



February 25, 2025

Mr. Rob Horensky
PA Public Utility Commission
Bureau of Transportation and Safety
P.O. Box 3265
Harrisburg, PA 17105-3265

**Re: Test Results for Year 2024 Electric Meter Statistical Sampling Program
Docket Number: M-2024-3047438**

Dear Mr. Horensky:

Enclosed are the PECO's test results for the year 2024 electric meter statistical sampling program. The selected meter populations are within the respective allowable ncf criteria. The tested meter populations of all the groups meets or exceeds the required testing amount.

If you have any questions regarding this information, please call me at (856) 723-9585.

Sincerely,

A handwritten signature in black ink, appearing to read "Harry Sheneman". The signature is fluid and cursive, with a long horizontal stroke at the end.

Harry Sheneman
Manager, Customer Operations

PUC REPORT – METERS BY GROUP AND STATUS - Electric Meters

Docket # M-2024-3047438

December 31, 2024

Meter Group	Group Population	Tested Amount	Required Amount	Group % ncf	Allowed %ncf	# of tests over 102%	# of tests below 98%	% of tests over 102%	% of tests below 98%
STATUS: pass									
ISA3-2SE-AMI	11,628	125	100	0	1.020	0	0	0.0%	0.0%
I-210-2S-AMI	84,327	1,241	150	0	0.946	0	0	0.0%	0.0%
I-210-25S-AMI	12,329	115	100	0	1.020	0	0	0.0%	0.0%
AXR-2S-AMI	1,546,111	9,415	200	0	0.945	0	0	0.0%	0.0%
SSA4-2S-AMI	13,965	140	100	0	1.020	0	0	0.0%	0.0%
SSIQ-2S	10,256	149	100	0	1.020	0	0	0.0%	0.0%
AXR-25S-AMI	50,141	242	150	0	0.946	0	0	0.0%	0.0%
AXR-16S-AMI	8,764	179	75	0	1.060	0	0	0.0%	0.0%
AXR-15S-AMI	3,972	138	75	0	1.060	0	0	0.0%	0.0%
A3RL-25E-AMI	4,989	99	75	0	1.060	0	0	0.0%	0.0%
A3RL-2S-AMI	999	35	35	0	1.240	0	0	0.0%	0.0%
A3RL-1S-AMI	1,534	77	75	0	1.160	0	0	0.0%	0.0%
A3RL-16S-AMI	11,370	111	100	0	1.020	0	0	0.0%	0.0%
A3RL-15S-AMI	3,648	75	75	0	1.060	0	0	0.0%	0.0%
TOTAL:	1,764,033	12,141	1,410	N/A	1.04	0	0	0.0%	0.0%

ALL GROUPS TOTAL	1,764,033	12,141	1,410	N/A	1.04	0	0	0.0%	0.0%
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February 25, 2025

Mr. Rob Horensky
PA Public Utility Commission
Bureau of Transportation and Safety
P.O. Box 3265
Harrisburg, PA 17105-3265

Re: Certification Records
Docket # 2024-3047438

Dear Mr. Horensky:

Enclosed are PECO's calibration and certification records for our electric meter test equipment for the year 2024.

If you have any questions regarding this information, please call me at (856) 723-9585.

Sincerely,

A handwritten signature in black ink, appearing to read "H. Sheneman".

Harry Sheneman
Manager, Customer Operations

Primary Standards Identification Form: Electric

Contact Person: Harry Sheneman Phone: 856-723-9585
Company Name: PECO Energy - Meter Services
Location: 1060 W. Swedesford Road, Berwyn, PA 19312
Equipment: Radian RD-21-112 Dytronic Portable Standard

Manufacturer: Radian
Model No: RD-23-332
Serial No: 208674

Accuracy Required: ± 0.025%

Date of Current Calibration (Radian): 02/20/24 Expires 02/20/25

Performed by: Accuracy Calibration Services, 32 Elycroft Ave, Rockaway NJ 07866

Date of Next Calibration (Shop Equipment 4268): On or before 04/30/25

Date Lab Scheduled to Perform Calibration: On or before 04/30/25

See page 4 - Copy of Original Manufacturers Calibration Certificate

List of Equipment to be calibrated by this Item and Accuracies Desired:

1. Certificate of Calibration for In-House Test Equipment: See page 3
 - Model = 2150; serial number = 4268

*This form applies to the following types of primary standards which might include:

- 1) Micro Jouel SC-60 or equivalent.
- 2) Radin Research 703A Calibrator with applicable software or equivalent.

