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# Type Test Certificate

## B4014695

### Manufacturer

El Sewedy Transformers  
10th Ramadan City, 3rd Industrial Zone 3, Square A4  
Cairo (Egypt)

### Apparatus Designation

Oil-immersed power transformer  
Iraq



Division Testing & Certification  
Business Area Testing Operation  
Milan Platform

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Type Test Certificate of Short-circuit performance

Apparatus Oil-immersed power transformer

Designation Iraq

Rated power 400 kVA ; Rated voltages 11/0,416 kV ; Rated frequency 50 Hz

Manufacturer El Sewedy Transformers  
10<sup>th</sup> Ramadan City, 3<sup>rd</sup> Industrial Zone 3, Square A4, Cairo (Egypt)

Client El Sewedy Transformers  
10<sup>th</sup> Ramadan City, 3<sup>rd</sup> Industrial Zone 3, Square A4, Cairo (Egypt)

Tested by CESI S.p.A. Milan, Italy

Tests date from May 23, 2014 to May 26, 2014

The apparatus, constructed in accordance with the description, drawings and photographs incorporated in the reference documents identified in this Certificate, has been subjected to the series of proving tests in accordance with

IEC 60076-5 (2006)  
Clause 4.2

**This Type Test Certificate has been issued by CESI following exclusively the STL Guides.**

The results are shown in the record of Proving Tests and the oscillograms attached in the Test Reports. The values obtained and the general performance are considered to comply with the above Standard(s) and to justify the ratings assigned by the Manufacturer as listed on page No. 3.

The Certificate applies only to the apparatus tested. The responsibility for conformity of any apparatus having the same designations with that tested rests with the Manufacturer.

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No. of pages 4 No. of pages annexed -

Issue date June 16, 2014

Prepared PSV - Beccarini Pierangelo  
B4014695 2925 AUT

Verified PMV - Magistris Paolo, PSV - Vidori Mauro  
B4014695 2845 VER B4014695 2158884 VER

Approved PMI - The Manager - Arcidiaco Lorenzo  
B4014695 621814 APP

**CESI** S.p.A.  
Testing & Certification Division  
Testing Operations Area  
"Milan Platform"  
Manager  
*Luca Arcidiaco*

PAD\_B4014695 (1960608) - CONFIDENTIAL USE

Mod. RPRO v. 8

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## 1 RATINGS ASSIGNED BY THE MANUFACTURER AS PROVED BY THE TESTS

Oil-immersed power transformer

Designation	Iraq
Serial number	0220231301
Rated power	400 kVA
Number of phases	3
Rated voltage of the high-voltage winding (primary winding)	11 kV
Rated voltage of the low-voltage winding (secondary winding)	416 V
Rated current of the high-voltage winding (primary winding)	20,99 A
Rated current of the low-voltage winding (secondary winding)	555,1 A
Rated frequency	50 Hz
Connection symbol	Dyn11
Short-circuit impedance	4,65 %
Load loss	4149 W
No-load current	0,76 %
No-load loss	803 W

## 2 ADDITIONAL TYPE TESTS

Not applicable.

## 3 REFERENCE DOCUMENTS

The following reference documents are integral part of this Certificate:

No.	Description	CESI registration
1	Test Report	B4012762
2	Test Report	B4012849
3	Manufacturer's drawings	B4012921

## 4 ADDITIONAL REFERENCES

The conformity of the apparatus is attested with reference to the Standard mentioned in the front sheet and to the following documents:

IEC 60076-1 (2011)	Clauses 11.2 to 11.5
IEC 60076-3 (2013)	Clauses 10 and 11.2

## 5 RECORD OF PROVING TESTS

The table below lists all the tests performed and the references to the relevant Test Reports containing the test values.

No. Standard and clause	Description of tests	Reference documents
IEC 60076-5 clause 4.2	Dynamic ability to withstand short-circuit	B4012849 (*)
IEC 60076-1 clause 11.2	Measurement of winding resistance	B4012762
IEC 60076-1 clause 11.3	Measurement of voltage ratio and check of phase displacement	B4012762
IEC 60076-1 clause 11.4	Measurement of short-circuit impedance and load loss	B4012762
IEC 60076-1 clause 11.5	Measurement of no-load loss and current	B4012762
IEC 60076-3 clause 10	Applied voltage test (AV)	B4012762
IEC 60076-3 clause 11.2	Induced voltage withstand test (IVW)	B4012762

## 6 IDENTIFICATION OF THE APPARATUS

The Manufacturer guarantees that the tested apparatus is manufactured according to the submitted drawings.

CESI checked that these drawings adequately represent in shape and dimensions the essential details and the main parts of the tested apparatus.

These drawings, identified by CESI and numbered B4012921 No.1 to 7 have been returned to the Client.

(\*) Includes calculation of thermal ability to withstand short-circuit for a time of 5 s.

Vs. rif. DHL 92 6026 1021

Protocollo B4014695 – letter mv

Data June 26, 2014

EL SEWEDY Transformers  
10th Ramadan City  
3<sup>rd</sup> Industrial Zone 3, Square A4  
Cairo  
Egypt

*Att.n: Mr. Tamer Mubarak  
phone: 002 017 3677004 ext 403*

**subject: Dispatch of CESI documents**

Dear Sirs,

You will find here enclosed No. 1 original paper manually signed for each of the documents listed in the following and No. 1 CD containing their electronic version:

- ✉ Type Test Certificate CESI B4014695 and B4014696;
- ✉ Test Report CESI B4012750, B4012762, B4012806 (with video) and B4012849 (with video).

We state that either the original paper or the relevant electronic version have on their first page the watermarks inserted by CESI informatics' system and, therefore, have to be considered equivalent to all intents.

We state furthermore that the first page of the Type Test Certificate, along with a table showing the main ratings of the tested equipment, is inserted into a database available in Internet at [www.cesi.it](http://www.cesi.it), path "Tests / Database CERTILIST."

The Customer has the faculty of requesting to CESI not to publish the Certificate data on CERTILIST at any time, even after the termination of the Contract, without having title to lay any claim to CESI.

(Notice pursuant to the information referred to Art. 13 of Italian Legislative Decree No 196 of June 30, 2006 and its subsequent amendments or replacements).

Yours faithfully,

Mr. Lorenzo ARCIDIACO

**CESI** S.p.A.  
Testing & Certification Division  
Testing Operations Area  
"Milan Platform"  
Manager  
*Lorenzo Arcidiaco*