

TYPE TEST REPORT

№ RSV9.3 6R 060/31.10.2017

TEST PERFORMED:Dielectric test**CUSTOMER:****"HYUNDAI HEAVY INDUSTRIES CO BULGARIA"**
Sofia, 41 Rojen blvd., Bulgaria**MANUFACTURER:****"HYUNDAI HEAVY INDUSTRIES CO BULGARIA"**
Sofia, 41 Rojen blvd., Bulgaria**TEST OBJECT:****On-load tap-changer****Type:****RSV9.3-III-700-123/N-10.19.1W****Serial №:****915****CESI****RATINGS:**

Highest voltage for equipment U_m :
Maximum rated through current
Maximum rated step voltage
Rated frequency
Number of steps
Number of phases

- 123 kV
- 700 A
- 3200 V
- 50/60 Hz
- 19
- 3

Protocol

B7022314

Date

2017-11-23

Signature:

**TESTING REGULATION:**

The type test was carried out in accordance with IEC 60214-1:2014, item 5.2.8 and program for tests of product №65/25.10.2017

DATES OF TESTS:**30+31.10.2017****Results:**

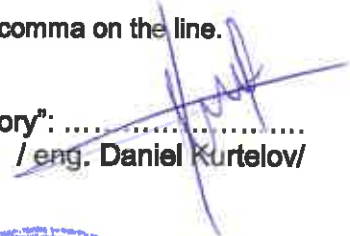
The tested on-load tap-changer type RSV9.3-III-700-123/N-10.19.1W passed successfully the dielectric tests according to IEC 60214-1:2014 item 5.2.8 and program for tests of product №65/25.10.2017.

The test results apply only to the tested object. The responsibility for conformity of any product, having the same designation with the tested one rests with the manufacturer.

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In the entire tests report the symbol for the decimal marker used is the comma on the line.

Tested by: 
/ eng. Ivaylo Stefanov/

Chief of „TC Laboratory”: 
/ eng. Daniel Kurtelov/

Inspected by: 
/ Mr. Ivan Bergonzi, CESI Inspector/

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Identification of the tested object:

Type:	RSV9.3-III-700-123/N-10.19.1W
Serial №	915
Year of manufacturing:	2017
Highest voltage for equipment U_m	123 kV
Vacuum Interrupters type	HVC 00710
Rated step voltage:	3200 V
Maximum rated step voltage:	3200 V
Rated through current:	700 A
Maximum rated through current:	700 A

Documentation of compliance:

The manufacturer guarantees that the tested OLTC has been manufactured according to drawings listed in "LIST OF DRAWINGS" No. RS9 7R 008/30.10.2017. The drawings were checked in presence of CESI inspector and were found in compliance with the test object. The list of drawings is attached as an annex.

Rated Insulation levels:**Insulation level to earth "F"**

lightning impulse voltage 1,2/50 μ s	550 kV
chopped wave lightning impulse voltage	605 kV
switching impulse	460 kV
separate AC withstand voltage	230 kV

Between phases "b₂"

lightning impulse voltage 1,2/50 μ s	410 kV
chopped wave lightning impulse voltage	410 kV
separate AC withstand voltage	120 kV

Between diverter switch contacts in their final open position "a_{0_31}"

lightning impulse voltage 1,2/50 μ s	130 kV
chopped wave lightning impulse voltage	130 kV
separate AC withstand voltage	40 kV

Between diverter switch contacts in their final open position "a_{0_32}"

lightning impulse voltage 1,2/50 μ s	130 kV
chopped wave lightning impulse voltage	130 kV
separate AC withstand voltage	40 kV

Between the first and last contact of the tap selector "b₁"

lightning impulse voltage 1,2/50 μ s	410 kV
chopped wave lightning impulse voltage	410 kV
separate AC withstand voltage	120 kV

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Parameters proven by the test:

Insulation level to earth "F"

lightning impulse voltage 1,2/50 μ s	550 kV
chopped wave lightning impulse voltage	605 kV
switching impulse	460 kV
separate AC withstand voltage	230 kV

Between phases "b₂"

lightning impulse voltage 1,2/50 μ s	410 kV
chopped wave lightning impulse voltage	410 kV
separate AC withstand voltage	120 kV

Between diverter switch contacts in their final open position "a_{0_31}"

lightning impulse voltage 1,2/50 μ s	130 kV
chopped wave lightning impulse voltage	130 kV
separate AC withstand voltage	40 kV

Between diverter switch contacts in their final open position "a_{0_32}"

lightning impulse voltage 1,2/50 μ s	130 kV
chopped wave lightning impulse voltage	130 kV
separate AC withstand voltage	40 kV

Between the first and last contact of the tap selector "b₁"

lightning impulse voltage 1,2/50 μ s	410 kV
chopped wave lightning impulse voltage	410 kV
separate AC withstand voltage	120 kV

Test conditions:

All relevant insulating distances were tested with the assigned power frequency withstand voltages in accordance with IEC 60060-1 and IEC 60214-1: 2014, duration 60 s; full lightning impulse (LI), switching impulse (SI) and chopped lightning impulse (LIC) withstand voltages (three positive and three negative polarity applications).

During the tests the oil was continuously controlled. Its breakdown strength was between 70 and 80 kV/2,5mm. The test was performed in an insulation test tank filled with pure transformer oil, according to IEC 60214-1: 2014, at ambient temperature of $t=12\pm 2$ °C, atmosphere pressure $p=957\pm 20$ mbar and humidity $\gamma=65\pm 10$ %.

The report consist of:

1. Sheets - 30



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Results:
Table 1. Test withstand voltage and sequence of application for Insulating distance and results from the tests

No	Type of the test	Potential "High Voltage"	Potential "Earth"	Value of the test voltage, kV	Result
I. Insulation level to earth "F"					
1.	Lightning impulse test wave 1,2/50 μ s - positive and negative polarity - 3 applications each	upper flange	all contacts on the phases, bottom flange	550	Positive
2.	Chopped lightning impulse test wave - positive and negative polarity - 3 applications each	upper flange	all contacts on the phases, bottom flange	605	Positive
3.	Switching impulse test wave - positive and negative polarity - 3 applications each	upper flange	all contacts on the phases, bottom flange	460	Positive
4.	Separate source AC withstand voltage, 60s	upper flange	all contacts on the phases, bottom flange	230	Positive
II. Between phases "b₂"					
1.	Lightning impulse test wave 1,2/50 μ s - positive and negative polarity - 3 applications each	contact №3 on the phase B	contact №3 on the phases A,C	410	Positive
2.	Chopped lightning impulse test wave - positive and negative polarity - 3 applications each	contact №3 on the phase B	contact №3 on the phases A,C	410	Positive
3.	Separate source AC withstand voltage, 60s	contact №3 on the phase B	contact №3 on the phases A,C	120	Positive
III. Between diverter switch contacts in their final open position "a₀_31"					
1.	Lightning impulse test wave 1,2/50 μ s - positive and negative polarity - 3 applications each	contact №9 on the phases A,B,C	contact №10 on the phases A,B,C	130	Positive
2.	Chopped lightning impulse test wave - positive and negative polarity - 3 applications each	contact №9 on the phases A,B,C	contact №10 on the phases A,B,C	130	Positive
3.	Separate source AC withstand voltage, 60s	contact №9 on the phases A,B,C	contact №10 on the phases A,B,C	40	Positive

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№	Type of the test	Potential "High Voltage"	Potential "Earth"	Value of the test voltage, kV	Result
IV. Between diverter switch contacts in their final open position "a₀_32"					
1	Lightning impulse test wave 1,2/50 μ s - positive and negative polarity - 3 applications each	contact №10 on the phases A,B,C	contact №9 on the phases A,B,C	130	Positive
2	Chopped lightning impulse test wave - positive and negative polarity - 3 applications each	contact №10 on the phases A,B,C	contact №9 on the phases A,B,C	130	Positive
3.	Separate source AC withstand voltage, 60s	contact №10 on the phases A,B,C	contact №9 on the phases A,B,C	40	Positive
V. Between the first and last contact of the tap selector "b₁"					
1	Lightning impulse test wave 1,2/50 μ s - positive and negative polarity - 3 applications each	contacts №1 and "-" on the phases A,B,C	contacts №10,9 and "+" on the phases A,B,C	410	Positive
2	Chopped lightning impulse test wave - positive and negative polarity - 3 applications each	contacts №1 and "-" on the phases A,B,C	contacts №10,9 and "+" on the phases A,B,C	410	Positive
3.	Separate source AC withstand voltage, 60s	contacts №1 and "-" on the phases A,B,C	contacts №10,9 and "+" on the phases A,B,C	120	Positive

Annexes:

1. Measuring equipment used during the test.
2. Insulation distances of the transformer windings for the tested OLTC
3. Connection diagram of the tested OLTC
4. Oscillograms of the applied Li, LiC and Si'
5. "LIST OF DRAWINGS" No. RS9 7R 008/30.10.2017

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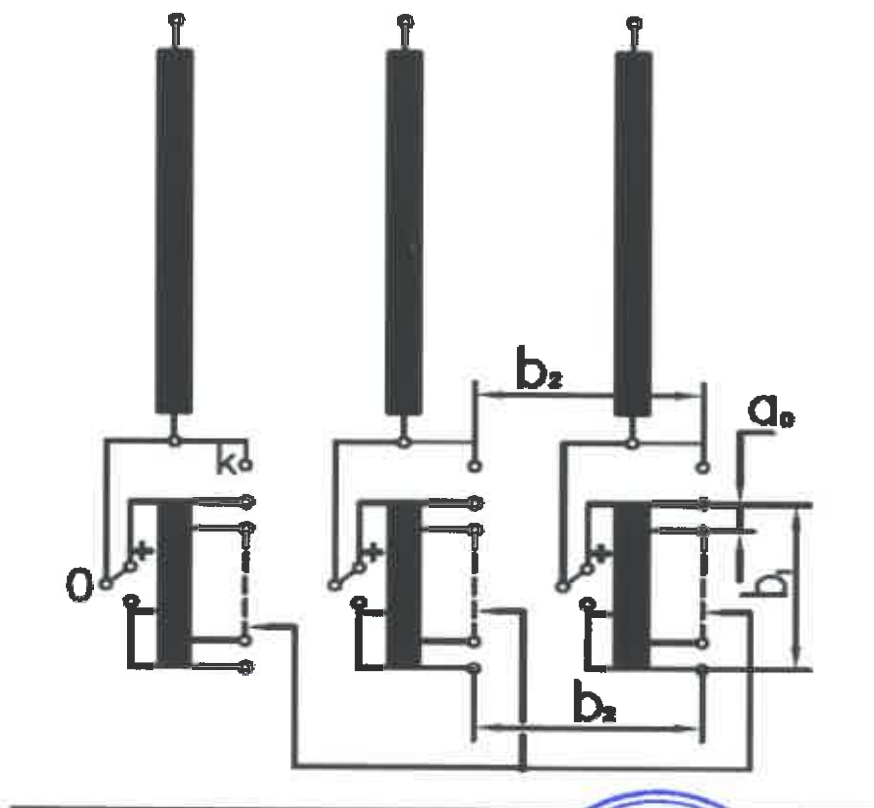
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Annex 1: Measuring equipment used during the test.

№	Kind of the equipment	TYPE	Manufacturing №	Last calibration	Validity
1.	CR Divider	CR3600/400	554302	24.07.2015	5 years
2.	Measuring instrument	HIAS 743	173 251-0	24.07.2015	5 years
3.	Capacitive Divider	MCF60/600P	890775	20.10.2017	1 years
4.	Capacitive Divider	MCF135/200P	873104	16.05.2017	1 years
5.	Amplitude Voltmeter	MUT7	884489	17.05.2017	1 years
6.	Amplitude Voltmeter	MUT7	887025	03.11.2016	1 years
7.	Coupling capacitor	WMCF 1000/400SP	898101	Indicative	
8.	Digital timer "Stopwatch"	-	-	indicative	

Annex 2: Insulation distances of the transformer windings for the tested OLTC

WITH REVERSE
CHANGE-OVER SELECTOR



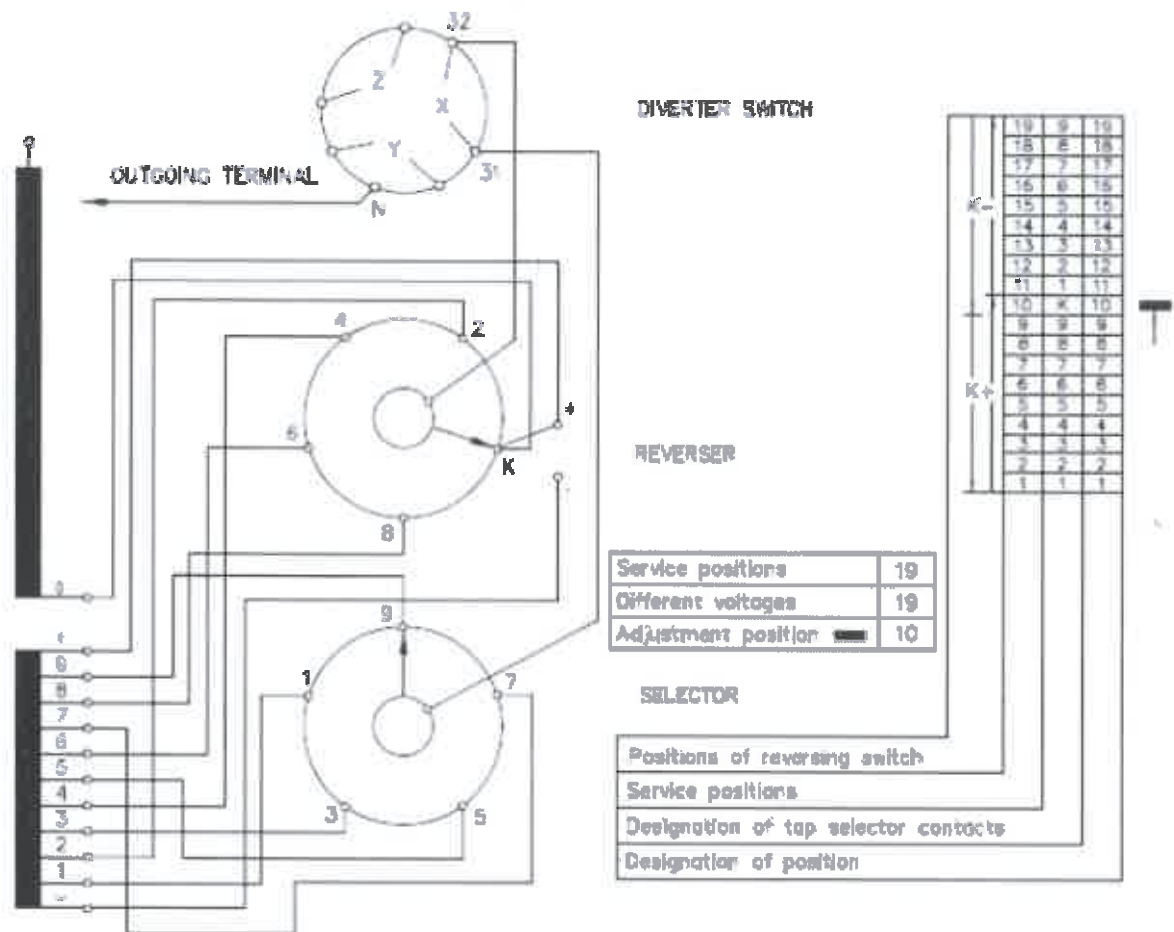
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Annex 3: Connection diagram of the tested OLTC



