



Govt. of India  
Ministry of Power  
Central Electricity Authority  
Power System Wing  
Sewa Bhawan, R.K. Puram, New Delhi – 110066  
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No. CEA/SETD/409/2014/ 923-956

September 8, 2014

To

As per list [Secretary, Energy / Power of all States and UTs]

Sub.: Short Circuit withstand testing of transformers as per CEA's Regulations – Regarding

Sir,

Transformer is one of the important and expensive assets in the Power System and availability of such vital equipment plays an important role ensuring reliable power supply. During the service life, the transformer (Generator Transformer or Inter-Connecting Transformer or Distribution class transformer) is subjected to number of system faults with varying degree of short circuit level. The impact of such through fault remains unnoticed as any internal damage / movement of winding or core of the transformer due to external short circuit is not visible from outside. Transformers should have been designed to withstand such adverse situations (i.e. to withstand the thermal and dynamic effects of external short circuits without damage) and be suitably tested to ensure effectiveness of design, quality of product and manufacturing process. In view of above, Short Circuit testing has been introduced as a mandatory requirement as per Central Electricity Authority (Technical Standard for construction of Electrical Plants and Electric Lines) Regulations 2010, which is available in CEA's website "www.cea.nic.in". The relevant **Regulations No. 10(3)(g), 37(4)(k), 43(2)(a)(vi)** is reproduced below.

"Short Circuit withstand test shall be conducted on one of each type and rating of transformers to validate the design and quality unless such test has been conducted within last five years on transformers of same design. In case there is change in design before five years, the new transformer design shall be validated by carrying out Short Circuit withstand test."

Due to limitation of existing facility available in the country for Short Circuit (SC) testing of transformers, Power transformers of higher ratings & voltage class are being sent abroad for Short Circuit testing. The facilities for SC testing of transformer upto following ratings are presently available in India.

- (a) 250MVA, 15.75/237KV three Phase Generator Transformer,
- (b) 84MVA, 420/11kV three Phase Generator Transformer
- (c) 100MVA, 220/132kV Auto Transformer and

(d) Distribution class transformers of all ratings

In few years down the line, on-line as well as off-line Short Circuit testing facility would be available in the country at National High Power Test Laboratory Pvt. Ltd. (NHPTL), Bina and CPRI, Bangalore, respectively to cater to the requirement of manufacturers / utilities of the country for Short Circuit testing of transformers upto 765kV class.

In view of above, all the utilities may be advised to ensure that the transformers being supplied by various manufacturers have been subjected to Short Circuit test as per relevant IS/IEC standard meeting the requirement of above mentioned Regulations of CEA.

Yours faithfully,

MSK/0.09  
(Major Singh)  
9c Member (Power System)