Accepted Standard is NIST Certification.

***Annual Submittal Required**



CERTIFICATE of CALIBRATION

ACS certifies the data provided is accurate and true. The standards used are annually checked against reference standards that are traceable to NIST by an unbroken chain.

MODEL: WECO 2150 SERIAL NO. W4268 DATE OF CERTIFICATION: 4/30/24
DUE DATE: 4/30/25

As received condition:

in tolerance out of tolerance inoperative not checked

Condition upon completion:

in tolerance out of tolerance limited calibration

Comments: Cleaned jaws as well as unit. Calibrated and Certified unit.

Equipment used for certification:

Manufacturer	Model	Serial No.	Date Cal.	Due Date
Radian	RD-23-332	208674	2/20/24	2/20/25

Certified By: *Ken Kearney*

Date: 4/30/24

ACS cannot be held responsible for test board performance after certification is completed. It is the user's responsibility to verify accuracy with a known good transfer standard prior to meter testing.



As Left Certificate of Calibration

Manufacturer Radian Research, Inc.
Instrument Model: RD-23-332 Dytronic Portable Standard
Serial Number 208674
Firmware Revision: 07.22.04
Error Specification .01% worst case

ISO 9001:2015 Certified Quality Management System
 ISO/IEC 17025:2017 Accredited Laboratory

Customer Name: Accurate Calibration Services
Address: 32 Elycroft Ave.
 Rockaway, NJ 07866-3743

Calibration Lab Name: Radian Research, Inc.
Calibration Lab Address: 3852 Fortune Drive; Lafayette, IN 47905
Calibration Date: 20-Feb-24
Report Issue Date: 20-Feb-24

Environmental Conditions

Temperature: 23°C +/- 2°C
 Humidity: between 30% and 60%

RMA: 45265

Physical Condition: Undamaged

Radian Research's As-Found Test Results showed this instrument to be:

New In Tolerance Out of Tolerance Inoperative Limited Calibration Repair Needed

Radian Research's As-Left Test Results showed this instrument to be:

New In Tolerance Out of Tolerance Inoperative Limited Calibration

For Out of Tolerance conditions, As-Found Data Reports are furnished.

Radian Research, Inc. certifies the instrument listed above meets or exceeds specifications and was calibrated in compliance with ANSI/NCCL Z540-1-1994 "Calibration Laboratories and Measuring and Test Equipment – General Requirements" using applicable Radian Research procedures which meet the requirements of ISO 9001:2015 and ISO/IEC Guide 98-3 "Uncertainty of measurement - Part 3: Guide to the expression of uncertainty in measurement (GUM:1995)".

This instrument was calibrated by a Radian Research RS-933 Syntron Automated Calibration System which is traceable to the National Institute of Standards and Technology (NIST) and/or other National Metrology Institute (NMI). The Automated Calibration system is cross checked and calibrated on a schedule which is adjusted to maintain required accuracies and traceability. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k=2.

Procedure used for Calibration: 9912163
Software used for Calibration: Radian Research RS-933 Control Application Version 2.6.8312.21655
RS-933 / 703A Tool Number: 9911934

Standards Used In This Calibration:

<u>Description</u>	<u>Serial Number(s):</u>	<u>Cal. Source</u>	<u>Cal. Number:</u>	<u>Cal. Due Date:</u>
RS-940B Data Collection Module	933028	Radian Research	933028-20231021	10/21/2024
RS711 Syntron with RS932 Boost Module (Phase A)	703201	Radian Research	703201-20240126	1/26/2025
RS711 Syntron with RS932 Boost Module (Phase B)	703198	Radian Research	703198-20240129	1/29/2025
RS711 Syntron with RS932 Boost Module (Phase C)	703199	Radian Research	703199-20240125	1/25/2025

Laboratory Technician Signature


LAB
223

Template 9903259.05
 This report shall not be reproduced, except in full, without prior written approval of the Calibration Facility

Primary Standards Identification Form: Electric

Contact Person: Harry Sheneman Phone: 856-723-9585
Company Name: PECO Energy - Meter Services
Location: 1060 W. Swedesford Road, Berwyn, PA 19312
Equipment: Radian RD-21-112 Dytronic Portable Standard

Manufacturer: Radian
Model No: RD-21-102
Serial No: 204453

Accuracy Required: ± 0.025%

Date of Current Calibration (Radian): 02/02/24 Expires 02/02/25.