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Annex 4: Oscillograms of the applied LI, LIC and SI

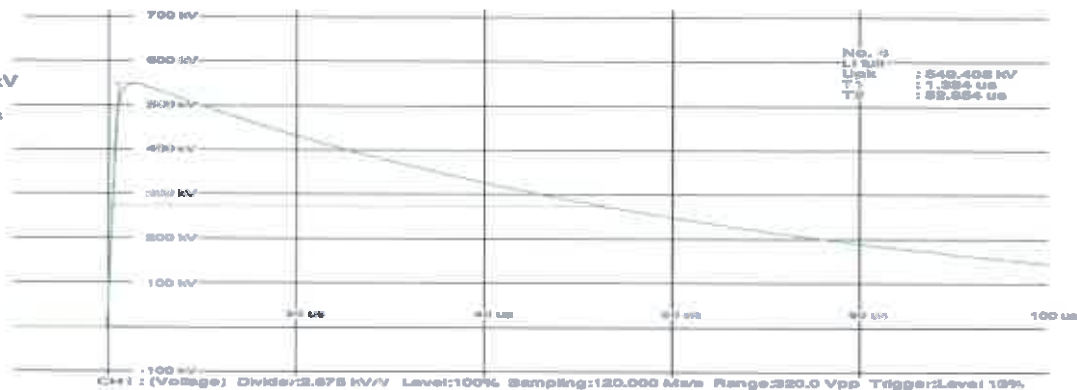
Insulation level to earth "F" LI Positive

RSV9.3-III-700-123/N-10.19.1W

F_LI

No. 8
LI full
Upk : 549.408 kV
T1 : 1.334 us
T2 : 52.854 us

10/30/2017
11:22:14

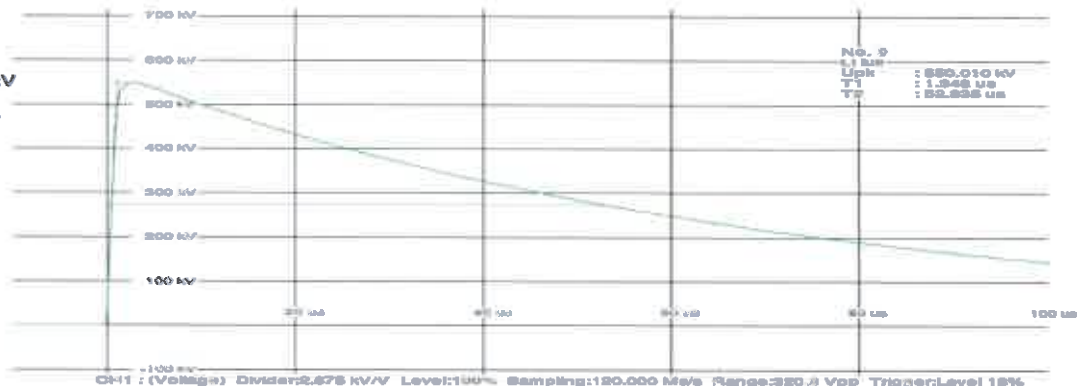


RSV9.3-III-700-123/N-10.19.1W

F_LI

No. 9
LI full
Upk : 550.010 kV
T1 : 1.343 us
T2 : 52.835 us

10/30/2017
11:23:25

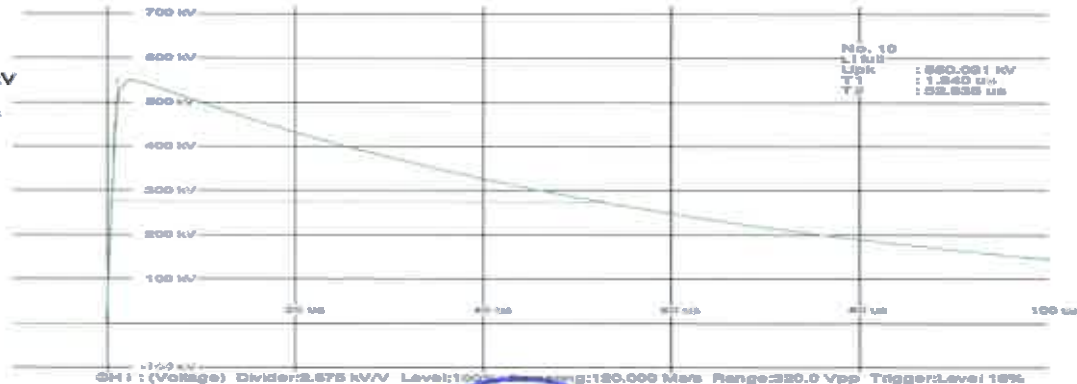


RSV9.3-III-700-123/N-10.19.1W

F_LI

No. 10
LI full
Upk : 550.031 kV
T1 : 1.340 us
T2 : 52.835 us

10/30/2017
11:24:35



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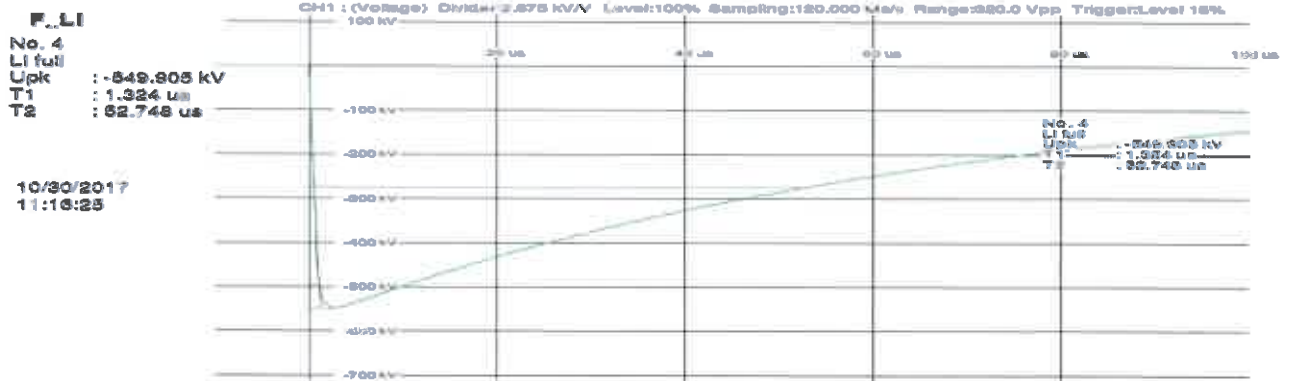


Insulation level to earth "F" LI Negative

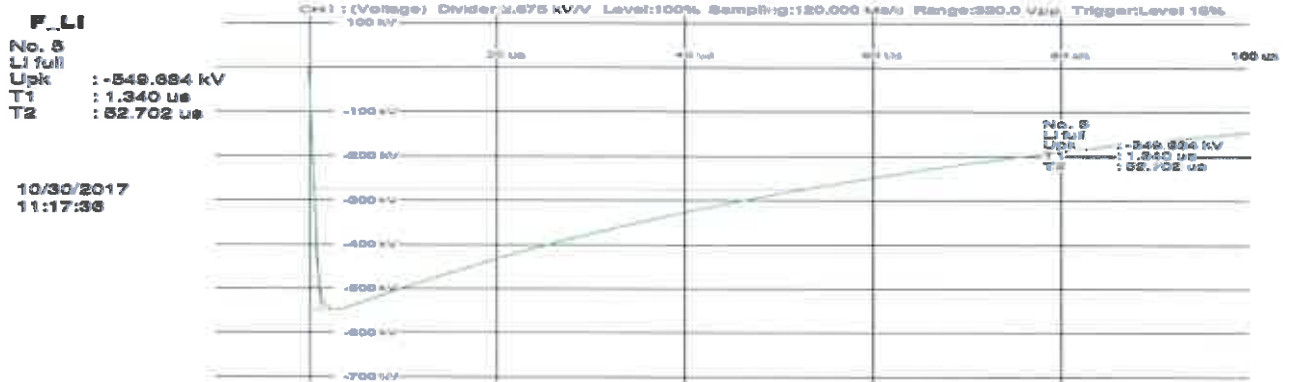
RSV9.3-III-700-123/N-10.19.1W



RSV9.3-III-700-123/N-10.19.1W



RSV9.3-III-700-123/N-10.19.1W



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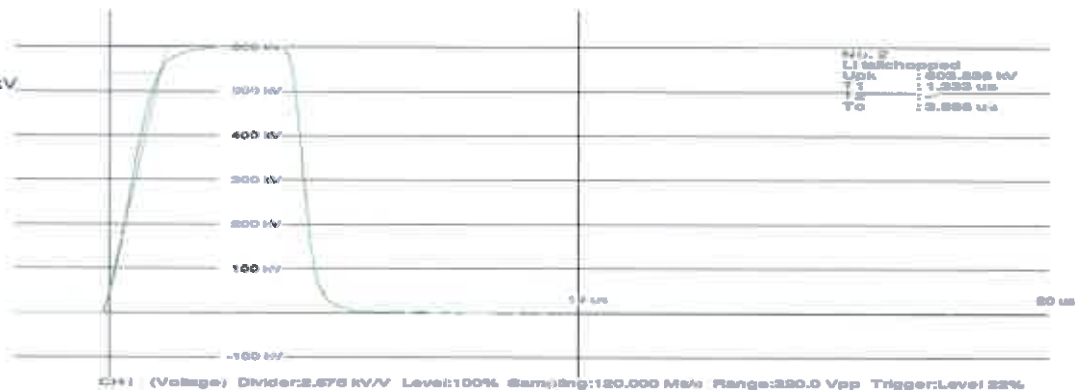
Insulation level to earth "F" LIC Positive

RSV9.3-III-700-123/N-10.19.1W

F_LIC

No. 2
LI tailchopped
Upk : 603.836 kV
T1 : 1.333 us
T2 : --
Tc : 3.866 us

10/30/2017
11:32:03

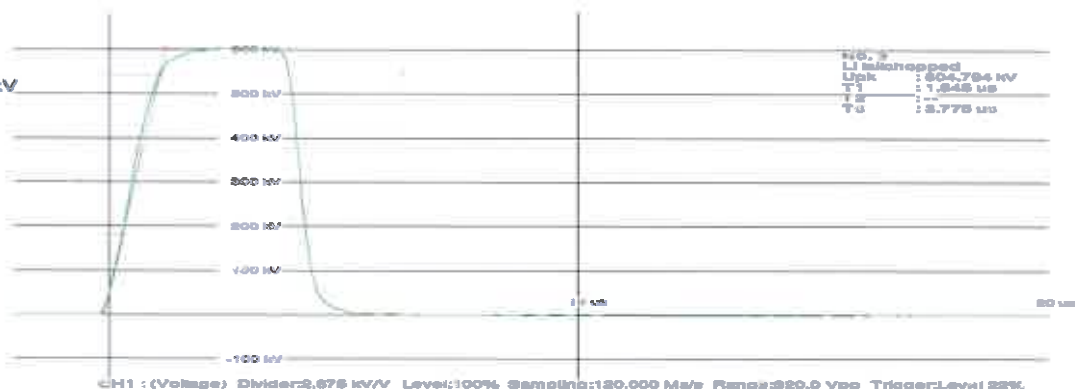


RSV9.3-III-700-123/N-10.19.1W

F_LIC

No. 3
LI tailchopped
Upk : 604.794 kV
T1 : 1.348 us
T2 : --
Tc : 3.778 us

10/30/2017
11:33:15

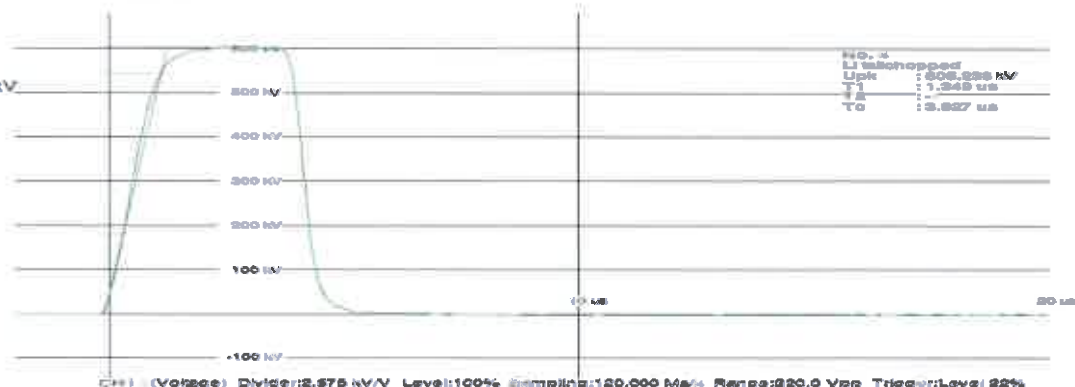


RSV9.3-III-700-123/N-10.19.1W

F_LIC

No. 4
LI tailchopped
Upk : 605.233 kV
T1 : 1.349 us
T2 : --
Tc : 3.827 us

10/30/2017
11:34:27



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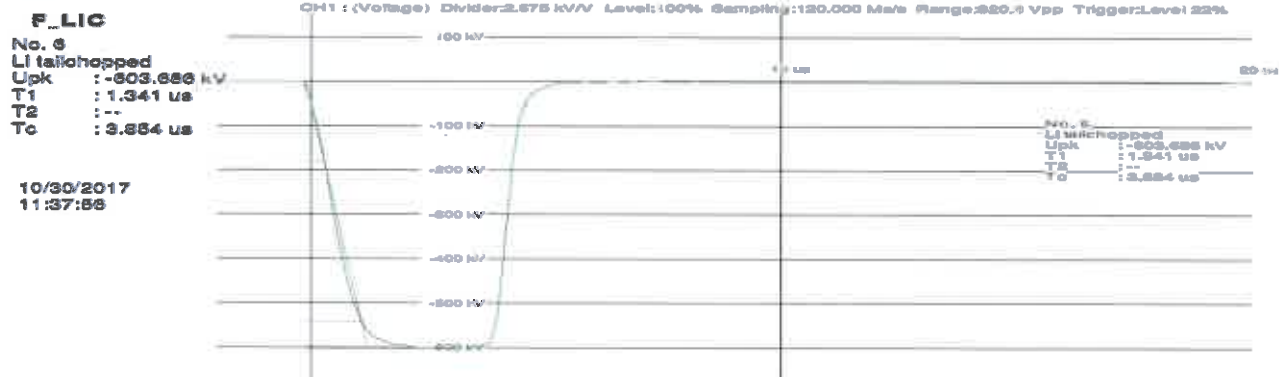


