



केन्द्रीय विद्युत अनुसंधान संस्थान

(भारत सरकार की सोसाइटी, विद्युत मंत्रालय)

प्रो सर सी. वी. रामन रोड, सदाशिवनगर डाक घर, पो. बा. सं. 8066, बेंगलूर - 560 080

CENTRAL POWER RESEARCH INSTITUTE

(A Govt of India Society under Min. of Power)

Prof. Sir C.V. Raman Road, Sadashivanagar P.O., P.B. No. 8066, Bangalore - 560 080, India

वेबसाइट/website : <http://www.cpri.in>

सं./No. 43/1/2014-HV/1832/HES/1989

दिनांक/Date: 10/01/2014

सेवा में /To

म/स. होवेल एनेर्ज्य सिस्टेम्स पब्लि. लटीडी,
प्लॉट नो. ए - २४, सिपकाट इन्डसट्रियल ग्रोवथ सेंटर,
माथुर विल्लगे, ओरगदम,
कांचीपुरम डिस्ट - ६०२१०५.

M/s. Howell Energy Systems Pvt. Ltd,
Plot No. A - 24, SIPCOT Industrial Growth Centre,
Mathur Village, Oragadam,
Kancheepuram Dist - 602105.

विषय/ Sub:-परीक्षण रिपोर्ट/ Test Report

महोदय /Dear Sir(s),

आपके दिनांक 03/01/2014 के अनुरोध पर रिपोर्ट सं 43/1/2014-HV/1832/HES/1989 दिनांक 10/01/2014 इसके साथ संलग्न है।

With Reference to your request dated. 03/01/2014, we are enclosing herewith report No./s 43/1/2014-HV/1832/HES/1989 dated 10/01/2014 कृपया पावती भेजे / Kindly acknowledge the receipt of the same.

कृपया ध्यान दें कि संलग्न परीक्षण रिपोर्ट में विषमताएँ/विसंगतियाँ, यदि कोई पाई गई तो इस पत्र की प्राप्ति के 45 दिनों के अंदर सीपीआरआई के ध्यान में लाएँ।

Please note that anomalies/discrepancies in the test report enclosed, if any, shall be brought to the notice of CPRI within 45 days of receipt of this letter.

साथ ही, कृपया ध्यान दें कि इस पत्र के जारी दिनांक से 15 दिनों के भीतर परीक्षण के लिए लाए गए नमूने तथा उनके साथ लाई गई अतिरिक्त सामग्री उच्च वोल्टता प्रयोगशाला के परिसर से हटा दी जाएँगी। उपरोक्त अवधि के बाद किसी भी दावे पर विचार नहीं किया जाएगा तथा कुछ और दिनों के लिए नमूनों को रखने के लिए इस अवधि के अंदर कोईलिखित अनुरोध की अनुपलब्धि पर सीपीआरआई के मानकों के अनुसार नमूनों का निपटारा किया जाएगा।

Also, please note that the samples and any additional material brought along with them for the testing shall be removed from the High Voltage Laboratory premises within 15 days from the date of issue of this letter. No claims will be entertained after the above period and samples will be disposed off as per CPRI norms, unless written request is received within this period for retaining the samples for a few more days.

भविष्य में भी हमारी सर्वोत्तम सेवाओं का आश्वासन तथा धन्यवाद के साथ।

Thanking you and assuring you of the best of our services in the future also.

भवदीय / Yours faithfully,

डा. श्री शिव आराध्या 21/1/14
(डॉ. आर.एस.शिवकुमार आराध्या)

Dr.R.S. Shivakumara Aradhya

अपर निदेशक / ADDITIONAL DIRECTOR

उच्च वोल्टता प्रभाग / HIGH VOLTAGE DIVISION

CPRI

TEST REPORT



Central Power Research Institute

**(A Govt. of India Society,
P.B. No. 8066, Sadashivanagar, P.O.
Prof. Sir. C.V. Raman Road,
Bangalore - 560 080**



**CENTRAL POWER RESEARCH INSTITUTE
(MEMBER STL)**

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TEST REPORT

Test Report Number : No.43/1/2014-HV/1832/HES/1989 **Dated:** 10/01/2014

Name & Address of the customer : M/s.Howell Energy Systems Pvt.Ltd,
Plot No. A – 24, SIPCOT Industrial Growth centre,
Mathur Village, Oragadam,
Kancheepuram Dist – 602105.
Ref:SEI/MVP/CPRI/RK-001 **Dated:**03/01/2014

Name & Address of the Manufacturer : M/s. Howell Energy Systems Pvt.Ltd,
Plot No. A – 24, SIPCOT Industrial Growth centre,
Mathur Village, Oragadam,
Kancheepuram Dist – 602105.

Particulars of Samples tested
Condition of the sample on Receipt : New.
Type : Nil.
Designation : 12kV, 800A, 50Hz, 25 kA/3sec Outdoor VCB Panel.
Serial Number : HES – 004.
Number of samples tested : One.
Date(s) of Test(s) : 06 & 07/01/2014
CPRI Sample Code Number : HVML2014S0024.