**STATE POWER SECRETARIES**

<p><b>Principal Secretary</b>  <b>Energy Department</b>  <b>Government of Andhra Pradesh</b>  <b>Hyderabad-500022</b>  <b>Tel.: 040-23453305</b>  <b>Fax.: 040-23455452</b></p>	<p><b>Secretary (Power)</b>  <b>Government of Arunachal Pradesh</b>  <b>Jal Vidhyut Bhawan</b>  <b>Nithi Vihar, Near IG Park Gate</b>  <b>Ita Nagar-791111</b>  <b>Tel.: 0360-2216485 / 2290354</b></p>
<p><b>Addl. Chief Secretary (Power)</b>  <b>Assam Sectt.</b>  <b>Government of Assam</b>  <b>Assam Sachivalaya</b>  <b>Block C, 3<sup>rd</sup> Floor, Dispur-781006</b></p>	<p><b>Secretary (Power)</b>  <b>Government of Andaman &amp; Nicobar Island</b>  <b>Govt. Secretariat. Port Blair-744101</b>  <b>Tel: 03192-234417</b>  <b>Fax: 03192-234417/ 231222</b></p>
<p><b>Principal Secretary (Energy)</b>  <b>Government of Bihar</b>  <b>Sinchai Bhawan (Irrigation Building), 1<sup>st</sup> Floor</b>  <b>Patna-800015</b>  <b>Tel.: 0612-2217412 / 9431016121</b>  <b>Fax: 0612-2232852</b></p>	<p><b>Secretary (Power)</b>  <b>Government of Chhattisgarh</b>  <b>Dau Kalyan Singh Bhawan, MANTRALAYA</b>  <b>Raipur-492001</b>  <b>Tel: 0771-2445847</b>  <b>Fax: 0771-2221311 (F) /2445847</b></p>
<p><b>Principal Secretary (Power)</b>  <b>Govt. of NCT of Delhi</b>  <b>Players Building, Delhi Sectt.</b>  <b>I.P. Estate, New Delhi-110001</b>  <b>011-23392100 / 9910344448 / 23392153 (F)</b>  <b>Tel.: 011-23392130/131</b>  <b>Fax 011-23392070</b></p>	<p><b>Secretary (Power)</b>  <b>Government of Goa</b>  <b>Secretariat, Panaji-403001</b>  <b>Tel.: 0832-2419411</b>  <b>Fax.: 011-2419687</b></p>
<p><b>Principal Secretary (Energy Deptt.)</b>  <b>Energy Department, Govt. of Gujarat</b>  <b>Sachivalaya, Block No. 5, 5<sup>th</sup> Floor</b>  <b>Gandhi Nagar-382010</b>  <b>Tel.: 079-23250771-3</b>  <b>Fax.: 079-23250797</b></p>	<p><b>Principal Secretary (Power)</b>  <b>Government of Haryana</b>  <b>Room No. 603, 6<sup>th</sup> Floor</b>  <b>New Secretariat Building</b>  <b>Sector 17, Chandigarh-160001</b>  <b>Tel.: 0172- / 2740526 / 2740081</b>  <b>Fax.: 0172-2740884</b></p>
<p><b>Principal Secretary (Power)</b>  <b>Government of Himachal Pradesh</b>  <b>Room No. 320, Arms Deal Bldg.</b>  <b>Secretariat, Shimla-171 002</b>  <b>Tel.: 0177-2621897</b>  <b>Fax.: 0177-2621154</b></p>	<p><b>Principal Secretary (Power)</b>  <b>Government of J&amp;K</b>  <b>New Sectt., Srinagar-190 001</b>  <b>(Jammu) 0191-2546206 / 2560799 / 9419180655</b>  <b>Tel.: 0194-2452236 / 2477989</b>  <b>Fax.: 0191-2545447 /0194-2452352</b></p>
<p><b>Principal Secretary(Energy)</b>  <b>Government of Jharkhand</b>  <b>Nepal House, Doranda, Ranchi</b>  <b>Tel.: 0651-2490053</b>  <b>Fax.: 0651-2491002</b></p>	<p><b>Addl. Chief Secretary (Energy)</b>  <b>Department of Energy,</b>  <b>Govt. of Karnataka, Room No. 236-237</b>  <b>2<sup>nd</sup> Floor, Vikas Souda, Bangalore-560 001</b>  <b>Tel.: 080-22252373 / 22034648 / 9480813872</b>  <b>Fax.: 080-22353952</b></p>