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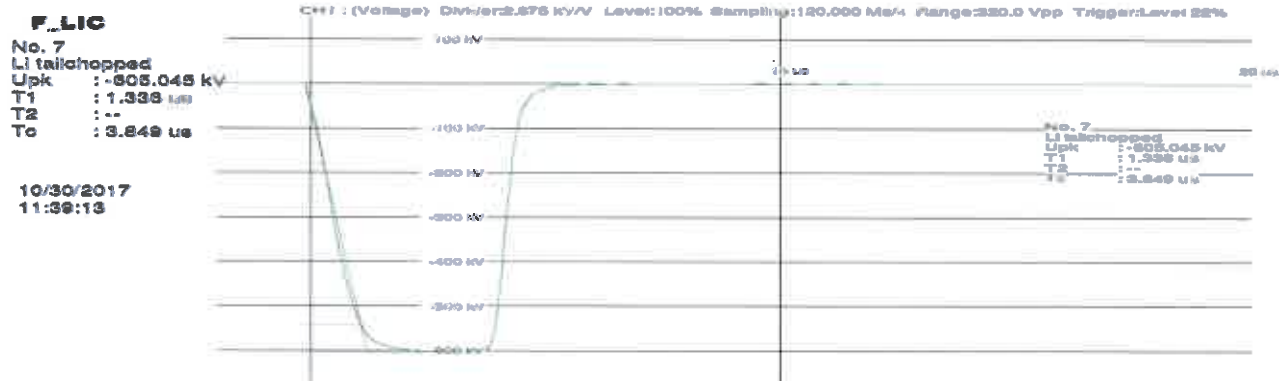
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Insulation level to earth "F" LIC Negative

RSV9.3-III-700-123/N-10.19.1W



RSV9.3-III-700-123/N-10.19.1W



RSV9.3-III-700-123/N-10.19.1W



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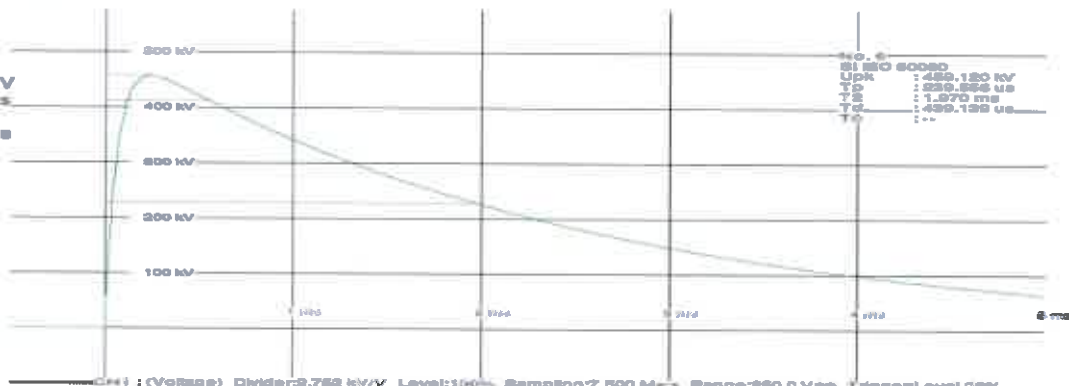
Insulation level to earth "F" SI Positive

RSV9.3-III-700-123/N-10.19.1W

F_SI

No. 6
SI IEC 60060
Upk : 459.120 kV
Tp : 239.556 us
T2 : 1.970 ms
Td : 439.139 us
TO : --

30.10.2017 A.
13:49:

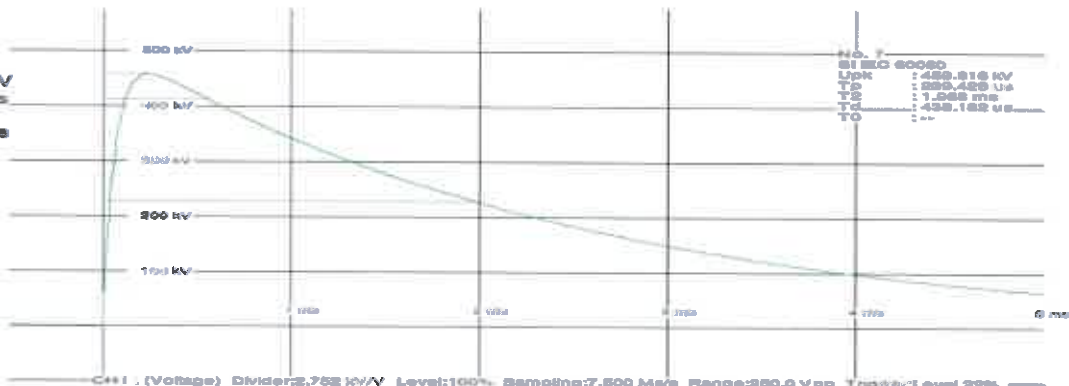


RSV9.3-III-700-123/N-10.19.1W

F_SI

No. 7
SI IEC 60060
Upk : 459.816 kV
Tp : 239.426 us
T2 : 1.968 ms
Td : 439.182 us
TO : --

30.10.2017 A.
13:50:

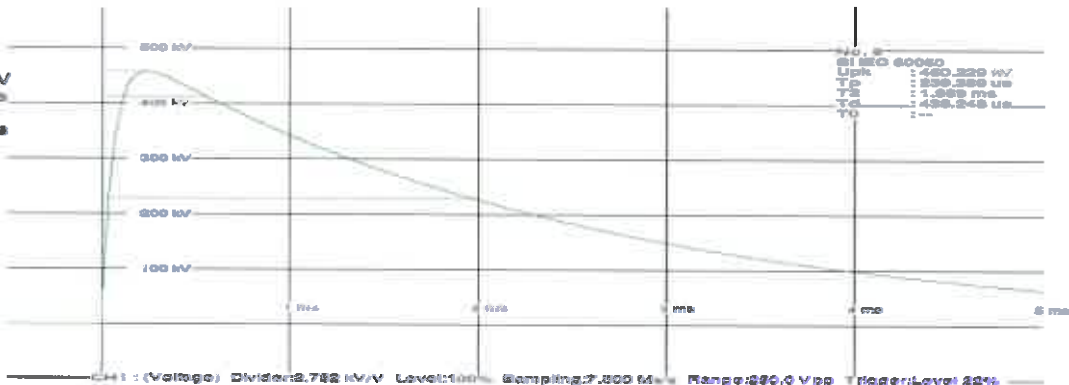


RSV9.3-III-700-123/N-10.19.1W

F_SI

No. 8
SI IEC 60060
Upk : 460.229 kV
Tp : 239.369 us
T2 : 1.969 ms
Td : 439.248 us
TO : --

30.10.2017 A.
13:52:



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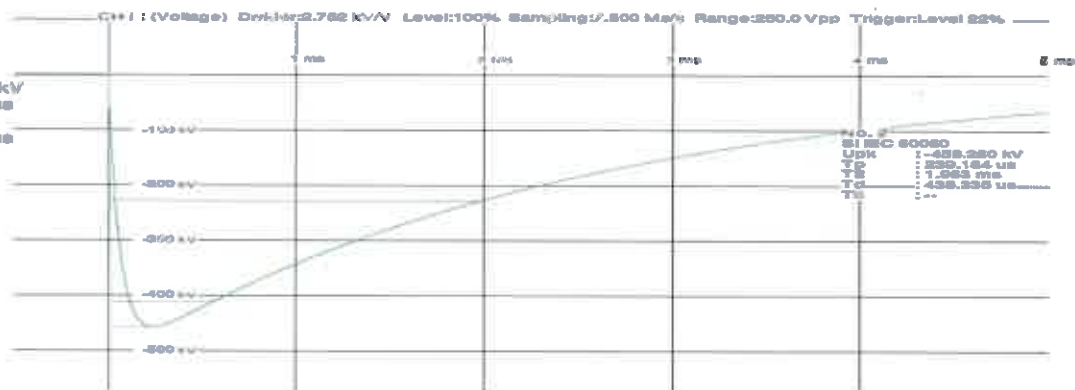
Insulation level to earth "F" SI Negative

RSV9.3-III-700-123/N-10.19.1W

F_SI

No. 2
SI IEC 60060
Upk : -458.280 kV
Tp : 239.184 us
T2 : 1.963 ms
Td : 438.335 us
T0 : --

10/30/2017
1:43:32 P

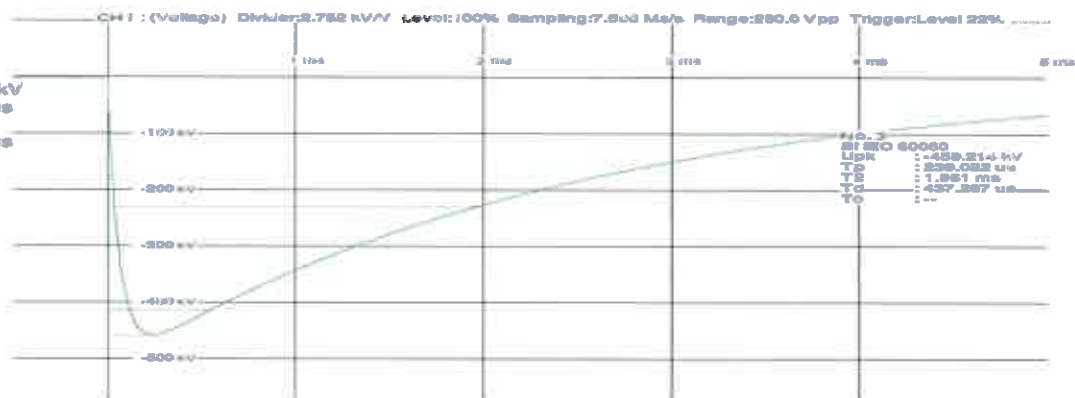


RSV9.3-III-700-123/N-10.19.1W

F_SI

No. 3
SI IEC 60060
Upk : -459.214 kV
Tp : 239.022 us
T2 : 1.981 ms
Td : 437.287 us
T0 : --

10/30/2017
1:45:15 P

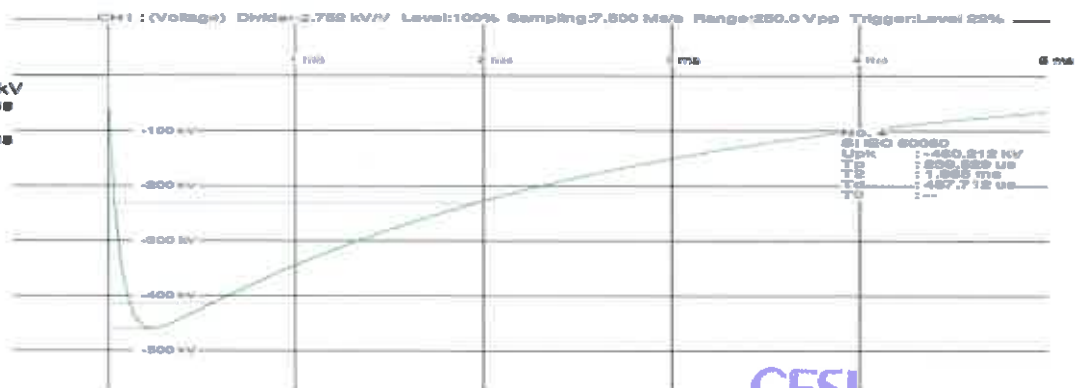


RSV9.3-III-700-123/N-10.19.1W

F_SI

No. 4
SI IEC 60060
Upk : -460.212 kV
Tp : 239.529 us
T2 : 1.965 ms
Td : 437.712 us
T0 : --

10/30/2017
1:46:27 P



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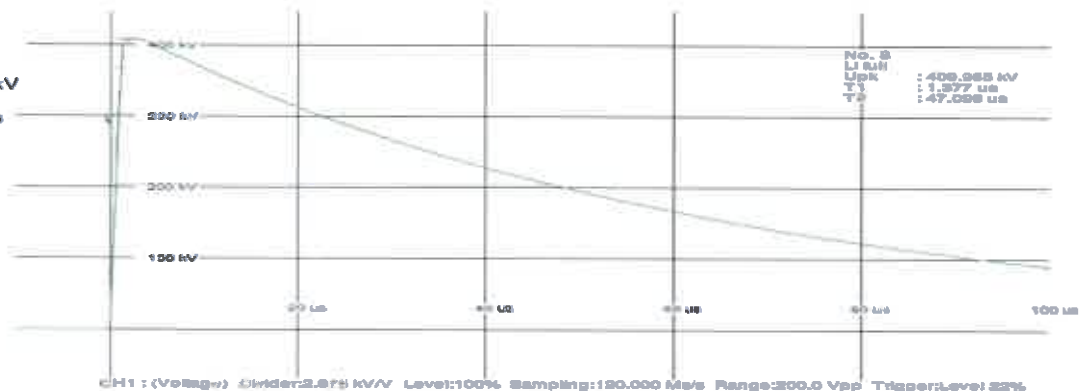
Between phases "b₂" LI Positive

