

MAR 20 2013

PUBLIC SERVICE  
COMMISSION

a PPL company

Mr. Jeff DeRouen  
Executive Director  
Kentucky Public Service Commission  
211 Sower Boulevard  
Frankfort, Kentucky 40602-0615

March 20, 2013

**RE: *The Application of Louisville Gas and Electric Company for Approval  
of a Permanent Statistical Meter Sampling Plan***  
Case No. 2000-00278

Dear Mr. DeRouen:

Enclosed please find five copies of Louisville Gas and Electric Company's 2012 Gas Meter Performance Control Plan pursuant to the Commission's Order in the above mentioned proceeding.

Should you have any questions concerning the enclosed, please contact me at your convenience.

Sincerely,

A handwritten signature in cursive script that reads 'Rick E. Lovekamp'.

Rick E. Lovekamp

Enclosure

**Louisville Gas and Electric  
Company**

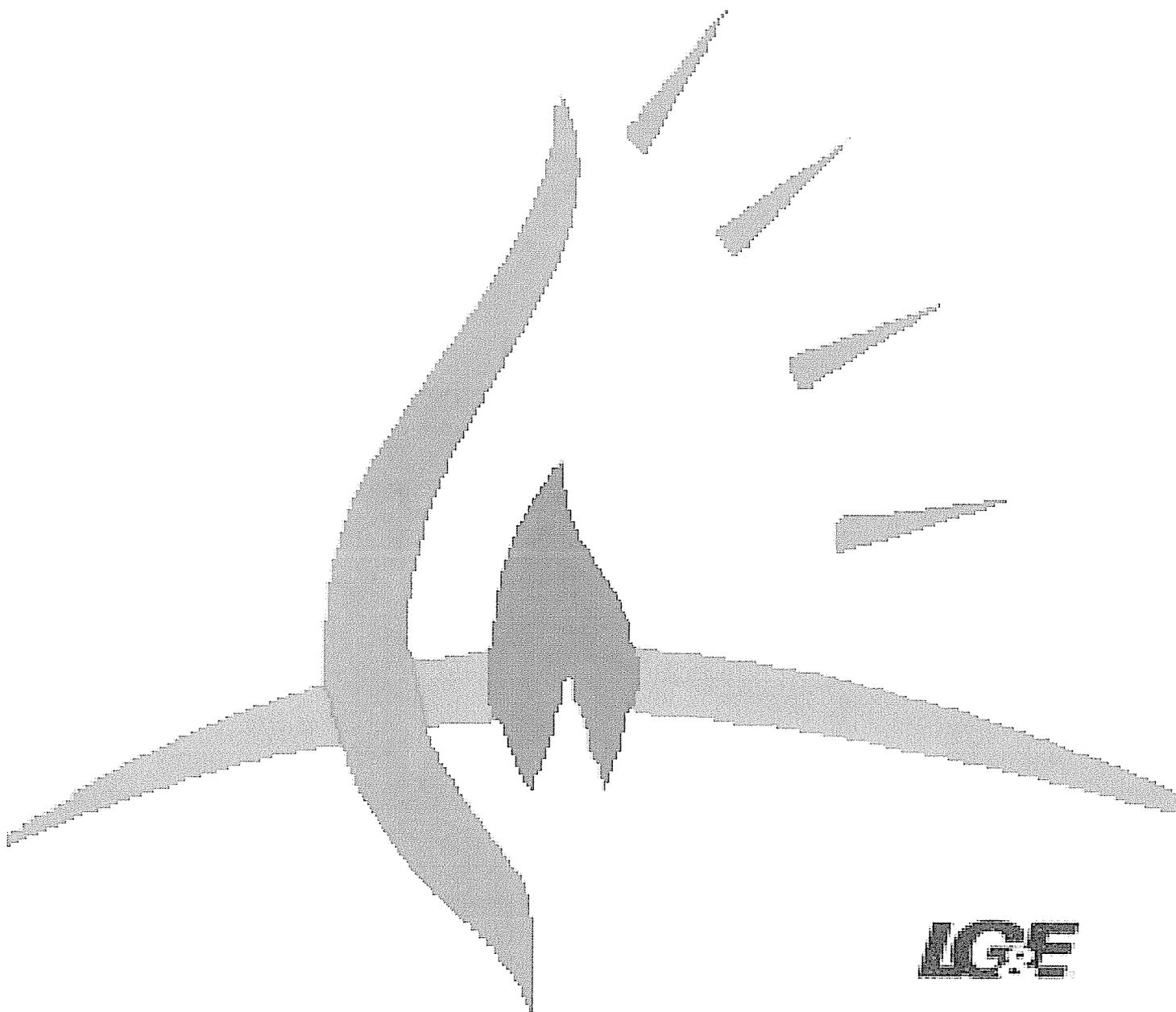
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# Louisville Gas & Electric

## Gas Meter Performance

### Control Plan Year 2012



# Year 2012 Gas Meter Sampling Plan Results

## I. Introduction

The 2012 LG&E Gas Meter Performance Control Program required 8,657 gas meters within 152 control groups be tested and their accuracy performance documented.