<p><b>Secretary (Power)</b>  <b>Government of Kerala</b>  <b>Secretariat,</b>  <b>Thiruvananthapuram-695001</b>  <b>Tel.: 0471-2518653</b>  <b>Fax.: 0471-2327979</b></p>	<p><b>Secretary (Power)</b>  <b>U.T. Lakshadweep</b>  <b>Kavaratti Via Cochin-682555</b>  <b>Tel.: 04896-262256 /262127</b>  <b>Fax.: 04896-263180</b></p>
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<p><b>Addl. Chief Secretary(Power &amp; Finance)</b>  <b>Government of Meghalaya</b>  <b>Power Department</b>  <b>R.No. 340, Meghalaya Civil Sectt.</b>  <b>Shillong-793001</b>  <b>Tel.: 0364-2222016</b>  <b>Fax.: 0364-2224721</b></p>	<p><b>Chief Secretary to the Govt. of Mizoram</b>  <b>Electricity Department, Raj Bhawan</b>  <b>Aizwal-796001</b>  <b>Tel.: 0389-2322411 - 29</b>  <b>Fax.: 0389-2322745 / 2318572</b></p>
<p><b>Principal Secretary (Power)</b>  <b>Govt. Of Manipur, Manipur Secretariat</b>  <b>Minister's Block, Imphal-797001</b>  <b>Tel.: 0385-2451562</b>  <b>Fax.: 0385-2452187</b></p>	<p><b>Commissioner-Cum-Secretary (Energy)</b>  <b>Govt. of Orissa</b>  <b>Energy Department</b>  <b>Bhubneswar-751001</b>  <b>Tel.: 0674-2536960 / 2393175</b>  <b>Fax.: 0674-2394950</b></p>
<p><b>Secretary (Power)</b>  <b>Govt. of Punjab</b>  <b>Sector-9 Mini Secretariat</b>  <b>Chandigarh-160009</b>  <b>Tel.: 0172-2740553 / 2748036 / 2747979</b>  <b>Fax.: 0172-2740553</b></p>	<p><b>Secretary (Power)</b>  <b>Chief Secretariat</b>  <b>Goubert Avenue</b>  <b>Puducherry-605001</b>  <b>Tel.: 0413-2233271</b>  <b>Fax.: 0413-2334448</b></p>
<p><b>Secretary (Energy)</b>  <b>Govt. of Rajasthan</b>  <b>Secretariat, Jaipur_302001 ,</b>  <b>Tel.: 0141-2385648</b>  <b>Fax.: 0141-2227699</b></p>	<p><b>Secretary (Power)</b>  <b>Govt. of Sikkim</b>  <b>Secretariat, Gangtok-737101</b>  <b>Tel.: 03592-202244 //280244</b>  <b>Fax.: 03592-202927</b></p>
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<p><b>Secretary (Energy)</b>  <b>Govt. of Uttar Pradesh,</b>  <b>Lal Bahadur Shastri Bhawan, (Annexe0, 5<sup>th</sup> Floor,</b>  <b>Lucknow-226001</b>  <b>Tel.: 0522- 238122 / 2236388</b>  <b>Fax.: 0522-2235196</b></p>	<p><b>Principal Secretary (Energy)</b>  <b>Govt. of Uttarakhand</b>  <b>Uttarakhand Sachivalaya</b>  <b>Subhash Road, Dehradun-248006</b>  <b>Tel.: 0135-2711227</b></p>
<p><b>Principal Secretary (Power)</b>  <b>Deptt. Of Power &amp; NCES</b>  <b>Govt. of West Bengal</b>  <b>New Secretariat Building, IKS Roy Road,</b>  <b>7<sup>th</sup> Floor, Block</b>  <b>Kolkata-700001</b>  <b>Tel.: 033-22481267</b>  <b>Fax.: 033-22438379</b></p>	<p><b>Energy Department</b>  <b>Telangana Secretariat</b>  <b>Government of Telangana</b>  <b>Hyderabad-500022</b></p>
<p><b>Principal Secretary, Power,</b>  <b>New Secretariat Complex,</b>  <b>Kohima-797004, Nagaland</b>  <b>Tel.: 0370-2270110, 2271107</b></p>	<p><b>Secretary (Railway Board)</b>  <b>Ministry of Railways (Railway Board)</b>  <b>Rail Bhawan, New Delhi-110001</b></p>