RSV9.3-III-700-123/N-10.19.1W

B_2_LI

No. 8
LI full
Upk : 409.965 kV
T1 : 1.377 us
T2 : 47.088 us

10/31/2017
8:42:58 A

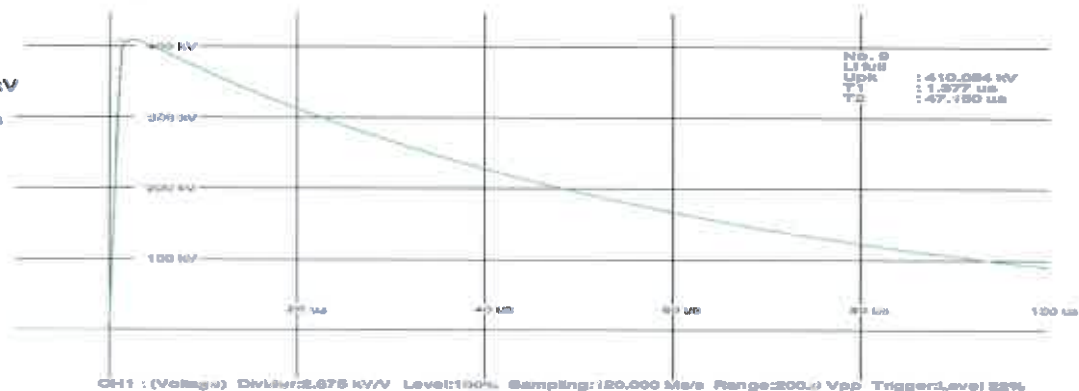


RSV9.3-III-700-123/N-10.19.1W

B_2_LI

No. 9
LI full
Upk : 410.054 kV
T1 : 1.377 us
T2 : 47.150 us

10/31/2017
8:44:08 A

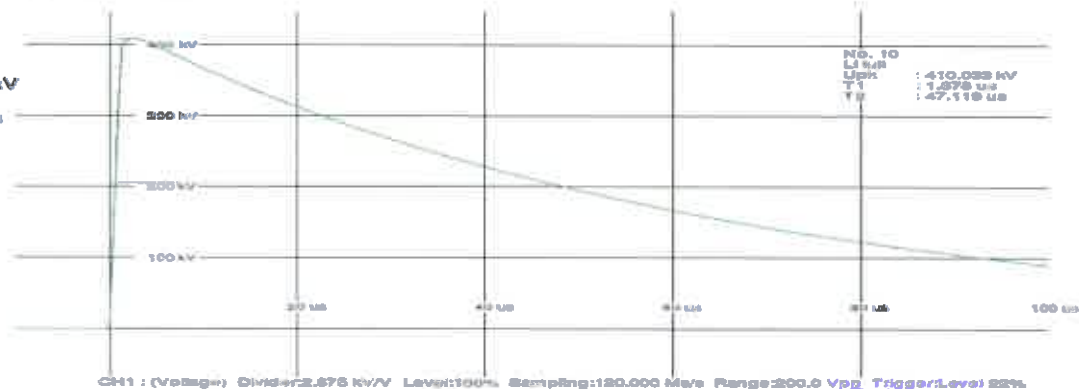


RSV9.3-III-700-123/N-10.19.1W

B_2_LI

No. 10
LI full
Upk : 410.033 kV
T1 : 1.378 us
T2 : 47.119 us

10/31/2017
8:45:18 A



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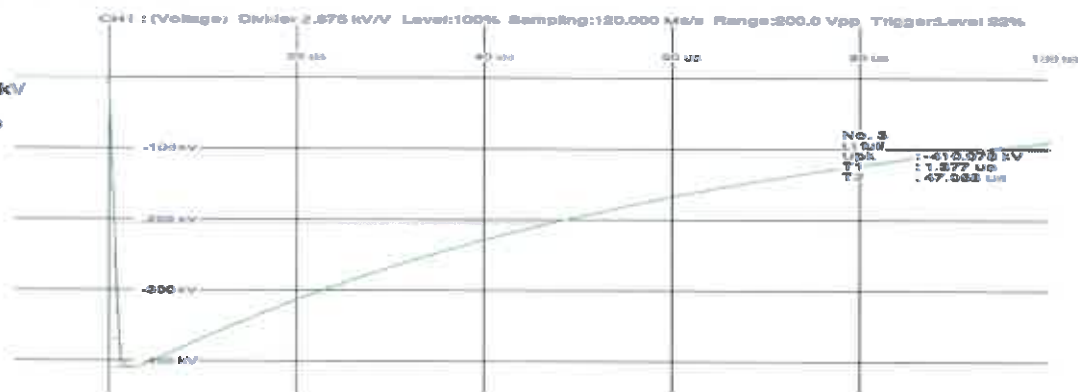
Between phases "b₂" LI Negative

RSV9.3-III-700-123/N-10.19.1W

B_2_LI

No. 3
LI full
Upk : -410.076 kV
T1 : 1.377 us
T2 : 47.068 us

10/31/2017
8:36:32 A

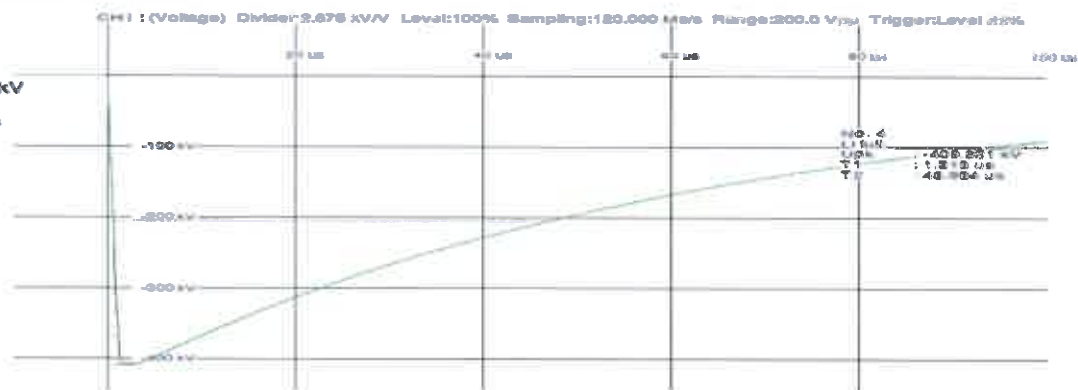


RSV9.3-III-700-123/N-10.19.1W

B_2_LI

No. 4
LI full
Upk : -408.821 kV
T1 : 1.318 us
T2 : 46.684 us

10/31/2017
8:37:44 A

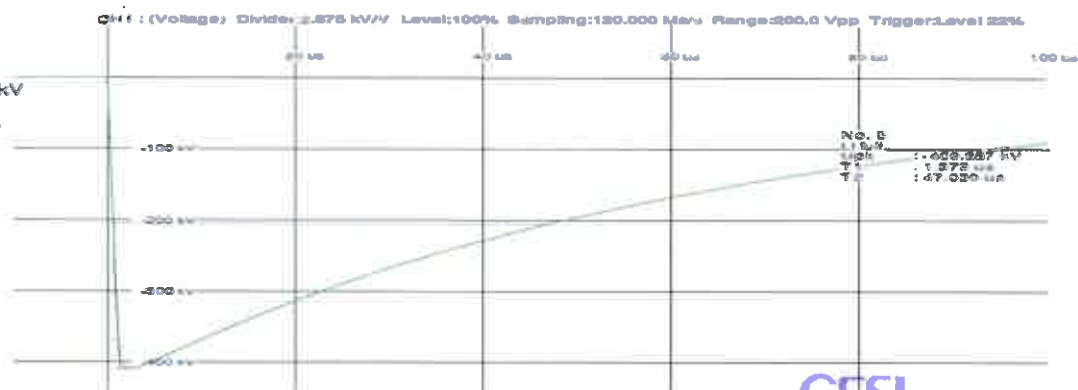


RSV9.3-III-700-123/N-10.19.1W

B_2_LI

No. 5
LI full
Upk : -409.687 kV
T1 : 1.379 us
T2 : 47.030 us

10/31/2017
8:38:53 A



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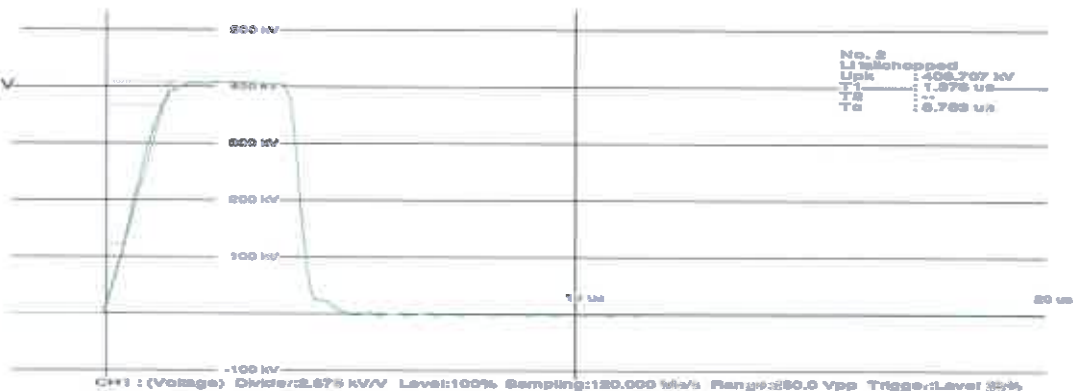
Between phases "b₂" LIC Positive

RSV9.3-III-700-123/N-10.19.1W

B_2_LIC

No. 2
LI tailchopped
Upk : 408.707 kV
T1 : 1.378 us
T2 : --
T3 : 3.783 us

10/31/2017
8:48:10 A

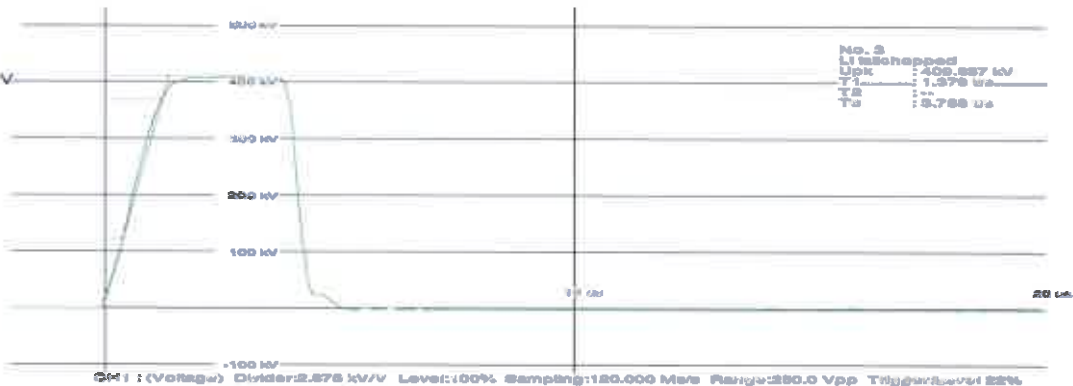


RSV9.3-III-700-123/N-10.19.1W

B_2_LIC

No. 3
LI tailchopped
Upk : 409.837 kV
T1 : 1.378 us
T2 : --
T3 : 3.783 us

10/31/2017
8:49:20 A

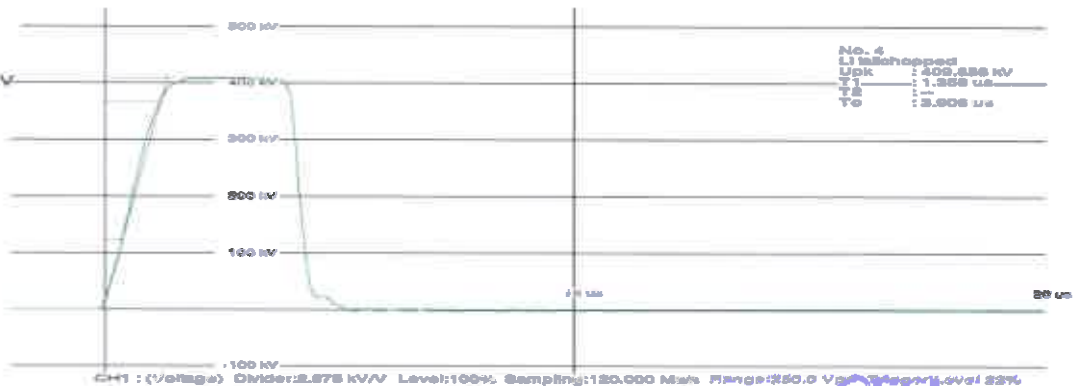


RSV9.3-III-700-123/N-10.19.1W

B_2_LIC

No. 4
LI tailchopped
Upk : 409.856 kV
T1 : 1.358 us
T2 : --
T3 : 3.908 us

10/31/2017
8:50:30 A



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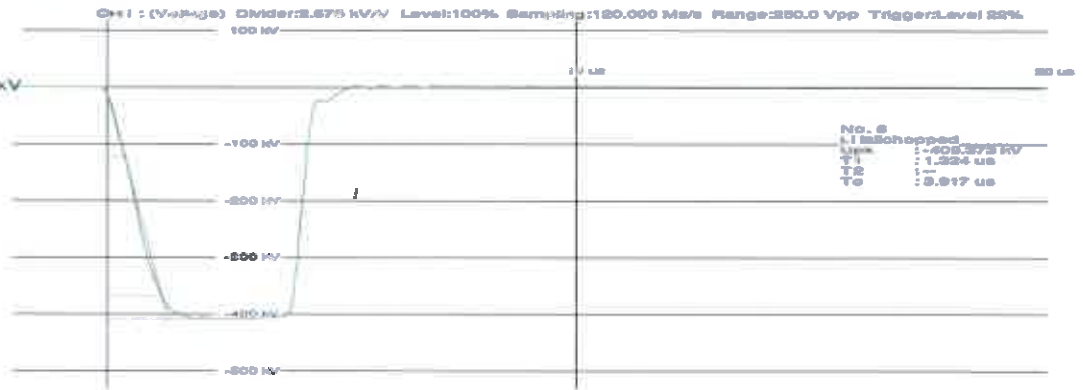
Between phases "b₂" LIC Negative