Particulars of tests conducted : 1) Lightning impulse voltage test. Clause-6.2.6.2
2) Dry power frequency voltage test (Clause-6.2.6.1).
Test in accordance with standard/ Specification. : IEC 62271-200/ 2011-10.
Sampling Plan : Not Applicable.
Customer's requirement : Nil.
Deviations if any : Nil.

Name of the witnessing persons
Customer's representatives : Mr. Z .Shafi Udeen – General Manager.
Other than customer's representatives : None.
Test subcontracted with Address of the laboratory : None.

Documents constituting this report(in words)
Number of sheets : Four.
Number of oscilogram/s : Thirty six.
Number of graphs : Nil.
Number of photo/s : Nil.
Number of Test Circuit Diagrams : Nil.
Number of drawings : Six. {Drawing Nos.1) HES – 004 – 02 Sheet 02 of 08 Sheets
2) HES – 004 – 03 Sheet 03 of 08 Sheets
3) HES – 004 – 04 Sheet 04 of 08 Sheets
4) HES – 004 – 05 Sheet 05 of 08 Sheets
5) HES – 004 – 07 Sheet 07 of 08 Sheets
6) HES – 004 – 08 Sheet 08 of 08 Sheets}


(U.R. SHESHAGIRI RAO)
Test Engineer




(Dr. R.S. SHIVAKUMARA ARADHYA.)
Additional Director



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TEST REPORT

Test Report No.43/1/2014-HV/1832/HES/1989

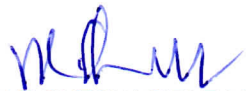
Date: 10/01/2014

Test Arrangement:

Test Arrangement	Breaker Position	Source connected to	Earth connected to	Isolated Terminals
1	Closed	Rr	Yy, Bb & Frame	-
2	Closed	Yy	Bb, Rr & Frame	-
3	Closed	Bb	Rr, Yy & Frame	-
4	Open	R	r	Y, y, B & b Frame
5	Open	Y	y	R, r, B & b Frame
6	Open	B	b	R, r, Y & y Frame
7	Open	r	R	Y, y, B & b Frame
8	Open	y	Y	B, b, R & r Frame
9	Open	b	B	R, r, Y & y Frame

1) Lightning impulse voltage test

Test Arrangement	Shot No.	Test Voltage kV(Peak) *					
		Positive Polarity	Osc. No.	Remarks	Negative Polarity	Osc. No.	Remarks
1	1 st	75	002	Withstood	75	018	Withstood
	15 th	75	016	Withstood	75	032	Withstood
2	1 st	75	050	Withstood	75	034	Withstood
	15 th	75	064	Withstood	75	048	Withstood
3	1 st	75	066	Withstood	75	082	Withstood
	15 th	75	080	Withstood	75	096	Withstood
4	1 st	85	114	Withstood	85	098	Withstood
	15 th	85	128	Withstood	85	112	Withstood
5	1 st	85	130	Withstood	85	146	Withstood
	15 th	85	144	Withstood	85	160	Withstood
6	1 st	85	178	Withstood	84	162	Withstood
	15 th	85	192	Withstood	85	176	Withstood
7	1 st	85	194	Withstood	85	210	Withstood
	15 th	85	208	Withstood	85	224	Withstood
8	1 st	85	226	Withstood	85	242	Withstood
	15 th	85	240	Withstood	85	256	Withstood
9	1 st	85	274	Withstood	85	258	Withstood
	15 th	85	288	Withstood	85	272	Withstood


(U.R. SHESHAGIRI RAO)
Test Engineer



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TEST REPORT

Test Report No.43/1/2014-HV/1832/HES/1989

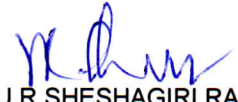
Date: 10/01/2014

2) Dry power frequency voltage test

Test Arrangement	Test Voltage kV (rms) *	Remarks
1	28	Withstood for one minute
2	28	Withstood for one minute
3	28	Withstood for one minute
4	32	Withstood for one minute
5	32	Withstood for one minute
6	32	Withstood for one minute
7	32	Withstood for one minute
8	32	Withstood for one minute
9	32	Withstood for one minute

* These voltages are applied under ambient condition which is given below:

Temperature in Degree Celsius			Atmospheric Pressure in mm of Hg.
	Dry Bulb	Wet Bulb	
*	24	19	680


(U.R. SHESHAGIRI RAO)
Test Engineer



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**CENTRAL POWER RESEARCH INSTITUTE
(MEMBER STL)**

TEST REPORT

Test Report No.43/1/2014-HV/1832/HES/1989

Date: 10/01/2014

NOTE

- a) The test results relate only to the item(s) tested.
- b) Publication or reproduction of the test report /certificate in any form other than by complete set of the whole test report /certificate and in the language written is not permitted without the written consent of CPRI.
- c) Any corrections/erasure invalidates the test report/certificate.
- d) NABL has accredited this laboratory as per ISO 17025-2005 standard vide certificate No: T-0010 for the tests carried out.
- e) Any anomaly/discrepancy in the test report /certificate should be brought to the notice of CPRI within 45 days from the date of issue.
- f) The verification of the sample drawings by CPRI is limited to dimensional checks only wherever possible.