One (1) prior residential meter from install year 1983 remains located within a vacant and boarded up structure and no access could be gained to remove the meter. Annual multiple attempts will continue to be made in removing this meter from service.

Three (3) commercial class meters in the 2012 sample are located in vacant structures and no access could be gained to remove/change the meters. These three (3) meters will be classified as "Prior Meters" beginning in service year 2013, and annual multiple attempts will continue to be made in removing these meters from service.

Any sampled meter which proof tested beyond +/- 2% (fast or slow) was considered to be a failed meter. The control groups sampled during 2012 performed extremely well and only three (3) control groups failed the sampling criteria. This report summarizes the results of the 2012 LG&E Gas Meter Sampling Program.

## II. Meter Performance

The meter groups were separated into three capacity classifications. Meters with capacities up to and including 500 CFH, which consist of primarily residential meters, represented the largest group with ninety-eight (98) control groups and 7,249 meters. Meters with capacities which range from 501 CFH to 1500 CFH (Commercial), made up the second largest group with forty-six (46) control groups and 1,248 meters. Meters with capacities 1501 CFH (Industrial) and above comprised the balance of the sampling with eight (8) control groups and 160 meters.

A summary of each control group, along with statistical analysis data, is shown in appendix A. The definitions of selected statistical categories are included, and the sample groups are arranged from low to high capacity.

In the 2012 sampling program, 149 out of 152 control groups passed the sampling criteria. Failed model size 057 installed in 1995, had a remaining population of only twelve (12) gas meters. Failed Model 014 installed in 2005, had a remaining population of 214 gas meters. Failed model 076 installed in 2003 had a remaining population of thirty-one (31) gas meters. All three (3) failed groups starting in 2013 will be targeted for removal by the end of June 2014.

A total of ten (10) control groups had their remaining population removed through the sampling program in 2012.

#### A. Residential Class - Up to and including 500 cfh

##### Strong Performing Groups

The stronger performing meter groups in this capacity continue to be the American AL175, AC250, and the AL425 model. Of the 1,684 meters in the twenty-six (26) control groups of AL175 meters, only thirty-one (31) individual meters failed the sampling criteria, a 1.84 percent failure rate. The twenty-two (22) AC250 control groups had a total of ten (10) individual meter failures out of the 1,484 meters tested, a 0.67 percent failure rate. The thirteen (13) AL425 control groups totaling 416 meters experienced eight (8) individual meter failures, a 1.92 percent failure rate.

The American Meter Company AC250 residential model was the primary type of residential gas meter LG&E purchased as additional stock, which continues to improve the overall accuracy of the installed meter population.

##### Reduced Sampling

Test results from year 2012 were analyzed for the below groups to verify each model did not exceed the Limit Numbers For Reduced Inspection, Table VIII, under the American Standard – Sampling Procedures and Tables For Inspection By Attributes guidelines.

Model – American AL175 CFH – 033 and 33A  
Oldest 10 Control Groups Tested = 824 Meters Tested  
Limit Number For Reduced Testing - 42  
Actual Deviate Meters - 16

Model – American AL425CFH  
Oldest 10 Control Groups Tested = 320 Meters Tested  
Limit Number For Reduced Testing - 14  
Actual Deviate Meters - 8

Model – American AC250 CFH  
Oldest 10 Control Groups Tested = 614 Meters Tested  
Limit Number For Reduced Testing - 25  
Actual Deviate Meters - 3

The below models will remain on Reduced Sampling in year 2013.

American Model AL175 Model Code 033 and 33A  
American Model AL425 Model Code 015  
American Model AC250 Model Code 078

1. Weaker Performing Residential Group

The older models of Rockwell residential class 250 CFH meters continue to be the poorest performing control group. The two (2) remaining Rockwell R250 Code 057 control groups, years 1990 and 1995, consisting of 64 meters sampled this year, nine (9) of the individual meters failed the sampling criteria for a 14.06 percent failure rate. The 1995 installed control group failed sampling as a group. Both of the control groups are being targeted for full removal by the end of June 2014. Rockwell R250 gas meters removed from the system are being replaced by better performing models.

The Rockwell 175 CFH meters, size codes 024, 24T, and 24B, continue to be one of the weaker performing models. Of the twenty-four (24) Rockwell R175 control groups consisting of 3,072 meters sampled this year, 132 of the individual meters failed the sampling criteria for a 4.29 percent failure rate.

Beginning in 2010 the above 024 Rockwell R175 meters were divided into two sub-groups when remanufactured, becoming either size code 024T (top badge) or 024B (bottom badge). The 024T size code is the oldest vintage of the R175 models by original manufacturing year in the LG&E meter population and the 024B being the newer vintage. Due to the R175 model in general being a poorer performer in proof retention, this group of meters was sub-grouped to help LG&E determine at some future date if either sub-group should no longer be remanufactured and placed back into service.

The Actaris 250 Metris gas meter, size codes 018 and 18T, had six (6) control groups tested this year and experienced thirty-four (34) failures out of 810 meters tested, which was a 4.19 percent failure rate. These models are not being refurbished and placed back into service.