RSV9.3-III-700-123/N-10.19.1W

B_2_LIC

No. 6
LI tailchopped
Upk : -409.373 kV
T1 : 1.324 us
T2 : --
Tc : 3.917 us

10/31/2017
9:53:44 A

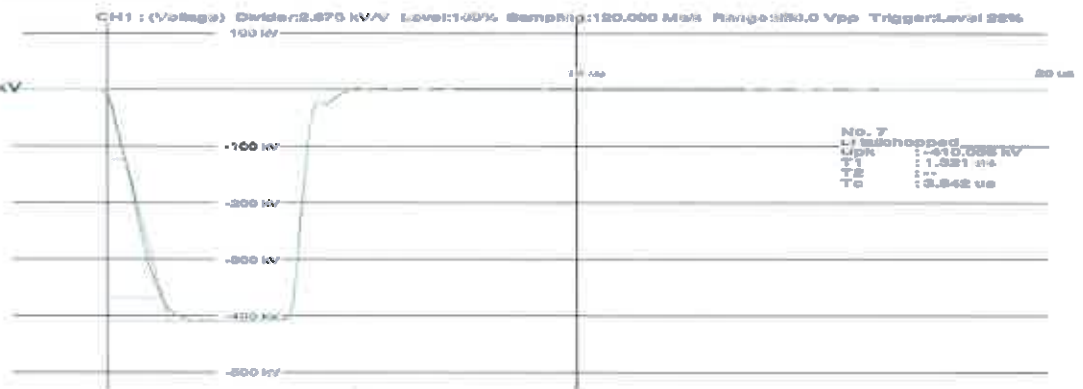


RSV9.3-III-700-123/N-10.19.1W

B_2_LIC

No. 7
LI tailchopped
Upk : -410.056 kV
T1 : 1.321 us
T2 : --
Tc : 3.942 us

10/31/2017
9:54:54 A

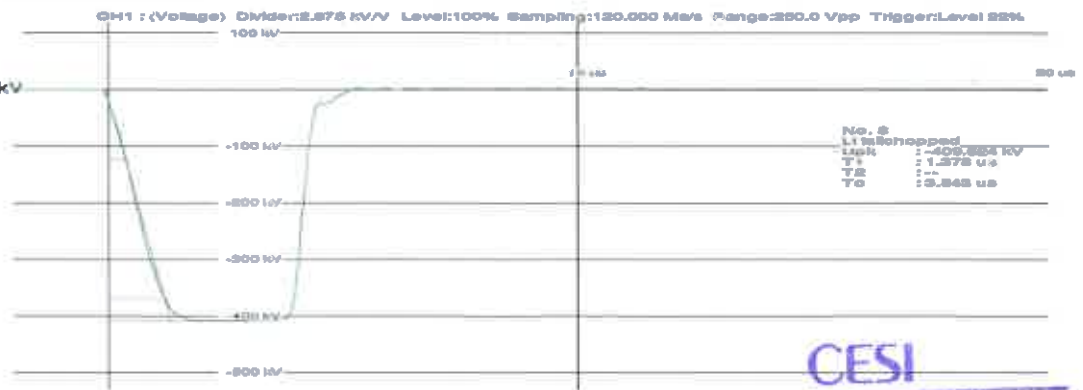


RSV9.3-III-700-123/N-10.19.1W

B_2_LIC

No. 8
LI tailchopped
Upk : -409.624 kV
T1 : 1.376 us
T2 : --
Tc : 3.843 us

10/31/2017
9:56:05 A



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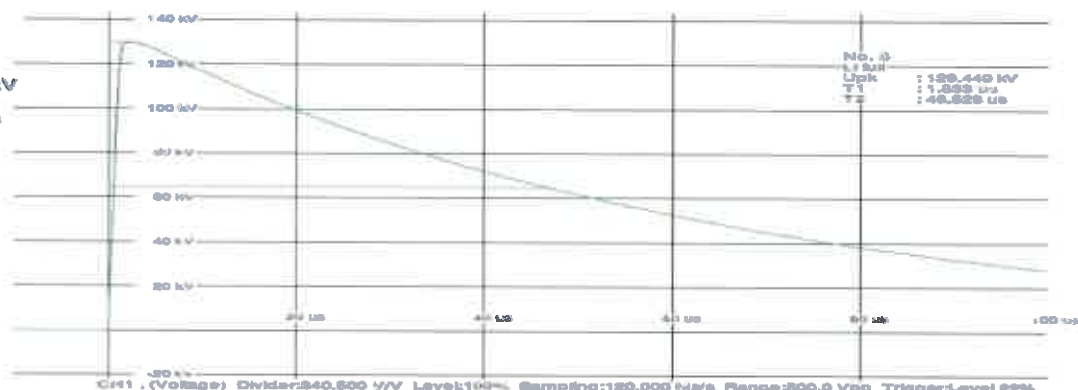
Between diverter switch contacts in their final open position "a₀_31" LI Positive

RSV9.3-III-700-123/N-10.19.1W

A0_31_LI

No. 6
LI full
Upk : 129.449 kV
T1 : 1.333 us
T2 : 48.528 us

10/31/2017
10:03:45

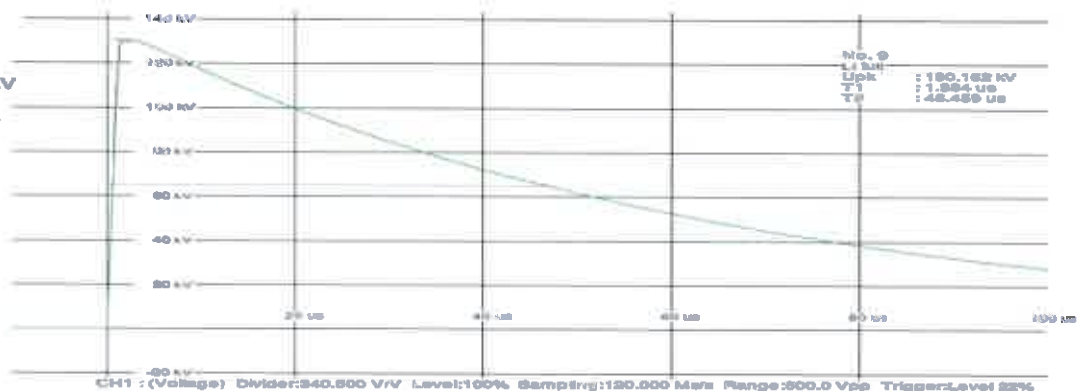


RSV9.3-III-700-123/N-10.19.1W

A0_31_LI

No. 9
LI full
Upk : 130.162 kV
T1 : 1.334 us
T2 : 48.459 us

10/31/2017
10:04:55

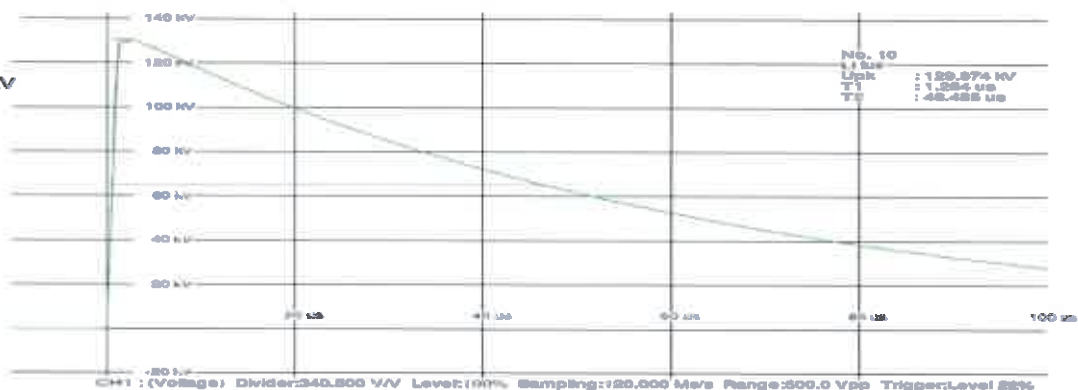


RSV9.3-III-700-123/N-10.19.1W

A0_31_LI

No. 10
LI full
Upk : 129.974 kV
T1 : 1.254 us
T2 : 48.435 us

10/31/2017
10:05:08



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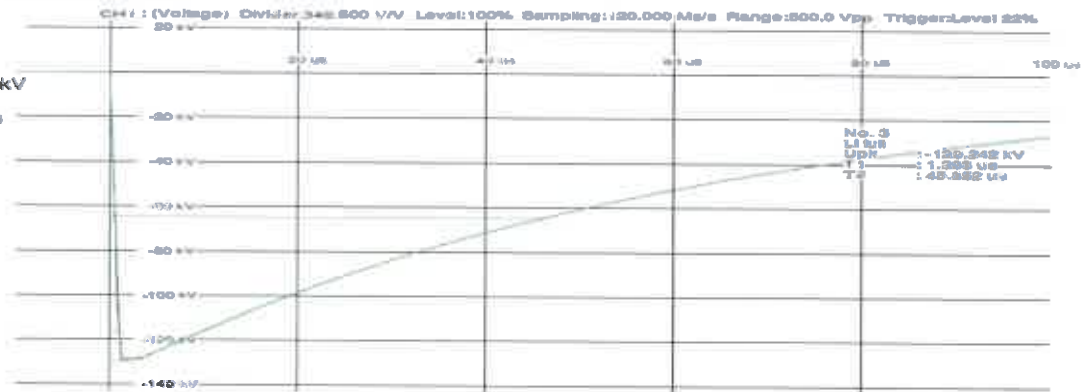
Between diverter switch contacts in their final open position "a₀_31" LI Negative

RSV9.3-III-700-123/N-10.19.1W

A0_31_LI

No. 3
LI full
Upk : -129.242 kV
T1 : 1.293 us
T2 : 48.882 us

10/31/2017
9:55:46 A

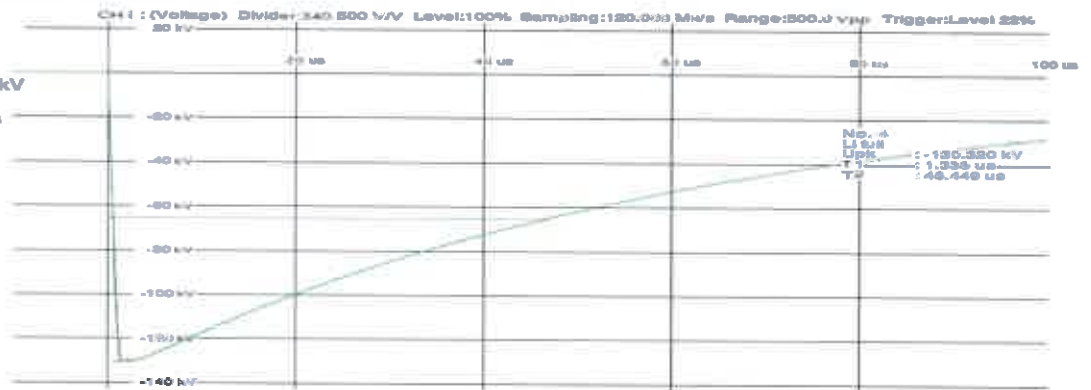


RSV9.3-III-700-123/N-10.19.1W

A0_31_LI

No. 4
LI full
Upk : -130.320 kV
T1 : 1.336 us
T2 : 48.448 us

10/31/2017
9:57:58 A

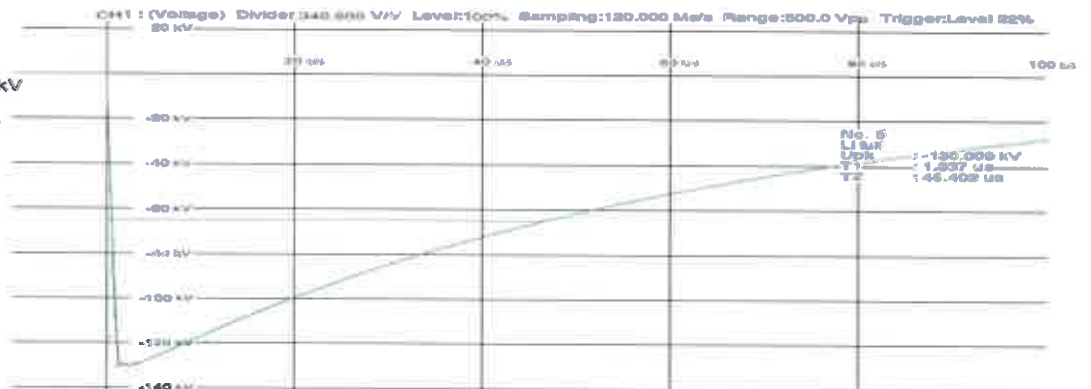


RSV9.3-III-700-123/N-10.19.1W

A0_31_LI

No. 5
LI full
Upk : -130.008 kV
T1 : 1.337 us
T2 : 48.402 us

10/31/2017
9:59:07 A



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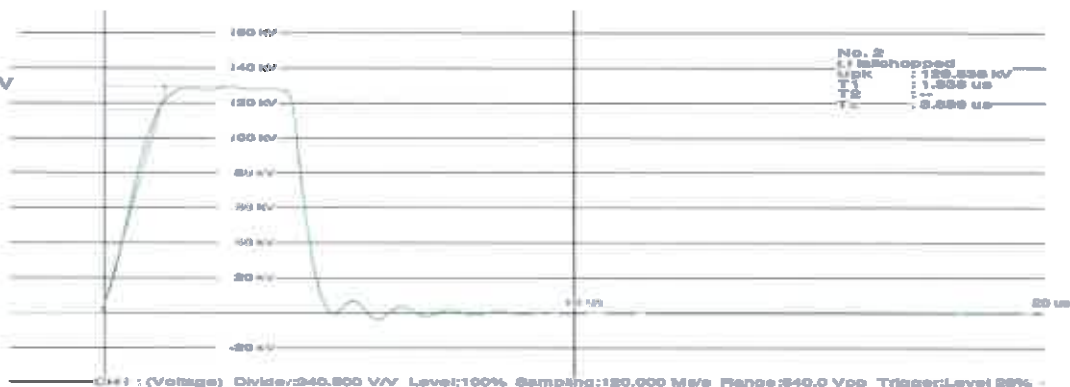
Between diverter switch contacts in their final open position "a₀_31" LIC Positive