Performed by: Accuracy Calibration Services, 32 Elycroft Ave, Rockaway NJ 07866

Date of Next Calibration (Shop equipment 3983): On or before 04/30/25

Date Lab Scheduled to Perform Calibration: On or before 04/30/25

Certificate of Calibration for In-House Test Equipment: See page 6

List of Equipment to be calibrated by this Item and Accuracies Desired

- Model 2150, serial number 3983

1. Copy of Original Manufacturers Calibration Certificate: See Page 7

*This form applies to the following types of primary standards which might include:

- 1) Micro Jouel SC-60 or equivalent.
- 2) Radian Research 703A Calibrator with applicable software or equivalent.

Accepted Standard is NIST Certification.

***Annual Submittal Required**



CERTIFICATE of CALIBRATION

ACS certifies the data provided is accurate and true. The standards used are annually checked against reference standards that are traceable to NIST by an unbroken chain.

MODEL: WECO 2150 SERIAL NO. W3983 DATE OF CERTIFICATION: 4/30/24
DUE DATE: 4/30/25

As received condition:

in tolerance out of tolerance inoperative not checked

Condition upon completion:

in tolerance out of tolerance limited calibration

Comments: Cleaned jaws as well as unit. Calibrated and Certified unit.

Equipment used for certification:

Manufacturer	Model	Serial No.	Date Cal.	Due Date
Radian	RD-21-102	204453	2/2/24	2/2/25

Certified By: _____

Date: 4/30/24

ACS cannot be held responsible for test board performance after certification is completed. It is the user's responsibility to verify accuracy with a known good transfer standard prior to meter testing.



As Left Certificate of Calibration

Manufacturer: **Radian Research, Inc.**
Instrument Model: **RD-21-102 Dytronic Portable Standard**
Serial Number: **204453**
Firmware Revision: **07.22.04**
Error Specification: **.02% worst case**

ISO 9001:2015 Certified Quality Management System
ISO/IEC 17026:2017 Accredited Laboratory

Customer Name: **Accurate Calibration Services**
Address: **32 Elcroft Ave
Rockaway, NJ 07866**

Calibration Lab Name: **Radian Research, Inc.**
Calibration Lab Address: **3852 Fortune Drive, Lafayette, IN 47905**
Calibration Date: **2-Feb-24**
Report Issue Date: **5-Feb-24**

Environmental Conditions

Temperature: 23°C +/- 2°C
Humidity: between 30% and 60%

P.O.Number: **Gratis**
RMA: **RO45113**

Physical Condition: **Undamaged**

Radian Research's As-Found Test Results showed this instrument to be:

New In Tolerance Out of Tolerance Inoperative Limited Calibration Repair Needed

Radian Research's As-Left Test Results showed this instrument to be:

New In Tolerance Out of Tolerance Inoperative Limited Calibration

For Out of Tolerance conditions, As-Found Data Reports are furnished.

Radian Research, Inc. certifies the instrument listed above meets or exceeds specifications and was calibrated in compliance with ANSI/NCSL Z540-1-1994 "Calibration Laboratories and Measuring and Test Equipment – General Requirements" using applicable Radian Research procedures which meet the requirements of ISO 9001:2015 and ISO/IEC Guide 98-3 "Uncertainty of measurement - Part 3: Guide to the expression of uncertainty in measurement (GUM:1995)".

This instrument was calibrated by a Radian Research RS-933 Syntron Automated Calibration System which is traceable to the National Institute of Standards and Technology (NIST) and/or other National Metrology Institute (NMI). The Automated Calibration system is cross checked and calibrated on a schedule which is adjusted to maintain required accuracies and traceability. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k=2.

Procedure used for Calibration: **9912164**
Software used for Calibration: **RS-703A Control Program Rel.04.30.03 Test Release Apr 6, 2010**
RS-703A / 703A Tool Number: **9911645**

Standards Used in This Calibration:

<u>Description</u>	<u>Serial Number(s):</u>	<u>Cal. Source</u>	<u>Cal. Number:</u>	<u>Cal. Due Date:</u>
RS-740 Data Collection Module	704402	Radian Research	704402-20230419	4/19/2024
RS711 Syntron with RS932 Boost Module (Phase A)	703125	Radian Research	703125-20230213	2/13/2024
RS711 Syntron with RS932 Boost Module (Phase B)	703192	Radian Research	703192-20230214	2/14/2024
RS711 Syntron with RS932 Boost Module (Phase C)	703140	Radian Research	703140-20230214	2/14/2024

Laboratory Technician Signature

 LAB
474

Template 9903258.07

This report shall not be reproduced, except in full, without prior written approval of the Calibration Facility