(U.R. SHESHAGIRI RAO)
Test Engineer

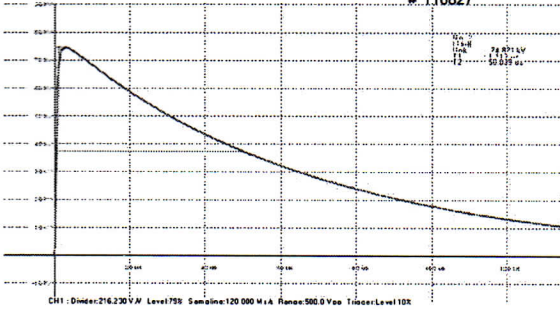


CPRI



CPRI/HV/HESPLVCB PANEL CH: 1

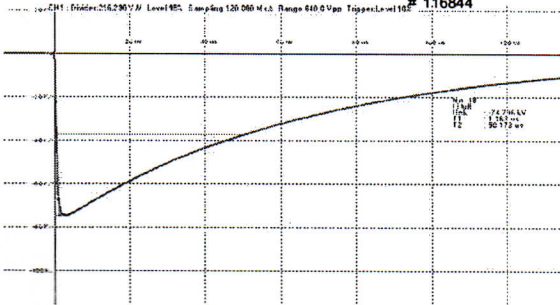
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116827



No. 2 LI full Upk: 74.821 kV T1: 1.113 us T2: 50.039 us

CPRI/HV/HESPLVCB PANEL CH: 1

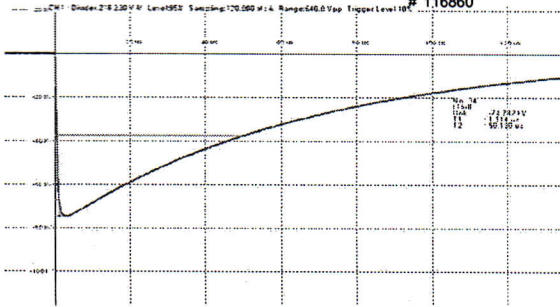
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No. 18 LI full Upk: -74.796 kV T1: 1.163 us T2: 50.173 us

CPRI/HV/HESPLVCB PANEL CH: 1

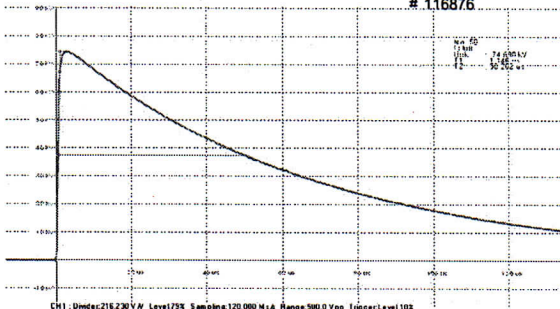
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No. 34 LI full Upk: -74.782 kV T1: 1.114 us T2: 50.130 us

CPRI/HV/HESPLVCB PANEL CH: 1

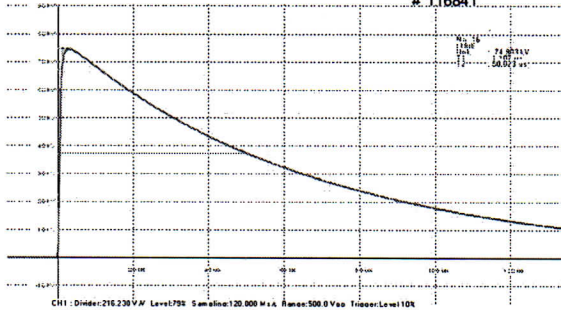
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No. 50 LI full Upk: 74.690 kV T1: 1.146 us T2: 50.202 us

CPRI/HV/HESPLVCB PANEL CH: 1

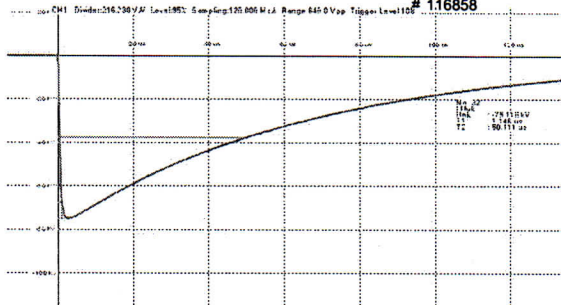
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No. 16 LI full Upk: 74.903 kV T1: 1.107 us T2: 50.023 us

CPRI/HV/HESPLVCB PANEL CH: 1

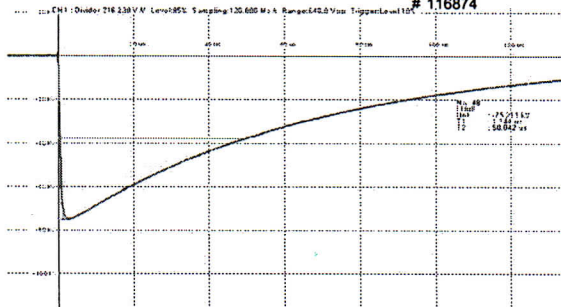
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116858