RSV9.3-III-700-123/N-10.19.1W

A0_31_LIC

No. 2
LI tailchopped
Upk : 129.838 kV
T1 : 1.336 us
T2 : --
Tc : 3.899 us

10/31/2017
10:08:59

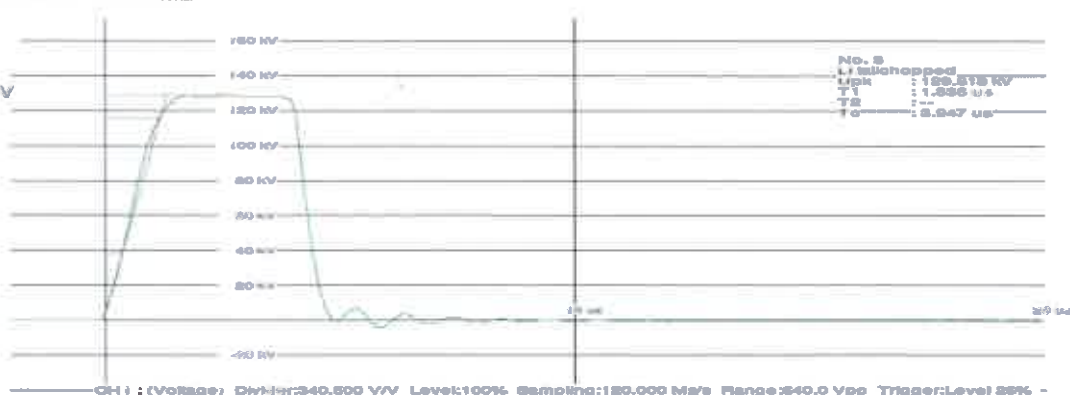


RSV9.3-III-700-123/N-10.19.1W

A0_31_LIC

No. 3
LI tailchopped
Upk : 129.818 kV
T1 : 1.336 us
T2 : --
Tc : 3.947 us

10/31/2017
10:10:10

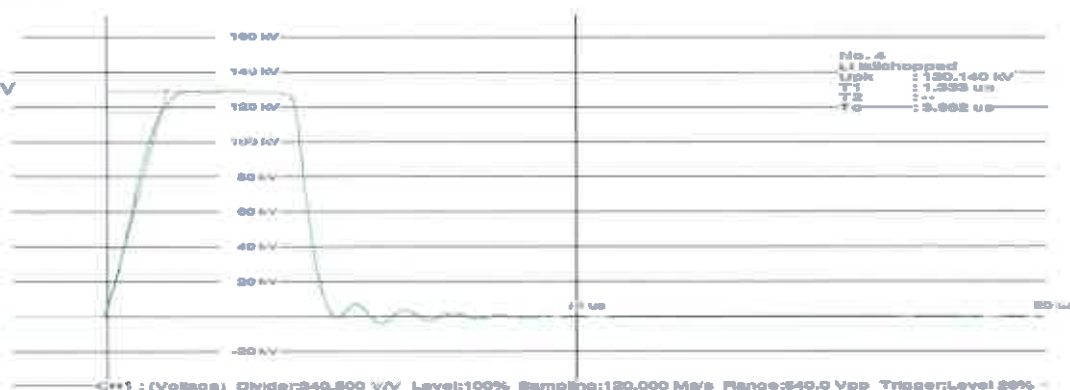


RSV9.3-III-700-123/N-10.19.1W

A0_31_LIC

No. 4
LI tailchopped
Upk : 130.140 kV
T1 : 1.333 us
T2 : --
Tc : 3.992 us

10/31/2017
10:11:20



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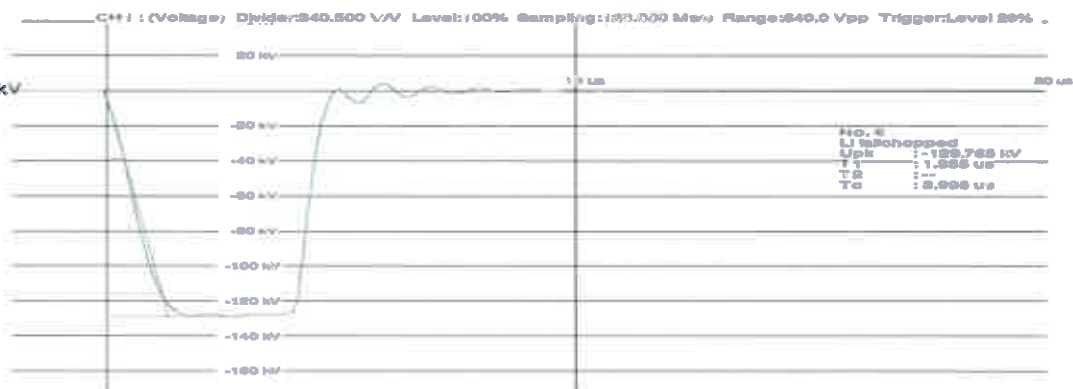
Between diverter switch contacts in their final open position "a₀_31" LIC Negative

RSV9.3-III-700-123/N-10.19.1W

A0_31_LIC

No. 6
LI tailchopped
Upk : -129.765 kV
T1 : 1.335 us
T2 : --
Tc : 3.966 us

10/31/2017
10:14:33

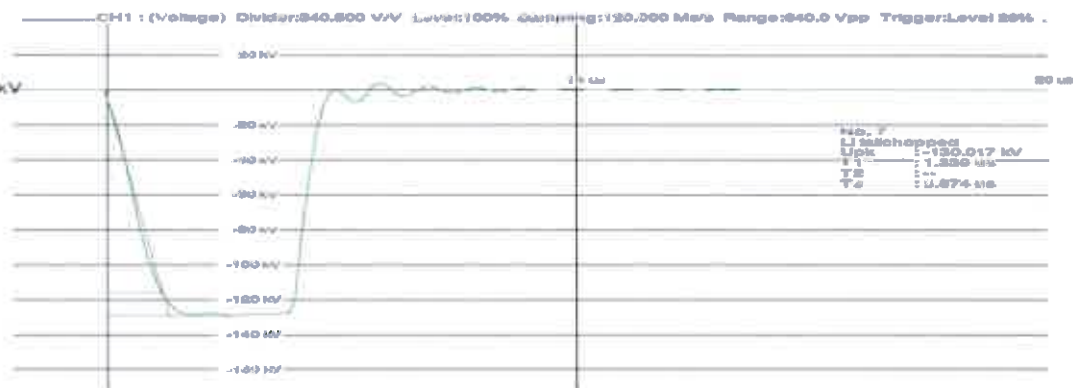


RSV9.3-III-700-123/N-10.19.1W

A0_31_LIC

No. 7
LI tailchopped
Upk : -130.017 kV
T1 : 1.339 us
T2 : --
Tc : 3.874 us

10/31/2017
10:15:43



RSV9.3-III-700-123/N-10.19.1W

A0_31_LIC

No. 8
LI tailchopped
Upk : -130.040 kV
T1 : 1.341 us
T2 : --
Tc : 3.960 us

10/31/2017
10:19:54



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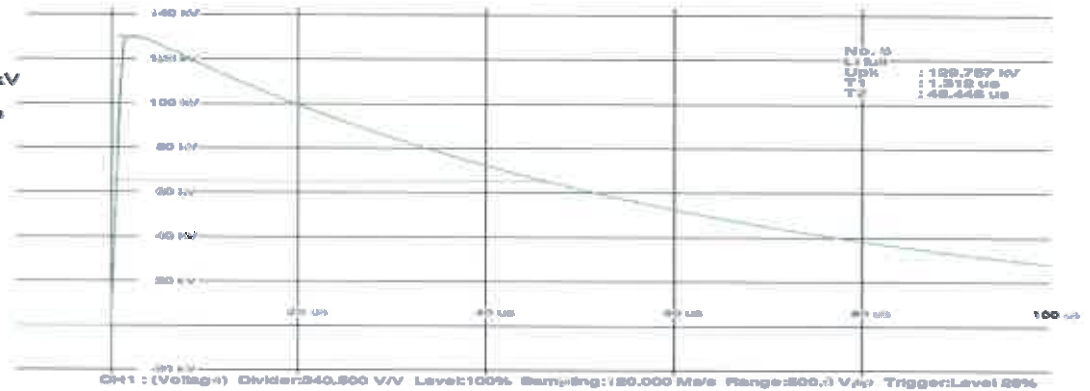
Between diverter switch contacts in their final open position "a₀_32" LI Positive

RSV9.3-III-700-123/N-10.19.1W

A0_32_LI

No. 9
LI full
Upk : 129.787 kV
T1 : 1.312 us
T2 : 48.448 us

10/31/2017
10:58:08

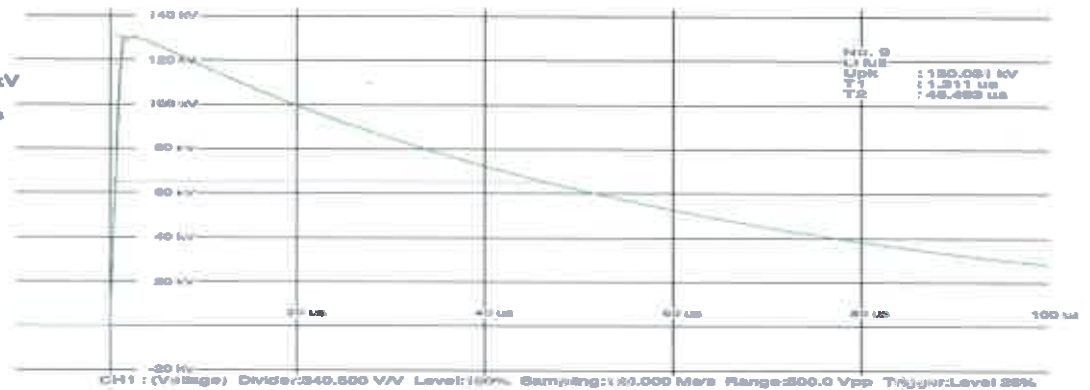


RSV9.3-III-700-123/N-10.19.1W

A0_32_LI

No. 9
LI full
Upk : 130.031 kV
T1 : 1.311 us
T2 : 48.493 us

10/31/2017
10:59:16

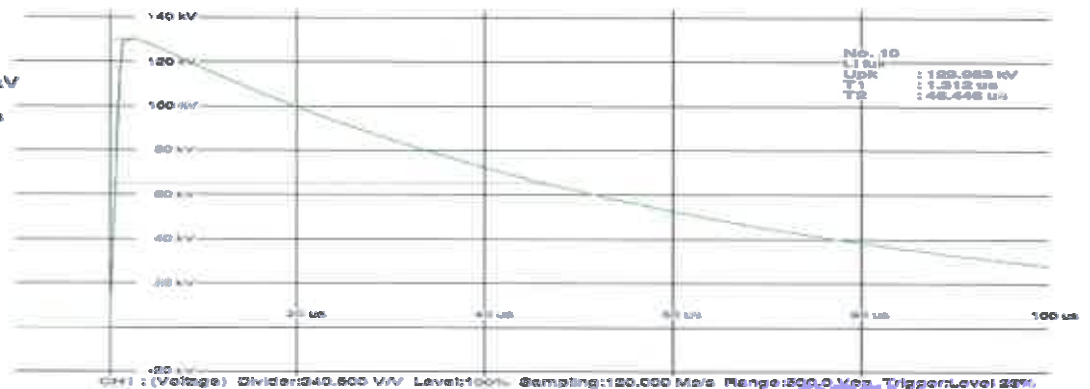


RSV9.3-III-700-123/N-10.19.1W

A0_32_LI

No. 10
LI full
Upk : 129.983 kV
T1 : 1.312 us
T2 : 48.448 us

10/31/2017
11:00:27



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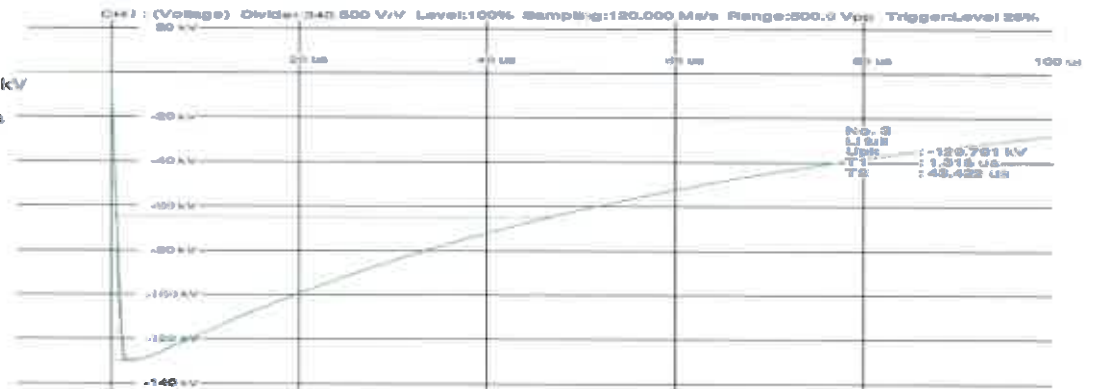
Between diverter switch contacts in their final open position "a₀_32" LI Negative

RSV9.3-III-700-123/N-10.19.1W

A0_32_LI

No. 3
LI full
Upk : -129.791 kV
T1 : 1.318 us
T2 : 48.422 us

10/31/2017
10:51:30

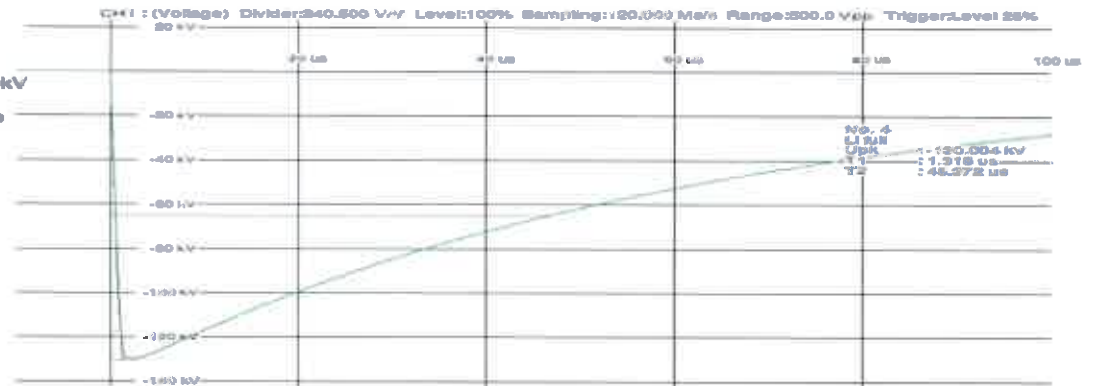


RSV9.3-III-700-123/N-10.19.1W

A0_32_LI

No. 4
LI full
Upk : -130.004 kV
T1 : 1.318 us
T2 : 48.372 us

10/31/2017
10:52:41



RSV9.3-III-700-123/N-10.19.1W

A0_32_LI

No. 5
LI full
Upk : -130.015 kV
T1 : 1.320 us
T2 : 48.368 us

10/31/2017
10:53:51



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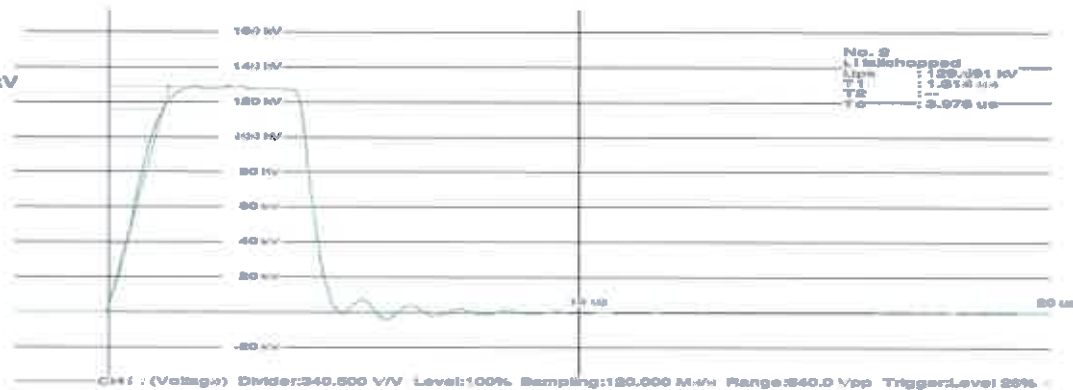
Between diverter switch contacts in their final open position "a₀_32" LIC Positive