Primary Standards Identification Form: Electric

Contact Person: Harry Sheneman Phone: 856-723-9585
Company Name: PECO Energy - Meter Services
Location: 1060 W. Swedesford Road, Berwyn, PA 19312
Equipment: Radian RD-21-102 - Dytronic Portable Standard

Manufacturer: Radian
Model No: RD-23-352
Serial No: 206552

Accuracy Required: ± 0.025%

Date of Current Calibration (Radian): 02/28/24 Expires 02/28/25

Performed by: Accuracy Calibration Services, 32 Elycroft Ave, Rockaway NJ 07866

Date of Next Calibration (Shop Equipment 4267): On or before 04/30/25

Date Lab Scheduled to Perform Calibration: On or before 04/30/25

Certificate of Calibration for In-House Test Equipment: See page 9

List of Equipment to be calibrated by this Item and Accuracies Desired:

- Model # 2150; serial # = 4267

1. Copy of Original Manufacturers Calibration Certificate : See page 10

*This form applies to the following types of primary standards which might include:

- 1) Micro Jouel SC-60 or equivalent.
- 2) Radian Research 703A Calibrator with applicable software or equivalent.

Accepted Standard is NIST Certification.

***Annual Submittal Required**



CERTIFICATE of CALIBRATION

ACS certifies the data provided is accurate and true. The standards used are annually checked against reference standards that are traceable to NIST by an unbroken chain.

MODEL: WECO 2150 SERIAL NO. W4267 DATE OF CERTIFICATION: 4/30/24
DUE DATE: 4/30/25

As received condition:

in tolerance out of tolerance inoperative not checked

Condition upon completion:

in tolerance out of tolerance limited calibration

Comments: Cleaned jaws as well as unit. Calibrated and Certified unit.

Equipment used for certification:

Manufacturer	Model	Serial No.	Date Cal.	Due Date
Radian	RD-23-352	206552	2/28/24	2/28/25

Certified By: *Ken Karnay*

Date: 4/30/24

ACS cannot be held responsible for test board performance after certification is completed. It is the user's responsibility to verify accuracy with a known good transfer standard prior to meter testing.



As Left Certificate of Calibration

Manufacturer: Radian Research, Inc.
Instrument Model: RD-23-352 Dytronic Portable Standard
Serial Number: 206552
Firmware Revision: 07.22.04
Error Specification: .01% worst case

ISO 9001:2015 Certified Quality Management System
 ISO/IEC 17025:2017 Accredited Laboratory

Calibration Lab Name: Radian Research, Inc.
Calibration Lab Address: 3852 Fortune Drive; Lafayette, IN 47905
Calibration Date: 15-Jan-25
Report Issue Date: 27-Jan-25

Environmental Conditions
 Temperature: 23°C +/- 2°C
 Humidity: between 30% and 60%

Physical Condition: Undamaged

Radian Research's As-Found Test Results showed this Instrument to be:

New In Tolerance Out of Tolerance Inoperative Limited Calibration Repair Needed

Radian Research's As-Left Test Results showed this Instrument to be:

New In Tolerance Out of Tolerance Inoperative Limited Calibration

For Out of Tolerance conditions, As-Found Data Reports are furnished.

Radian Research, Inc. certifies the instrument listed above meets or exceeds specifications and was calibrated in compliance with ANSI/NCSL Z540-1-1994 "Calibration Laboratories and Measuring and Test Equipment – General Requirements" using applicable Radian Research procedures which meet the requirements of ISO 9001:2015 and ISO/IEC Guide 98-3 "Uncertainty of measurement - Part 3: Guide to the expression of uncertainty in measurement (GUM:1995)".

This instrument was calibrated by a Radian Research RS-933 Syntron Automated Calibration System which is traceable to the National Institute of Standards and Technology (NIST) and/or other National Metrology Institute (NMI). The Automated Calibration system is cross checked and calibrated on a schedule which is adjusted to maintain required accuracies and traceability. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k=2.