No. 32 LI full Upk: -75.116 kV T1: 1.146 us T2: 50.111 us

CPRI/HV/HESPLVCB PANEL CH: 1

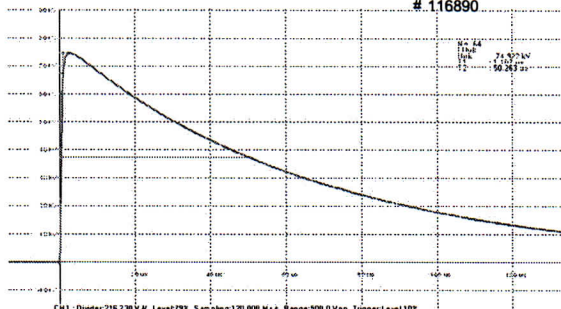
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No. 48 LI full Upk: -75.211 kV T1: 1.144 us T2: 50.042 us

CPRI/HV/HESPLVCB PANEL CH: 1

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No. 64 LI full Upk: 74.922 kV T1: 1.107 us T2: 50.263 us

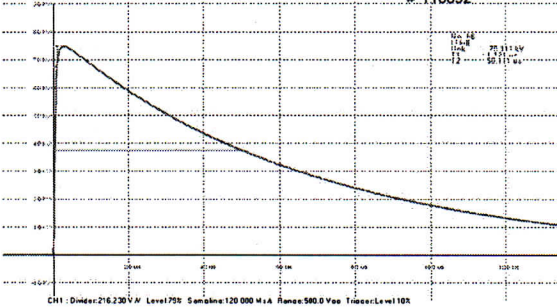


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CPR/HV/HESPLVCB PANEL CH: 1

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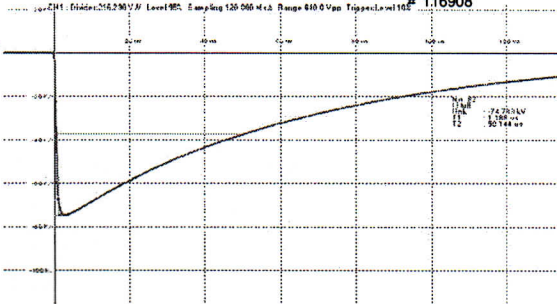