RSV9.3-III-700-123/N-10.19.1W

A0_32_LIC

No. 2
LI tailchopped
Upk : 129.891 kV
T1 : 1.316 us
T2 : --
Tc : 3.976 us

10/31/2017
11:03:08



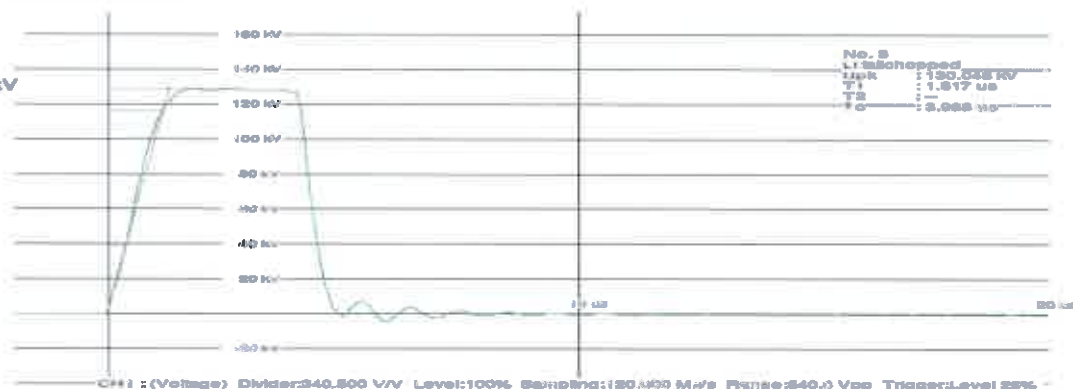
No. 2
LI tailchopped
Upk : 129.891 kV
T1 : 1.316 us
T2 : --
Tc : 3.976 us

RSV9.3-III-700-123/N-10.19.1W

A0_32_LIC

No. 3
LI tailchopped
Upk : 130.048 kV
T1 : 1.317 us
T2 : --
Tc : 3.988 us

10/31/2017
11:04:18



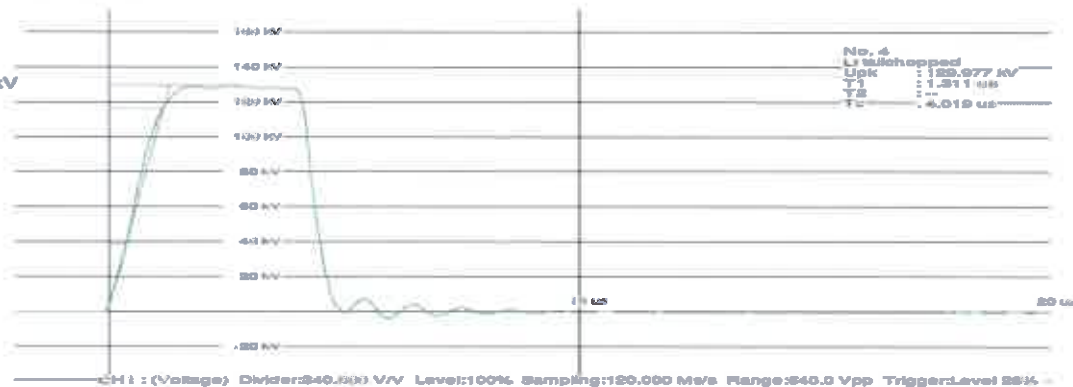
No. 3
LI tailchopped
Upk : 130.048 kV
T1 : 1.317 us
T2 : --
Tc : 3.988 us

RSV9.3-III-700-123/N-10.19.1W

A0_32_LIC

No. 4
LI tailchopped
Upk : 129.977 kV
T1 : 1.311 us
T2 : --
Tc : 4.019 us

10/31/2017
11:05:28



No. 4
LI tailchopped
Upk : 129.977 kV
T1 : 1.311 us
T2 : --
Tc : 4.019 us

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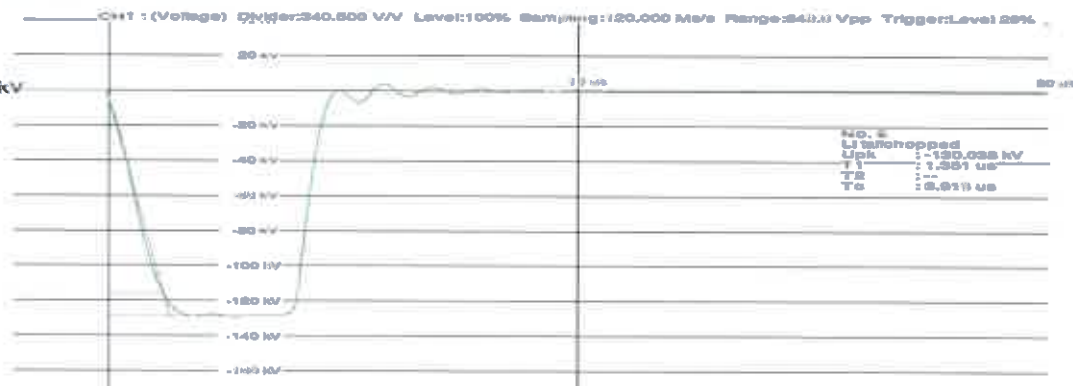
Between diverter switch contacts in their final open position "a₀_32" LIC Negative

RSV9.3-III-700-123/N-10.19.1W

A0_32_LIC

No. 6
LI tailchopped
Upk : -130.038 kV
T1 : 1.351 us
T2 : --
Tc : 3.919 us

10/31/2017
11:09:29

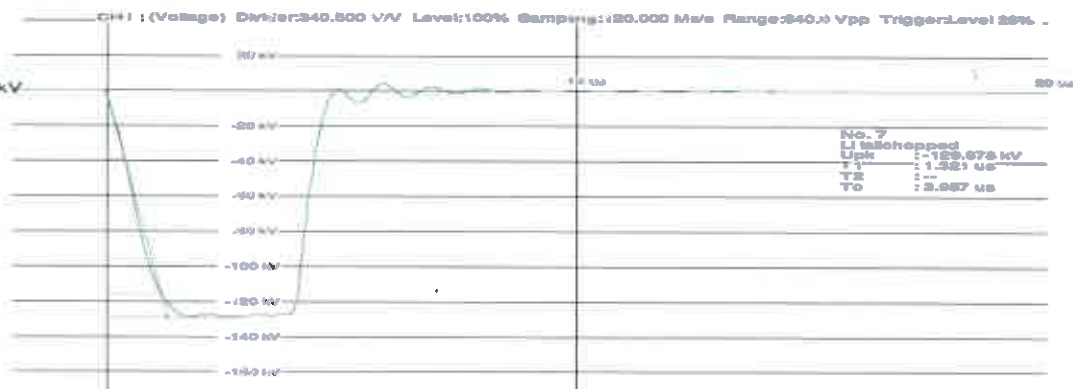


RSV9.3-III-700-123/N-10.19.1W

A0_32_LIC

No. 7
LI tailchopped
Upk : -129.678 kV
T1 : 1.321 us
T2 : --
Tc : 3.957 us

10/31/2017
11:09:36

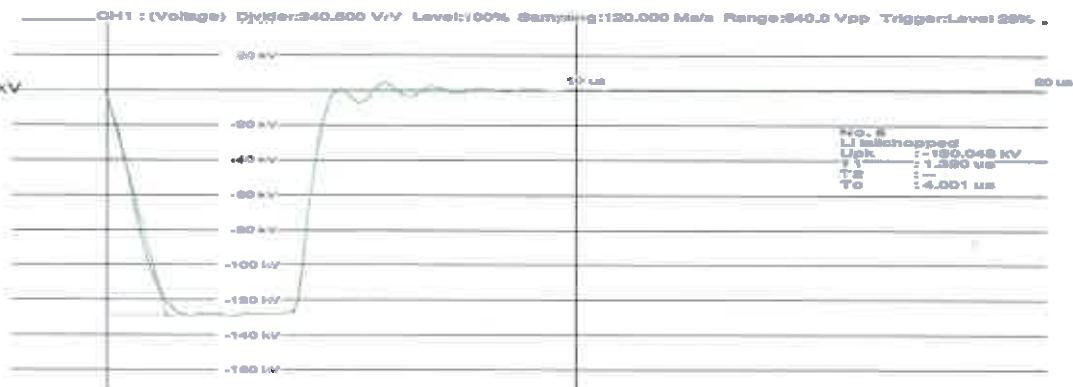


RSV9.3-III-700-123/N-10.19.1W

A0_32_LIC

No. 8
LI tailchopped
Upk : -130.048 kV
T1 : 1.320 us
T2 : --
Tc : 4.001 us

10/31/2017
11:10:46



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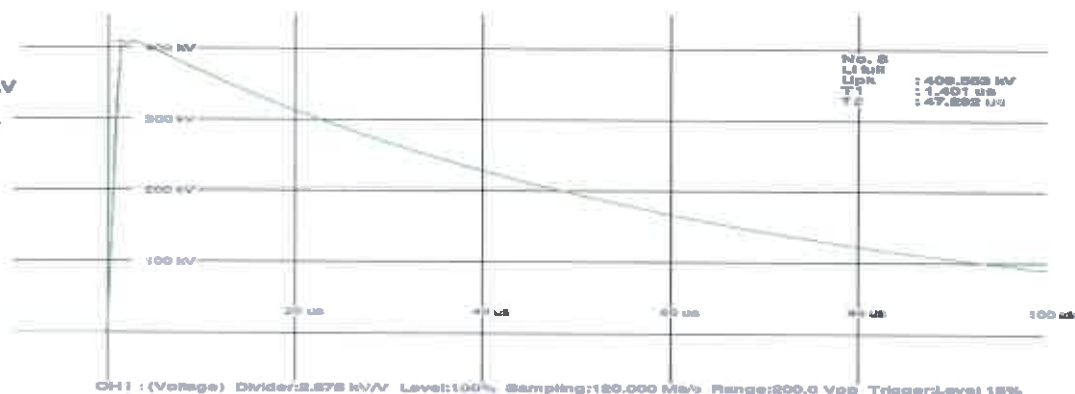
Between the first and last contact of the tap selector "b₁" LI Positive

RSV9.3-III-700-123/N-10.19.1W

B_1_LI

No. 8
LI full
Upk : 409.553 kV
T1 : 1.401 us
T2 : 47.292 us

10/30/2017
3:38:40 P

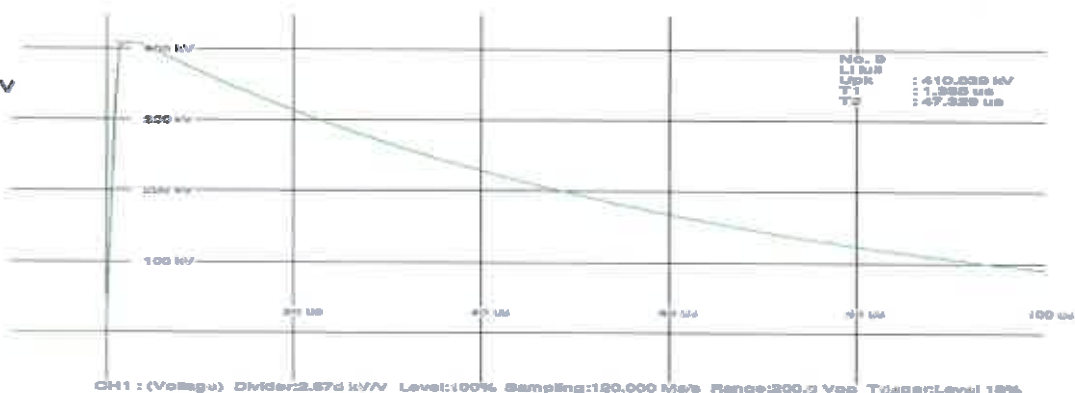


RSV9.3-III-700-123/N-10.19.1W

B_1_LI

No. 9
LI full
Upk : 410.039 kV
T1 : 1.365 us
T2 : 47.329 us

10/30/2017
3:39:50 P

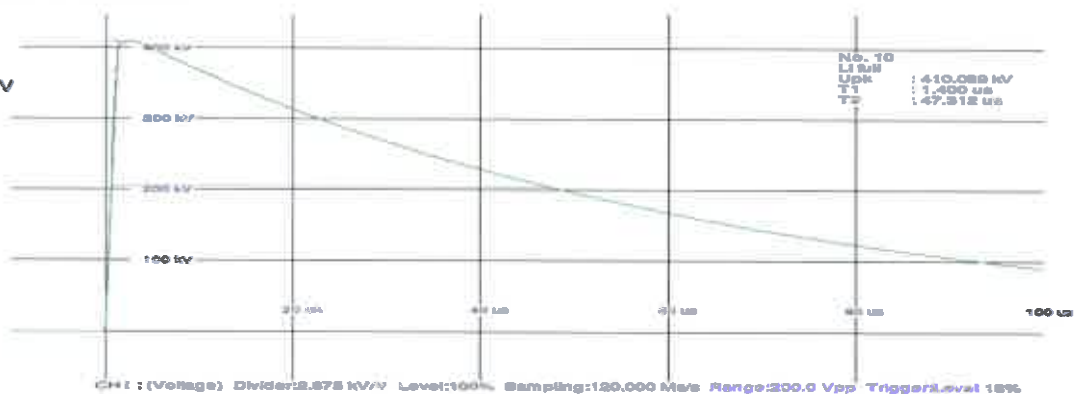


RSV9.3-III-700-123/N-10.19.1W

B_1_LI

No. 10
LI full
Upk : 410.039 kV
T1 : 1.400 us
T2 : 47.312 us

10/30/2017
3:41:02 P



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A. Byzov

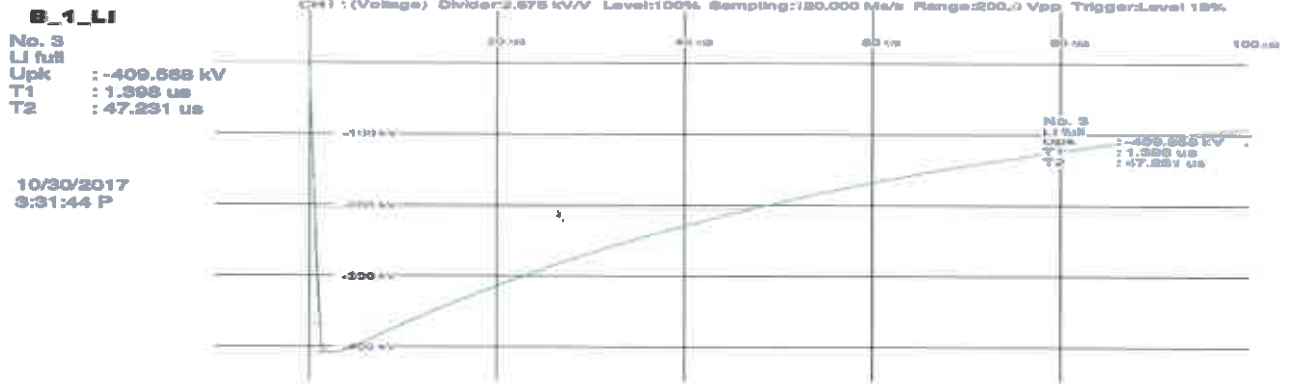
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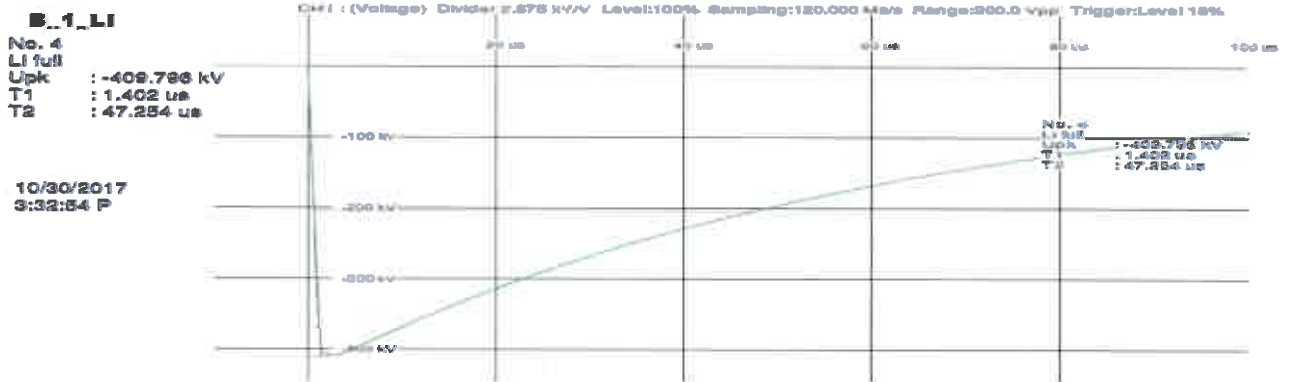