Procedure used for Calibration: 9912163
Software used for Calibration: RS-703A Control Program Rel.04.30.03 Test Release Apr 6, 2010
RS-933 / 703A Tool Number: 9911645

Standards Used In This Calibration:

<u>Description</u>	<u>Serial Number(s)</u>	<u>Cal. Source</u>	<u>Cal. Number:</u>	<u>Cal. Due Date:</u>
RS-940B Data Collection Module	704402	Radian Research	704402-20240529	5/29/2025
RS711 Syntron with RS932 Boost Module (Phase A)	703125	Radian Research	703125-20240213	2/13/2025
RS711 Syntron with RS932 Boost Module (Phase B)	703192	Radian Research	703192-20240214	2/14/2025
RS711 Syntron with RS932 Boost Module (Phase C)	703140	Radian Research	703140-20240215	2/15/2025

Laboratory Technician Signature

Jeff Mullen
LAB 474

Template 9903259.06

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Calibration Certificate Number:

Z-206552-20250115-AL

Page 1 of 13 Pages

Primary Standards Identification Form: Electric

Contact Person: Harry Sheneman Phone: 856-723-9585
Company Name: PECO Energy - Meter Services
Location: 1060 W. Swedesford Road, Berwyn, PA 19312
Equipment: Radian RD-23-332 - Dytronic Portable Standard

Manufacturer: Radian
Model No: RS-711
Serial No: 204563

Accuracy Required: ± 0.005%

Date of Current Calibration: 02/20/24 Expires 02/20/25

Performed by: Radian Research, Inc., 3852 Fortune Drive, Lafayette Indiana 47905

Date of Next Calibration: On or before 04/30/25

Date Lab Scheduled to Perform Calibration: On or before 04/30/25

See page 13 - Copy of Original Manufacturers Calibration Certificate (as left)

List of Equipment to be calibrated by this Item and Accuracies Desired:

1. Certificate of Calibration for In-House Test Equipment: See page 12
 - Model = 2150; serial number = 3984

*This form applies to the following types of primary standards which might include:

- 1) Micro Jouel SC-60 or equivalent.
- 2) Radian Research 703A Calibrator with applicable software or equivalent.

Accepted Standard is NIST Certification.

***Annual Submittal Required**



CERTIFICATE of CALIBRATION

ACS certifies the data provided is accurate and true. The standards used are annually checked against reference standards that are traceable to NIST by an unbroken chain.

MODEL: WECO 2150 SERIAL NO. W3984 DATE OF CERTIFICATION: 4/30/24
DUE DATE: 4/30/25

As received condition:

in tolerance out of tolerance inoperative not checked

Condition upon completion:

in tolerance out of tolerance limited calibration

Comments: Cleaned jaws as well as unit. Calibrated and Certified unit.

Equipment used for certification:

Manufacturer	Model	Serial No.	Date Cal.	Due Date
Radian	RD-23-332	205463	2/20/24	2/20/25

Certified By: *Ken Kearney*

Date: 4/30/24

ACS cannot be held responsible for test board performance after certification is completed. It is the user's responsibility to verify accuracy with a known good transfer standard prior to meter testing.



As Left Certificate of Calibration

Manufacturer: Radian Research, Inc.
Instrument Model: RD-23-332 Dytronic Portable Standard
Serial Number: 205463
Firmware Revision: 07.22.04
Error Specification: .01% worst case

ISO 9001:2015 Certified Quality Management System
 ISO/IEC 17025:2017 Accredited Laboratory

Customer Name: Accurate Calibration Services
Address: 32 Elycroft Ave.
 Rockaway, NJ 07866-3743

Calibration Lab Name: Radian Research, Inc.
Calibration Lab Address: 3852 Fortune Drive; Lafayette, IN 47905
Calibration Date: 20-Feb-24
Report Issue Date: 21-Feb-24

Environmental Conditions

Temperature: 23°C +/- 2°C
 Humidity: between 30% and 60%

RMA: 45266

Physical Condition: Undamaged

Radian Research's As-Found Test Results showed this Instrument to be:

New In Tolerance Out of Tolerance Inoperative Limited Calibration Repair Needed

Radian Research's As-Left Test Results showed this Instrument to be:

New In Tolerance Out of Tolerance Inoperative Limited Calibration

For Out of Tolerance conditions, As-Found Data Reports are furnished.

Radian Research, Inc. certifies the instrument listed above meets or exceeds specifications and was calibrated in compliance with ANSI/NCSL Z540-1-1994 "Calibration Laboratories and Measuring and Test Equipment – General Requirements" using applicable Radian Research procedures which meet the requirements of ISO 9001:2015 and ISO/IEC Guide 98-3 "Uncertainty of measurement - Part 3: Guide to the expression of uncertainty in measurement (GUM:1995)".

This instrument was calibrated by a Radian Research RS-933 Syntron Automated Calibration System which is traceable to the National Institute of Standards and Technology (NIST) and/or other National Metrology Institute (NMI). The Automated Calibration system is cross checked and calibrated on a schedule which is adjusted to maintain required accuracies and traceability. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k=2.