No. 66 LI full Upk: 75.111 kV T1: 1.121 us T2: 50.111 us

CPR/HV/HESPLVCB PANEL CH: 1

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116908

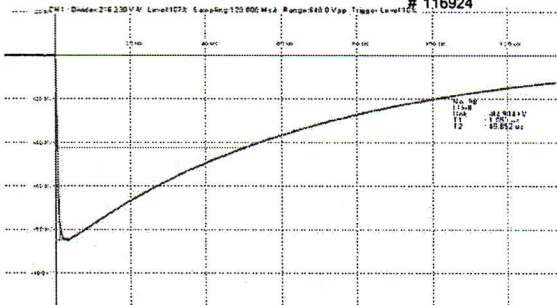


No. 82 LI full Upk: -74.783 kV T1: 1.188 us T2: 50.144 us

CPR/HV/HESPLVCB PANEL CH: 1

1/6/2014 2:21:12 PM

116924

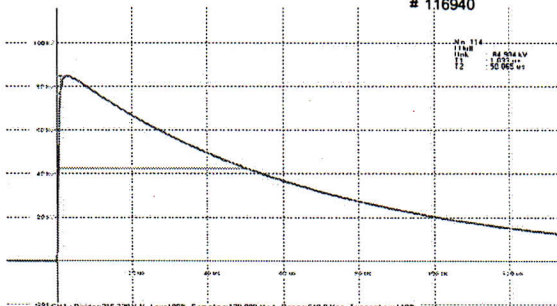


No. 98 LI full Upk: -84.904 kV T1: 1.053 us T2: 49.852 us

CPR/HV/HESPLVCB PANEL CH: 1

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116940

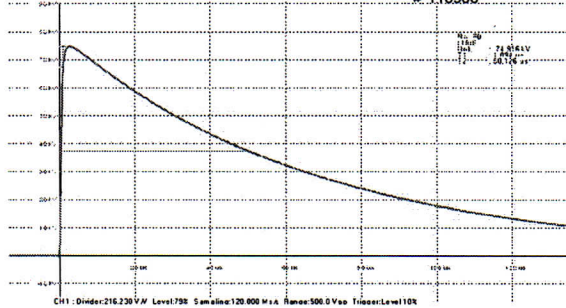


No. 114 LI full Upk: 84.904 kV T1: 1.033 us T2: 50.065 us

CPR/HV/HESPLVCB PANEL CH: 1

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116906

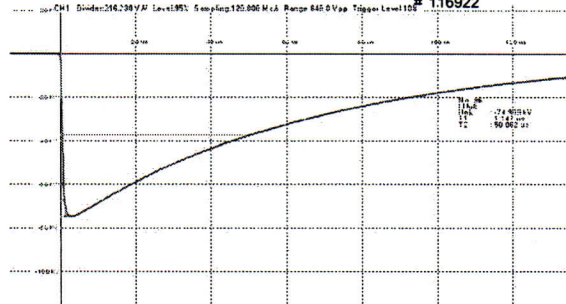


No. 80 LI full Upk: 74.916 kV T1: 1.094 us T2: 50.126 us

CPR/HV/HESPLVCB PANEL CH: 1

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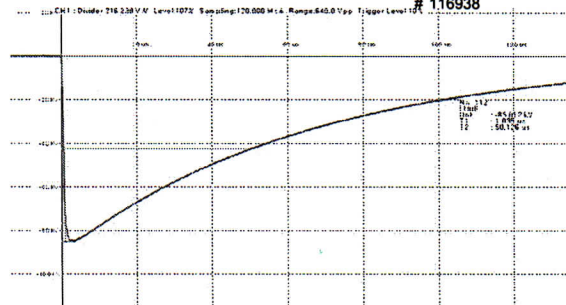


No. 96 LI full Upk: -74.909 kV T1: 1.147 us T2: 50.062 us

CPR/HV/HESPLVCB PANEL CH: 1

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116938

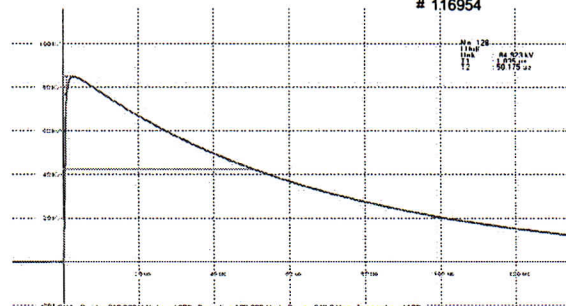


No. 112 LI full Upk: -85.012 kV T1: 1.035 us T2: 50.126 us

CPR/HV/HESPLVCB PANEL CH: 1

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116954



No. 128 LI full Upk: 84.923 kV T1: 1.035 us T2: 50.175 us

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TEST ENGINEER

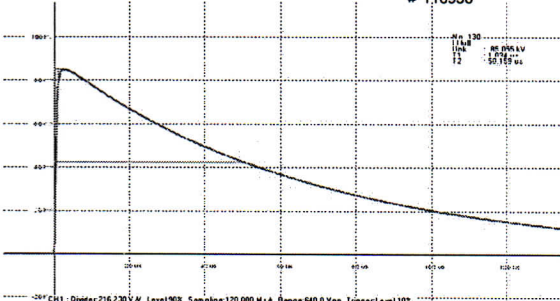


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CPRI/HV/HESPLVCB PANEL CH: 1

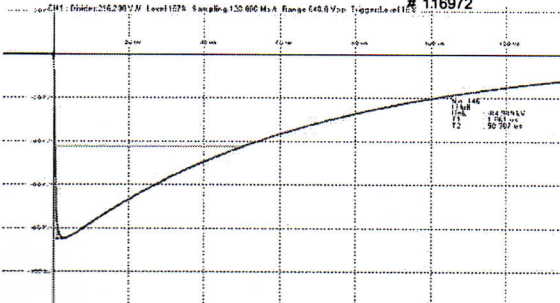
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No. 130 LI full Upk: 85.055 kV T1: 1.034 us T2: 50.159 us

CPRI/HV/HESPLVCB PANEL CH: 1

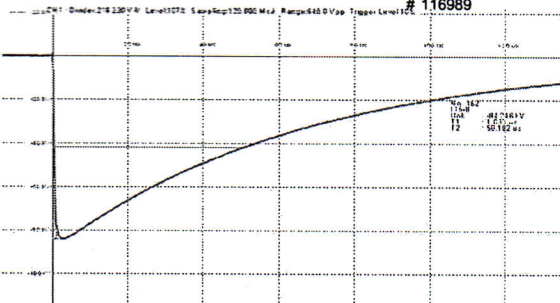
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No. 146 LI full Upk: -84.989 kV T1: 1.061 us T2: 50.307 us

CPRI/HV/HESPLVCB PANEL CH: 1

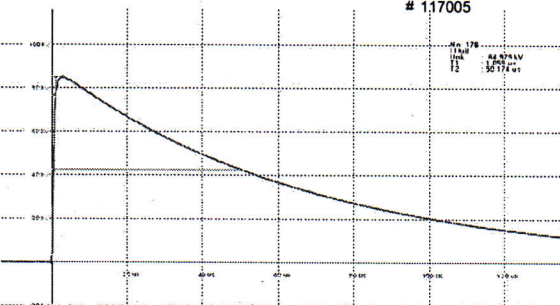
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No. 162 LI full Upk: -84.246 kV T1: 1.033 us T2: 50.182 us

CPRI/HV/HESPLVCB PANEL CH: 1

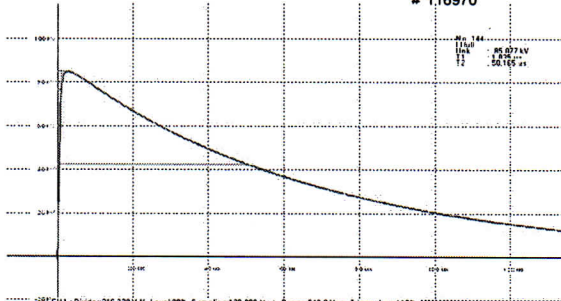
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No. 178 LI full Upk: 84.979 kV T1: 1.059 us T2: 50.174 us