Between the first and last contact of the tap selector "b₁" LI Negative

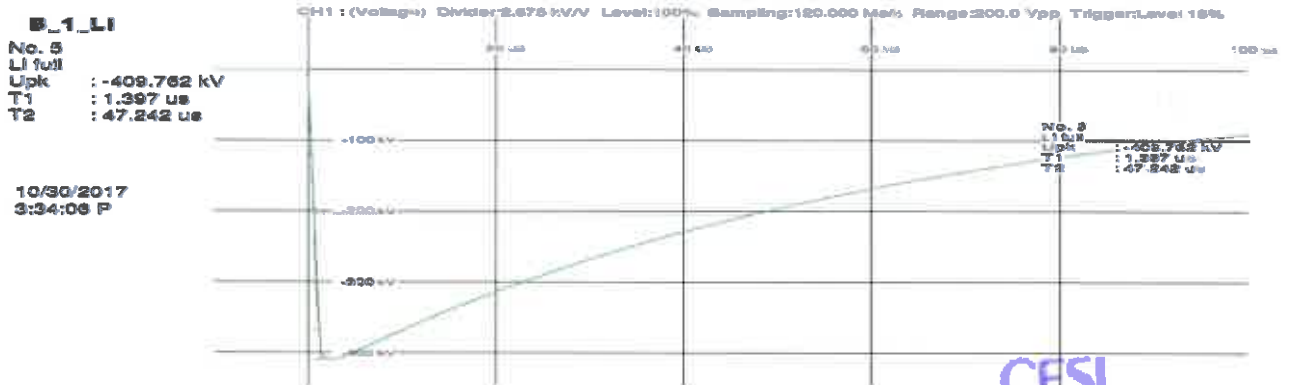
RSV9.3-III-700-123/N-10.19.1W



RSV9.3-III-700-123/N-10.19.1W



RSV9.3-III-700-123/N-10.19.1W



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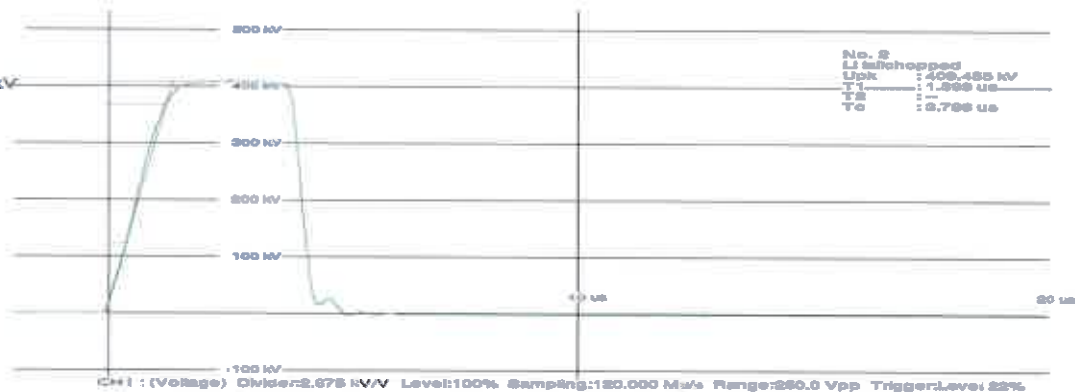
Between the first and last contact of the tap selector "b₁" LIC Positive

RSV9.3-III-700-123/N-10.19.1W

S_1_LIC

No. 2
LI tailchopped
Upk : 409.485 kV
T1 : 1.399 us
T2 : --
Tc : 3.799 us

10/30/2017
3:44:32 P

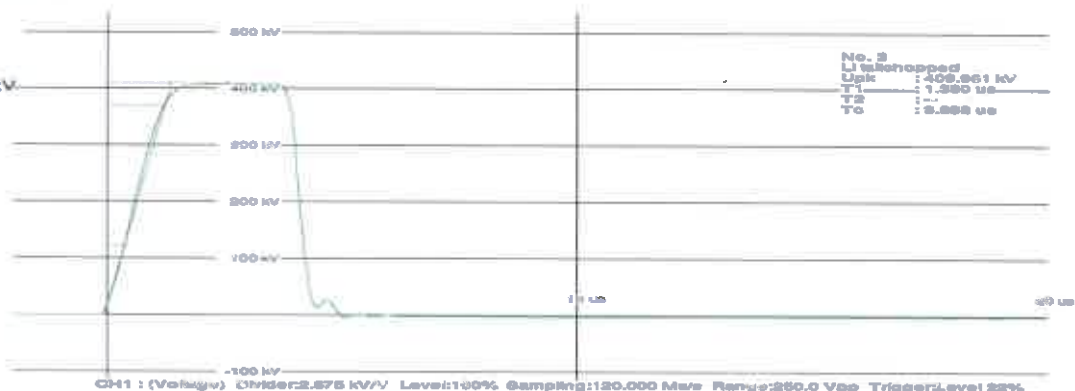


RSV9.3-III-700-123/N-10.19.1W

S_1_LIC

No. 3
LI tailchopped
Upk : 409.961 kV
T1 : 1.390 us
T2 : --
Tc : 3.836 us

10/30/2017
3:45:43 P

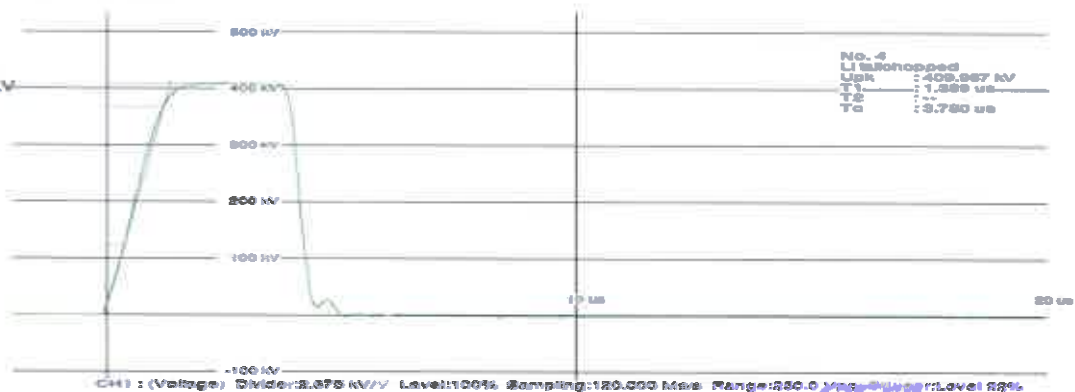


RSV9.3-III-700-123/N-10.19.1W

S_1_LIC

No. 4
LI tailchopped
Upk : 409.987 kV
T1 : 1.399 us
T2 : --
Tc : 3.780 us

10/30/2017
3:46:55 P



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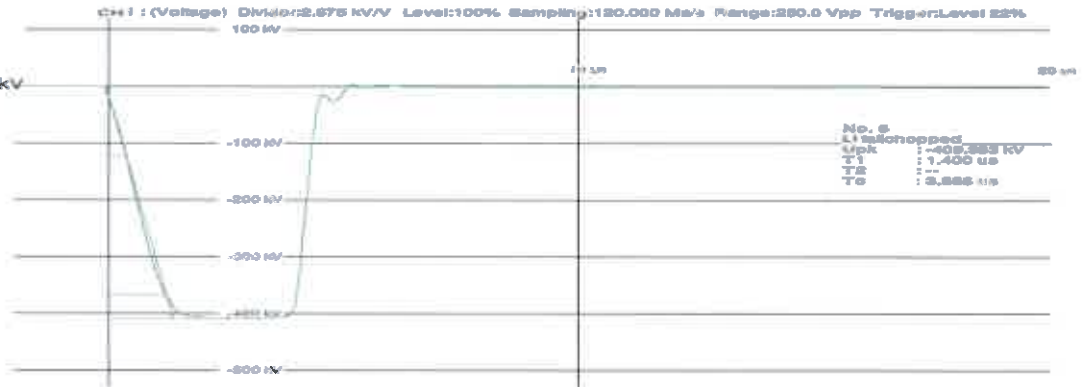
Between the first and last contact of the tap selector "b₁" LIC Negative

RSV9.3-III-700-123/N-10.19.1W

B..1..LIC

No. 6
LI tailchopped
Upk : -408.888 kV
T1 : 1.400 us
T2 : --
Tc : 3.888 us

10/30/2017
3:49:51 P

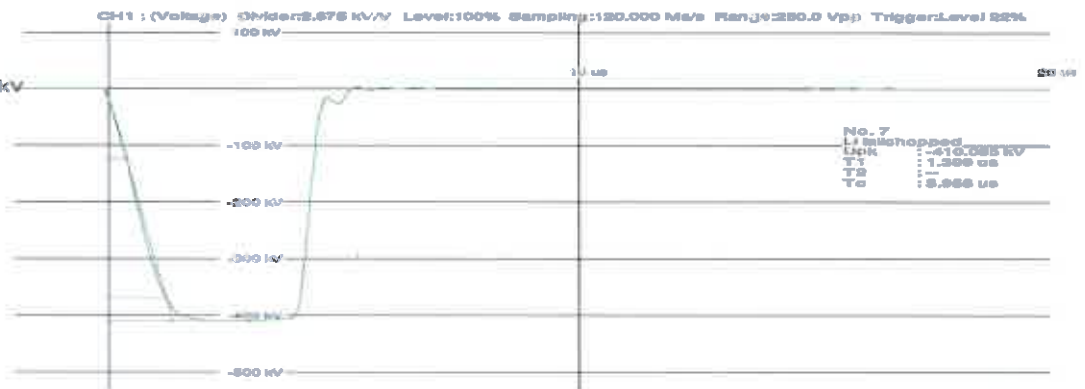


RSV9.3-III-700-123/N-10.19.1W

B..1..LIC

No. 7
LI tailchopped
Upk : -410.085 kV
T1 : 1.388 us
T2 : --
Tc : 3.888 us

10/30/2017
3:51:04 P

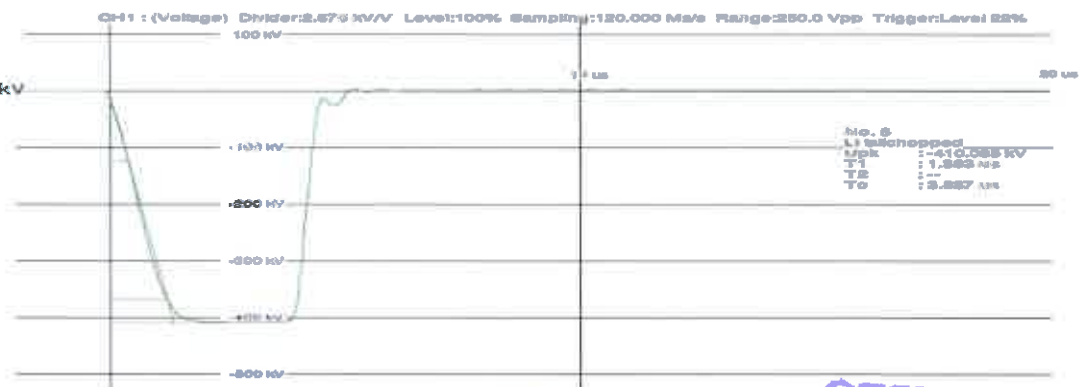


RSV9.3-III-700-123/N-10.19.1W

B..1..LIC

No. 8
LI tailchopped
Upk : -410.085 kV
T1 : 1.383 us
T2 : --
Tc : 3.837 us

10/30/2017
3:52:14 P



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Annex 5: "LIST OF DRAWINGS" No. RS9 7R 008/30.10.2017

LIST OF DRAWINGS

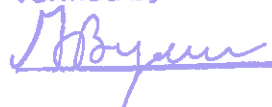
No. RS9 7R 008/30.10.2017

Subject: Drawings of RSV9.3-III-700-123/N-10.19.1W

No. of drawing	Description	Quantity Of pages	CESI Registration number	Remark
1075 10.2017	ON-LOAD TAP.CHANGER RSV 9.3-III-400, 550, 700	1	B7022312/1	*
54766.0000 4C	DIVERter SWITCH	1	B4028598/02	*
54766.1200 4C A	ARC EXTINGUISHING NODE	1	B7022312/2	*
3SI-D0112	VACUUM INTERRUPTER	1	B7022312/3	*
54766.1400 4C	MAIN CURRENT CARRYING CONNECTION	1	B4028598/04	*
54761.1500 4C	AUXILIARY CURRENT CARRYING CONNECTION	1	B4028598/05	*
54183.2900 4C	ZERO CONTACT - LEFT	1	B4028598/06	*
54183.3600 4C	ZERO CONTACT - RIGHT.	1	B4028598/07	*
54180.0000 4C B	SELECTOR	1	B7022312/4	*
59514.2301 E	INSULATION BAR	1	B4028598/09	*
54763.0202 C	CONTACT - TREATMENT	1	B4028598/10	*
54763.0302 A	CONTACT ROD	1	B4028598/11	*
54887.0000A AD	OIL CONTAINER	2	B7022312/5	*

* - Only data related to the values highlighted in yellow colour on the drawings is considered

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