Procedure used for Calibration: 9912163
Software used for Calibration: Radian Research RS-933 Control Application Version 2.6.8312.21655
RS-933 / 703A Tool Number: 9911934

Standards Used in This Calibration:

<u>Description</u>	<u>Serial Number(s):</u>	<u>Cal. Source</u>	<u>Cal. Number:</u>	<u>Cal. Due Date:</u>
RS-940B Data Collection Module	933028	Radian Research	933028-20231021	10/21/2024
RS711 Syntron with RS932 Boost Module (Phase A)	703201	Radian Research	703201-20240126	1/26/2025
RS711 Syntron with RS932 Boost Module (Phase B)	703198	Radian Research	703198-20240129	1/29/2025
RS711 Syntron with RS932 Boost Module (Phase C)	703199	Radian Research	703199-20240125	1/25/2025

Laboratory Technician Signature

 **LAB 223**

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Primary Standards Identification Form: Electric

Contact Person: Harry Sheneman Phone: 856-723-9585

Company Name: PECO Energy - Meter Services

Location: 1060 W. Swedesford Road, Berwyn, PA 19312

Equipment: Radian RD-21-102 - Dytronic Portable Standard

Manufacturer: Radian

Model No: RS-711

Serial No: 206340

Accuracy Required: ± 0.005%

Date of Current Calibration: 06/30/24 Expires 06/30/25

Performed by: Radian Research, Inc., 3852 Fortune Drive, Lafayette Indiana 47905

Date of Next Calibration: On or before 06/30/25

Date Lab Scheduled to Perform Calibration: On or before 6/30/25

See page 16 - Copy of Original Manufacturers Calibration Certificate (as left)

List of Equipment to be calibrated by this Item and Accuracies Desired:

1. Certificate of Calibration for In-House Test Equipment: See page 15
 - Model = 2300; serial number = 6379

*This form applies to the following types of primary standards which might include:

- 1) Micro Jouel SC-60 or equivalent.
- 2) Radian Research 703A Calibrator with applicable software or equivalent.

Accepted Standard is NIST Certification.

***Annual Submittal Required**



CERTIFICATE of CALIBRATION

ACS certifies the data provided is accurate and true. The standards used are annually checked against reference standards that are traceable to NIST by an unbroken chain.

MODEL: WECO 2300 SERIAL NO. W6379 DATE OF CERTIFICATION: 4/30/24
DUE DATE: 4/30/25

As received condition:

in tolerance out of tolerance inoperative not checked

Condition upon completion:

in tolerance out of tolerance limited calibration

Comments: Cleaned jaws as well as unit. Calibrated and Certified unit.

Equipment used for certification:

Manufacturer	Model	Serial No.	Date Cal.	Due Date
Radian	RD-21-112	206340	6/30/23	6/30/24

Certified By: _____

A handwritten signature in black ink, appearing to read "Ker Kearney", is written over a horizontal line.

Date: 4/30/24

ACS cannot be held responsible for test board performance after certification is completed. It is the user's responsibility to verify accuracy with a known good transfer standard prior to meter testing



As Left Certificate of Calibration

Manufacturer: **Radian Research, Inc.**
Instrument Model: **RD-21-112 Dytronic Portable Standard**
Serial Number: **206340**
Firmware Revision: **07.22.04**
Error Specification: **.02% worst case**

ISO 9001:2015 Certified Quality Management System
ISO/IEC 17025:2017 Accredited Laboratory

Customer Name: **Accurate Calibration**
Address: **32 Elycroft Avenue
Rockaway, NJ 07866-3743**

Calibration Lab Name: **Radian Research, Inc.**
Calibration Lab Address: **3852 Fortune Drive, Lafayette, IN 47905**
Calibration Date: **30-Jun-23**
Report Issue Date: **5-Jul-23**

Environmental Conditions

Temperature: **23°C +/- 2°C** P.O.Number: **CARE PLAN 690804**
Humidity: **between 30% and 60%** RMA: **RO43942**

Physical Condition: **Undamaged**

Radian Research's As-Found Test Results showed this instrument to be:

New In Tolerance Out of Tolerance Inoperative Limited Calibration Repair Needed

Radian Research's As-Left Test Results showed this instrument to be:

New In Tolerance Out of Tolerance Inoperative Limited Calibration

For Out of Tolerance conditions, As-Found Data Reports are furnished.