CPRI/HV/HESPLVCB PANEL CH: 1

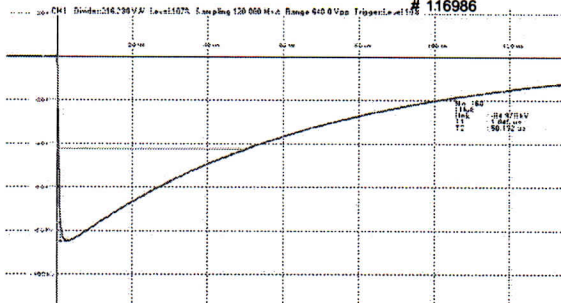
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No. 144 LI full Upk: 85.077 kV T1: 1.035 us T2: 50.165 us

CPRI/HV/HESPLVCB PANEL CH: 1

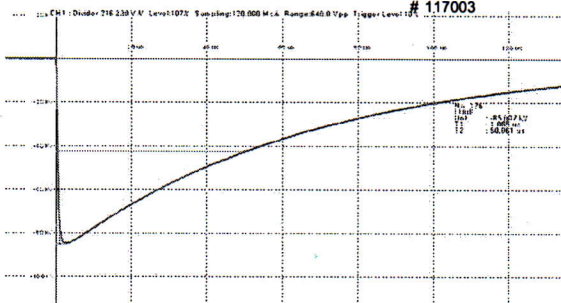
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No. 160 LI full Upk: -84.970 kV T1: 1.045 us T2: 50.192 us

CPRI/HV/HESPLVCB PANEL CH: 1

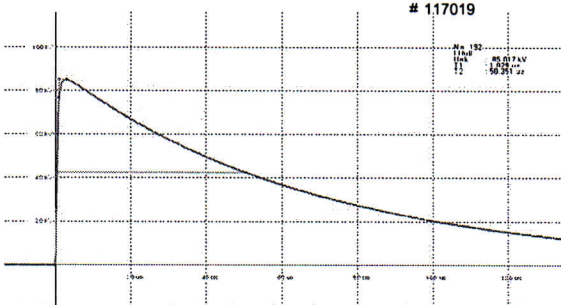
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117003



No. 176 LI full Upk: -85.007 kV T1: 1.065 us T2: 50.061 us

CPRI/HV/HESPLVCB PANEL CH: 1

1/6/2014 3:03:00 PM
117019



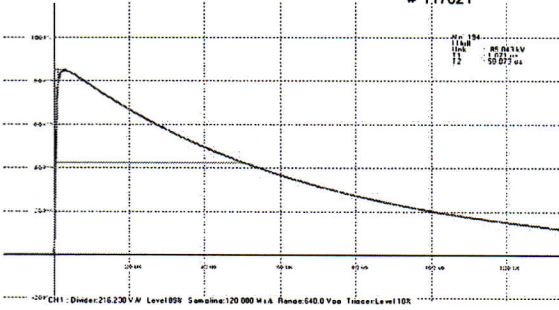
No. 192 LI full Upk: 85.017 kV T1: 1.029 us T2: 50.351 us



CPRI

CPRI/HV/HESPLVCB PANEL CH: 1

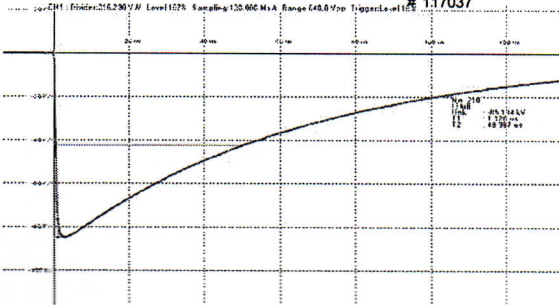
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No. 194 LI full Upk: 85.043 kV T1: 1.071 us T2: 50.073 us

CPRI/HV/HESPLVCB PANEL CH: 1

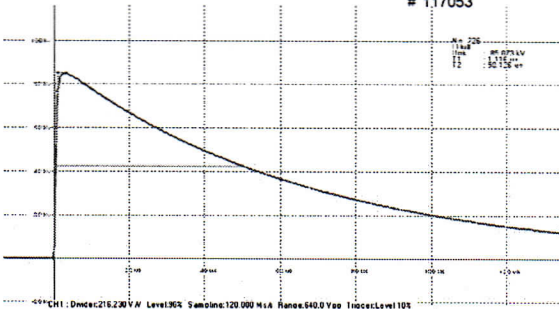
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No. 210 LI full Upk: 85.134 kV T1: 1.120 us T2: 49.987 us

