd
(vii) Century Cements
(viii) Saurashtra Cement
(ix) Binani Cement
(x) Madras Cement
(xi) Mangalam Cement
(xii) Birla Corp Ltd
(xiii) Orient Cement
(xiv) Lafarge Cement
(xv) Shree Cement
(xvi) JK Cement
(xvii) JK Lakshmi Cement
(xviii) Jaypee Rewa Cement
(xix) Ambuja Cement Ltd
(xx) Star Cement Manghalaya (to be used in CE Shillong Zone & CE (AF) Shillong area only)
(xxi) N K Cement Pvt Ltd (OPC & PCC for North-Eastern region balance only OPC)
(xxii) Dhuruv Industrial company Ltd.
2. Following producers are approved for supply of OPC only:

(i) J&K Cement Corporation Kathua, J&K (for Northern Command only)
(ii) Shiva Industries Kathua, J&K (do)
(iii) Star Cement Meghalaya
(iv) Meghalaya Cement
CEMENT SUPPLY & ACCEPTANCE REGISTER

1. CA No & Name of Work
2. Control No*
3. Name of Manufacture/Brand Name/Gde of Cement (A) Manufacturer (b) Brand (c) Grade
4. Qty of cement & Lot No/Week No (in Bags) : (Qty (b) Lot No/Week No
5. Manufacturer's test Certificates No ...........
6. Random Test Details (a) Physical test report from vide their letter No...(Name of approved Lab/Engg College)
   (b) Chemical test report from vide their letter No........ (Name of approved Lab/Engg College)

7. Details of Physical & Chemical Properties:

<table>
<thead>
<tr>
<th>Physical Requirements (As per IS 4031)</th>
<th>Chemical Requirements (As per IS 4032)</th>
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<tbody>
<tr>
<td>Specific Surface Area (M²/Kg)</td>
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<tr>
<td>Soundness by Le Chatelier</td>
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<td>Soundness by Auto Clave</td>
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<tr>
<td>Initial Setting Time (Minutes)</td>
<td>Compressive Strengths (Mpa)</td>
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<tr>
<td>Final Setting Time (Minutes)</td>
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<td>03 Days</td>
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<td>07 Days</td>
<td>Lime Saturation factor (Ratio)</td>
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<td>28 Days</td>
<td>Alumina Iron Ratio (Ratio)</td>
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<td>Insoluble Residue (%)</td>
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<td>Magnesium (%)</td>
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<td>Sulphate Aluminate (%)</td>
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<td>Loss on ignition (%)</td>
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<td>Alkalis (%)</td>
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<td>Chlorides (%)</td>
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As per relevant IS
As per manufacturer's test Certificate
As per random test certificate

Remarks with Signature

Contractor: Junior Engineer
Engineer-in-Charge: Garrison Engineer

Remarks of BOO/Inspecting Officer/CWE:
- To be allotted serially by GE consignment wise

Accepted/Rejected