Radian Research, Inc. certifies the instrument listed above meets or exceeds specifications and was calibrated in compliance with ANSI/NCSL Z540-1-1994 "Calibration Laboratories and Measuring and Test Equipment – General Requirements" using applicable Radian Research procedures which meet the requirements of ISO 9001:2015 and ISO/IEC Guide 98-3 "Uncertainty of measurement - Part 3: Guide to the expression of uncertainty in measurement (GUM:1995)".


This instrument was calibrated by a Radian Research RS-933 Syntron Automated Calibration System which is traceable to the National Institute of Standards and Technology (NIST) and/or other National Metrology Institute (NMI). The Automated Calibration system is cross checked and calibrated on a schedule which is adjusted to maintain required accuracies and traceability. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k=2.

Procedure used for Calibration: **9912164**
Software used for Calibration: **RS-703A Control Program Rel.04.30.03 Test Release Apr 6, 2010**
RS-703A / 703A Tool Number: **9911645**

Standards Used in This Calibration:

<u>Description</u>	<u>Serial Number(s):</u>	<u>Cal. Source</u>	<u>Cal. Number:</u>	<u>Cal. Due Date:</u>
RS-740 Data Collection Module	704402	Radian Research	704402-20230419	4/19/2024
RS711 Syntron with RS932 Boost Module (Phase A)	703125	Radian Research	703125-20230213	2/13/2024
RS711 Syntron with RS932 Boost Module (Phase B)	703192	Radian Research	703192-20230214	2/14/2024
RS711 Syntron with RS932 Boost Module (Phase C)	703140	Radian Research	703140-20230214	2/14/2024

Laboratory Technician Signature


LAB
429

Template 9903258.07

This report shall not be reproduced, except in full, without prior written approval of the Calibration Facility

Primary Standards Identification Form: Electric

Contact Person: Harry Sheneman Phone: 856-723-9585
Company Name: PECO Energy - Meter Services
Location: 1060 W. Swedesford Road, Berwyn, PA 19312
Equipment: TECO 2990

Manufacturer: TESCO
Model No: DTS-2990
Serial No: 000 000 31

Accuracy Required: ± 0.005%

Date of Current Calibration: 08/06/24 Expires 08/06/25

Performed by: TESCO LAB, 925 Canal Street, Bristol, Pa. 19007

Date of Next Calibration: On or before 08/06/25

Date Lab Scheduled to Perform Calibration: On or before 08/06/25

See - Copy of Original Manufacturers Calibration Certificate

*This form applies to the following types of primary standards which might include:

- 1) Micro Jouel SC-60 or equivalent.
- 2) Radian Research 703A Calibrator with applicable software or equivalent.

Accepted Standard is NIST Certification.

***Annual Submittal Required**



THE EASTERN SPECIALTY COMPANY
Bristol PA • 215-785-2338
www.tescometering.com

CERTIFICATE OF CALIBRATION

Bristol, PA Facility

Phone: 215-785-2338

Fax: 215-781-0508



THE EASTERN SPECIALTY COMPANY
Bristol PA • 215 785 2338
www.tescometering.com

Certificate #:	TESCO013125-01	Data Type:	As Found & As Left
Manufacturer:	TESCO - The Eastern Specialty Company	Results Summary:	Out of Tolerance & In Tolerance
Model:	DTS-2990	PO#	N/A
Serial#:	DTS-2990-00000031	RMA#	N/A
Procedure:	W-19-10-032	Procedure Rev:	2
Calibration Date:	8/6/2024	Calibration Due Date:	2/6/2025
Error Specification:	ACV, ACI, AC Energy: 0.04% (60-350V, 0.2-50A, 60Hz, 0.5-1 Power Factor)		

Customer Name:	Peco Berwyn
Customer Address:	1060 W. Swedesford Rd. Berwyn, PA 19312
Calibration Lab Name:	TESCO - Bristol
Calibration Lab Address:	925 Canal ST Bristol, PA 19007

Method / Environmental Conditions:

Temperature:	23 C	
Humidity:	50 % Rh	
Method:	Binary Decision Acceptance	
As-Found Condition:	<input checked="" type="checkbox"/> In Tolerance	<input type="checkbox"/> Out of Tolerance
As-Left Condition:	<input checked="" type="checkbox"/> In Tolerance	<input type="checkbox"/> Out of Tolerance

This instrument is calibrated using standards traceable to the International System of Units (SI), through National Metrology Institutes (NIST, PTS, NRC, NPL, etc.) using ratiometric techniques, or natural physical constants and maintained within the factory recommended calibration cycle, where applicable. The above instrument was tested and calibrated by TESCO in compliance with ISO 9001 and ANSI/NCSL Z540.1 using applicable TESCO procedures.