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**Yours faithfully,**

*Major Singh*

**(Major Singh)**

**Member (Power System)**

**PUBLIC SECTORS COMPANIES**

<p><b>Chairman and Managing Director</b>  <b>Power Grid Corporation of India Limited (PGCIL)</b>                  Saudamini, Plot No.2, Sector 29                  Near IFFCO Chowk,                  Gurgaon (Haryana) - 122001, INDIA                  Tel: 0124-2571800 / 2571900                  Fax 0124-2571990</p>	<p><b>Chairman</b>  <b>Damodar Valley Corporation (DVC)</b>                  DVC Towers, VIP Road, Kolkatta-700 054.                  Tel.: 033-23557935 / 23556965 / 23710199 / 23551252.</p>
<p><b>Member</b>  <b>North Eastern Council (NEC)</b>                  Nongrim Hills, Shillong                  Meghalaya - 793 003                  Tel.: 0364-2522641/2522640                  Fax.: 0364-2522646</p>	<p><b>Executive Member</b>  <b>Narmada Control Authority</b>                  Narmada Sadan, Scheme No. 74, Sector B                  Vijay Nagar, Indore 452 010                  Tel.: 0731-2557276 / 2557243                  Fax.: 0731-2559888</p>
<p><b>Chairman and Managing Director</b>  <b>National Hydro Electric Power Corporation (NHPC)</b>                  Corporate Office, NHPC Office Complex, Sector 33, Faridabad 121 003, Haryana, STD : 0129                  Tel.: 0129-2275920 / 2277971                  Tel.: 0129-2278020</p>	<p><b>Chairman</b>  <b>Bhakra Beas Management Board (BBMB)</b>                  Sector 19-B, Madhya Marg, Chandigarh-160 019,                  Tel.: 0172-2548542 / 5011751                  Fax.: 0172- 2549857</p>
<p><b>Chairman &amp; Managing Director</b>  <b>Narmada Hydroelectric Development Corporation Ltd. (NHDC)</b>                  NHDC Parisar, Shamla Hills, Bhopal-462 013                  Tel.: 0755-2275920/2277971</p>	<p><b>Chairman and Managing Director</b>  <b>Neyveli Lignite Corporation Limited (NLC)</b>                  Corporate Office, Block-1, Neyveli -607 801                  Tel.: 04142-252280 / 280008                  Fax.: 04142- 252543</p>
<p><b>Chairman and Managing Director</b>  <b>North Eastern Electric Power Corporation Ltd. (NEEPCO)</b>                  Brookland Compound, Lower New Colony,                  Shillong 793 003                  Tel.: 0364-2224487 / 2226453 / 2229973                  Fax.: 0364-2226417</p>	<p><b>Chairman and Managing Director</b>  <b>National Thermal Power Corporation (NTPC)</b>                  NTPC Bhawan, Core-7, Scope Complex                  7 Institutional Area, Lodi Road                  New Delhi 110 003                  Tel.: 011- 24360044 / 2583792                  Fax.: 011- 24361018</p>
<p><b>Chairman and Managing Director</b>  <b>Nuclear Power Corporation of India Ltd.</b>                  Nabhikiya Urja Bhavan, Anushakti Nagar,                  Mumbai-400 094                  Tel.: 022- 25565176 / 22184456 / 23643334                  Fax.: 022-25557278</p>	<p><b>Chairman and Managing Director</b>  <b>THDC INDIA LTD.</b>                  Pragatipuram, Bye Pass Road, Rishikesh 249 201 (Uttarakhand)                  Tel.: 0135- 2431464 / 2430204                  Tel.: 0135-2431520</p>
<p><b>Director General</b>  <b>Central Power Research Institute (CPRI)</b>                  Prof. Sir C.V. Raman Road, P.B.No.8066,                  Sadashivanagar P.O., Bangalore 560 080                  Tel.: 080-23604447                  Fax : 080-23601213</p>	<p><b>Chairman</b>  <b>Delhi Metro Rail Corporation Ltd. (DMRC)</b>                  Corporate Office: Metro Bhawan, Fire Brigade Lane, Barakhamba Road, New Delhi 110 001                  Tel.: 011-23417922                  Fax.: 011-23418311</p>
<p><b>Chairman and Managing Director</b>  <b>WAPCOS (INDIA) LTD.</b>                  Kailash, 5th Floor, 26, K.G. Marg                  New Delhi 110 001                  Tel.: 011- 23313881 / 23313502 /                  Fax.: 011-23314924</p>	<p><b>Chairman and Managing Director</b>  <b>SJVN Limited, Himfed Building</b>                  New Shimla - 171009                  Tel.: 0177-2670804                  Fax.: 0177-2670893</p>