CPRI/HV/HESPLVCB PANEL CH: 1

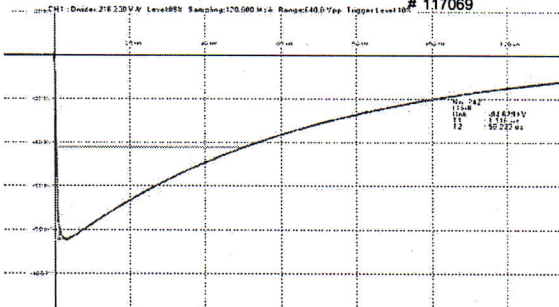
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No. 226 LI full Upk: 85.073 kV T1: 1.116 us T2: 50.126 us

CPRI/HV/HESPLVCB PANEL CH: 1

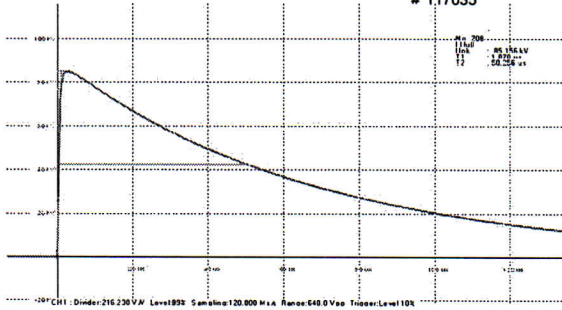
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No. 242 LI full Upk: 84.629 kV T1: 1.116 us T2: 50.233 us

CPRI/HV/HESPLVCB PANEL CH: 1

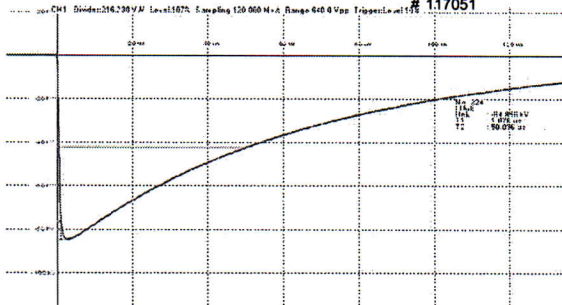
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117035



No. 208 LI full Upk: 85.156 kV T1: 1.070 us T2: 50.256 us

CPRI/HV/HESPLVCB PANEL CH: 1

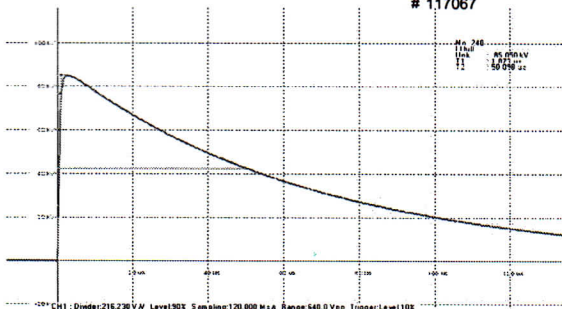
1/6/2014 3:28:36 PM
117051



No. 224 LI full Upk: 84.856 kV T1: 1.076 us T2: 50.096 us

CPRI/HV/HESPLVCB PANEL CH: 1

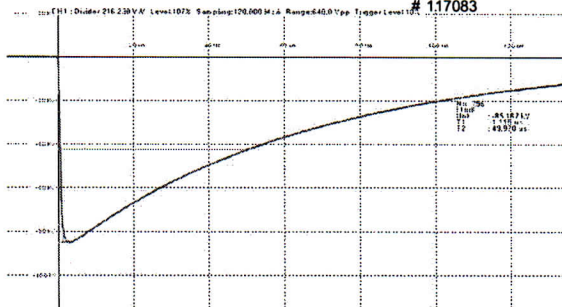
1/6/2014 3:36:34 PM
117067



No. 240 LI full Upk: 85.050 kV T1: 1.073 us T2: 50.098 us

CPRI/HV/HESPLVCB PANEL CH: 1

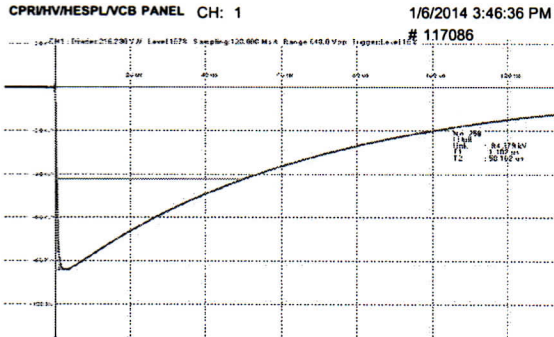
1/6/2014 3:42:14 PM
117083



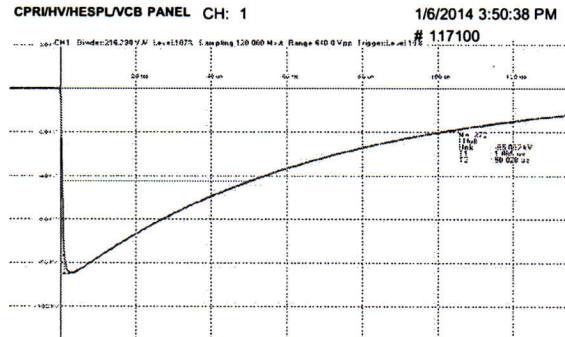
No. 256 LI full Upk: 85.167 kV T1: 1.115 us T2: 49.970 us