Instrument Used in This Calibration:

RD-31-221 sn 300249 Cert # TESCO100223-21 Cal Date: 10/2/2023 Cal Due: 10/2/2024

Laboratory Staff Signature:

Michael Wallace

The results above relate only to the item(s) calibrated. This certificate shall not be reproduced except in full without the written approval of TESCO. This document certifies that the unit conformed to applicable specifications upon successful completion of the calibration.

Where applicable, the expanded uncertainty of measurement at the time of test is given in the following pages. They are calculated in accordance with the method described in the ISO Guide to the Expression of Uncertainty in Measurement (GUM). The reported expanded uncertainty of measurement is stated as the standard uncertainty of measurement multiplied by the coverage factor $k=2$, such that the confidence level approximates 95%. The Phase setting is expressed in degrees and represents 60° current lagging voltage.

Primary Standards Identification Form: Electric

Contact Person: Harry Sheneman Phone: 856-723-9585
Company Name: PECO Energy - Meter Services
Location: 1060 W. Swedesford Road, Berwyn, PA 19312
Equipment: TECO 2990

Manufacturer: TESCO
Model No: DTS-2990
Serial No: 000 000 15

Accuracy Required: ± 0.005%

Date of Current Calibration: 07/11/24 Expires 07/11/25

Performed by: TESCO LAB, 925 Canal Street, Bristol, Pa., 19007
Date of Next Calibration: On or before 07/11/25
Date Lab Scheduled to Perform Calibration: On or before 7/11/25

See - Copy of Original Manufacturers Calibration Certificate

*This form applies to the following types of primary standards which might include:

- 1) Micro Jouel SC-60 or equivalent.
- 2) Radian Research 703A Calibrator with applicable software or equivalent.

Accepted Standard is NIST Certification.

***Annual Submittal Required**



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CERTIFICATE OF CALIBRATION

Bristol, PA Facility

Phone: 215-785-2338

Fax: 215-781-0508



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Certificate #:	TESCO013125-02	Data Type:	As Found & As Left
Manufacturer:	TESCO - The Eastern Specialty Company	Results Summary:	Out of Tolerance & In Tolerance
Model:	DTS-2990	PO#	N/A
Serial#:	DTS-2990-00000015	RMA#	N/A
Procedure:	W-19-10-032	Procedure Rev:	2
Calibration Date:	7/11/2024	Calibration Due Date:	7/11/2025
Error Specification:	ACV, ACI, AC Energy: 0.04% (60-350V, 0.2-50A, 60Hz, 0.5-1 Power Factor)		

Customer Name:	Peco Berwyn
Customer Address:	1060 W. Swedesford Rd. Berwyn, PA 19312

Calibration Lab Name:	TESCO - Bristol
Calibration Lab Address:	925 Canal ST Bristol, PA 19007

Method / Environmental Conditions:	
Temperature:	23 C
Humidity:	50 % Rh
Method:	Binary Decision Acceptance
As-Found Condition:	<input checked="" type="checkbox"/> In Tolerance <input type="checkbox"/> Out of Tolerance
As-Left Condition:	<input checked="" type="checkbox"/> In Tolerance <input type="checkbox"/> Out of Tolerance

This instrument is calibrated using standards traceable to the International System of Units (SI), through National Metrology Institutes (NIST, PTS, NRC, NPL, etc.) using ratiometric techniques, or natural physical constants and maintained within the factory recommended calibration cycle, where applicable. The above instrument was tested and calibrated by TESCO in compliance with ISO 9001 and ANSI/NCSL Z540.1 using applicable TESCO procedures.

Instrument Used in This Calibration:			
RD-31-221 sn 300249	Cert # TESCO100223-21	Cal Date: 10/2/2023	Cal Due: 10/2/2024

Laboratory Staff Signature: Michael Wallace

The results above relate only to the item(s) calibrated. This certificate shall not be reproduced except in full without the written approval of TESCO. This document certifies that the unit conformed to applicable specifications upon successful completion of the calibration. Where applicable, the expanded uncertainty of measurement at the time of test is given in the following pages. They are calculated in accordance with the method described in the ISO Guide to the Expression of Uncertainty in Measurement (GUM). The reported expanded uncertainty of measurement is stated as the standard uncertainty of measurement multiplied by the coverage factor $k=2$, such that the confidence level approximates 95%. The Phase setting is expressed in degrees and represents 60° current lagging voltage.