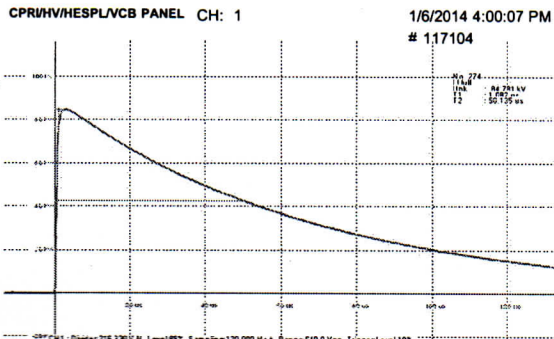
CPRI



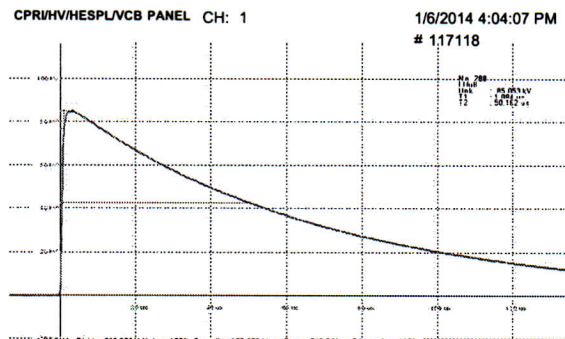
No. 258 LI full Upk: -84.379 kV T1: 1.102 us T2: 50.102 us



No. 272 LI full Upk: -85.002 kV T1: 1.085 us T2: 50.028 us



No. 274 LI full Upk: 84.781 kV T1: 1.082 us T2: 50.135 us



No. 288 LI full Upk: 85.053 kV T1: 1.084 us T2: 50.162 us

9

1

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1800
2034

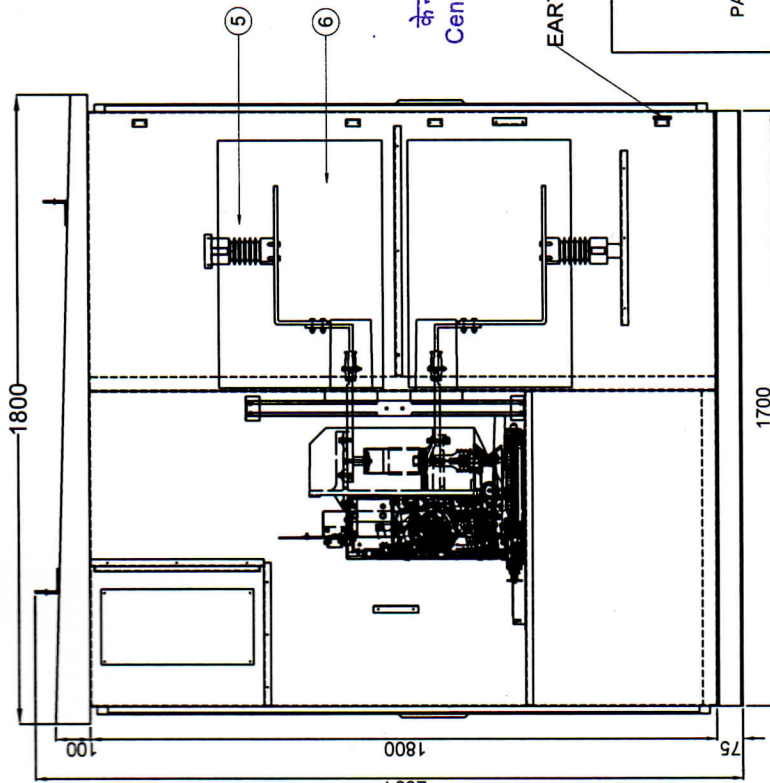
3 PART LOCK

FRONT VIEW

DESCRIPTION:

1. CANOPY
2. NAME PLATE
3. FOUNDATION FRAME
4. LIFTING HOOKS
5. SUPPORT INSULATOR
6. SMC SHEET

RH SIDE VIEW



EARTH BUS
ಬೆಂಗಳೂರು - 560 080
Bangalore - 560 080

DESCRIPTION

PANEL MAKE : HOWELL ENERGY
SYSTEMS PVT.LTD

RATED VOLTAGE : 12KV

RATED CURRENT : 800A

RATED FREQUENCY : 50HZ

DATE: 11/11/2001

INSULATION LEVEL : 12/28/75KV/p

संयुक्त निदेशक
Joint Director
उच्च वोल्टता प्रभाग
High Voltage Division
केन्द्रीय विद्युत अनुसंधान संस्थान
Central Power Research Institute
पो. बा. सं. 8066
P.B. No. 8066
बंगलूर - 560 080
BANGALORE-560 080

HOWELL
ENERGY
SYSTEMS PVT. LTD.

PLOT NO: A-24,
SIPCOOT INDUSTRIAL GROWTH CENTRE,
MATHUR VILLAGE, ORAGADAM,
KANCHEEPURAM DIST. - 602105

Alliance Partner
Schneider Electric
 For MV Component Integration

SHEET NO:05 OF 08

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