B. Commercial Class - 501 cfh up to and including 1500 cfh

There were two (2) control group failures out of the forty-six (46) control groups in the Commercial Meter Class.

The American AL800 control groups had one control group failure, control group year 2003, having two (2) deviate meters out of the eight (8) meters tested. The 2003 control group will be targeted for completed removal by the end of June 2014. The American AL800 control groups overall had a total of four (4) individual meter failures within the eight (8) control groups tested.

The American AL1000 commercial control groups demonstrated weaker performance with the control group year 2005 failing the sampling criteria with seven (7) deviate meters within the thirty-two (32) meters tested. The 2005 control group will be targeted for complete removal by the end of June 2014. The American AL1000 control groups overall had a total of nineteen (19) individual meter failures within the eight (8) control groups tested.

The AL1400 meters experienced zero (0) individual meter failures within the eight (8) control groups tested. The Rockwell #3 Emco control groups which experienced zero (0) individual meter failure within the eight (8) control groups tested.

The Rockwell R750 control groups demonstrated acceptable performance with four (4) individual meter failures within the 262 meters tested. All eight (8) control groups passed the sampling criteria.

Beginning in the 2003 test year, all Commercial Class Control Groups, regardless of whether they meet the Limit Numbers For Reduced Inspection, Table VIII, under the American Standard – Sampling Procedures and Tables For Inspection By Attributes guidelines, have been placed on the Single Sampling Plan For Normal Inspection due to the small volume of meters in the Commercial Class Control Groups.

C. Industrial Class - Over 1500 cfh

The eight (8) control groups in this capacity range performed extremely well and there were no individual meter failures with the eight (8) control groups tested. Two (2) of the control groups were exhausted by the 2012 Sampling Program.

Beginning in 2003 test year, all Industrial Class control groups, regardless of whether they meet the Limit Numbers For Reduced Inspection, Table VIII, under the American Standard – Sampling Procedures and Tables For Inspection By Attributes guidelines, have been placed on the Single Sampling Plan For Normal Inspection due to the small volume of meters in the Industrial Class control groups.

### III. Safety

As part of the LG&E Meter Sampling change-out activities, safety inspections were performed and “red-tags” were issued when deficiencies were found which resulted in a customers appliance being left off or the customers gas service partially or fully suspended until the deficiency was corrected by the customer. The results of these safety inspections directly associated with LG&E’s Meter Sampling Program are summarized in Table 2 below.

**Table 2: Year 2012 Safety Inspection Results**

<u>Type of Problem/Appliance</u>	<u># of “Red Tags”</u>
Flex-line Through Furnace Wall	27
Water Heater Not Venting Correctly	54
Furnace Valve Leaking	10
Furnace Wiring Is Burnt	2
House Line Leak	20
Brass Flex-Line To Water Heater	17
Brass Flex-Line To Clothes Dryer	1
Brass Flex-Line To Stove	5
Brass Flex-Line To Space Heater	2
Brass Flex-Line To Fireplace	3
Brass Flex-Line To Furnace	2
Water Heater Leaking	1
Fireplace Leaking	2
Flex Line To Dryer Leaking	1

Additionally, 3,425 Customer Surveillance Notices were issued to customers to correct outside deficiencies on their meter loop or exposed outside gas piping. The results of these customer surveillances directly associated with LG&E’s Meter Sampling Program are summarized in Table 3 below.

**Table 3: Year 2012 Customer Surveillance Notices Issued**

<b>Type Of Customer Notice Issued</b>	<b>Number Issued</b>
Corrosion / Rust On Outside Meter Loop & Associated Piping	3,173
Tree / Shrubbery Growing Inside / Against Meter Loop	10
Gas Piping Not Properly Supported	167
Meter Loop Too Low - In Contact With Soil / Pavement	6
Meter Not Protected From Vehicular Damage	40
Customer Built Over Service Line / Around Meter	3
No Plastic Sleeve Around Riser Going Through Pavement	9
Other	17

IV. Year 2012 Residential Meter Sampling Savings,

Table 4, highlights the estimated savings between a periodic change schedule and the LG&E Gas Meter Performance Control Program for the purchase of new/remanufactured residential class gas meters.

**Table 4: 2012 Residential Class Meter Sampling Program Estimated Savings**

<b>Metering Savings: Residential Gas Meters</b>	
<b>Periodic Program Costs (10-year Program):</b>	
Number of Meters under Periodic Program [1]	32,328
Unit Remanufacture Cost – Average Blended Cost	\$ 26.74
Residential Meter Costs Under Periodic Program	\$864,450
<b>Sampling Program Costs:</b>	
Number of Meters under Sampling Program	7,249
Number of poor performing meters scrapped	1,003
Number of Meters for Remanufacture	6,246
Remanufactured Meters	6,246
Average Unit Remanufacture Cost – All Models	\$26.74
Remanufactured Meter Costs	\$167,018
Replacement Meters (including FST Replacements)	1,003
Average Replacement Meter Cost (per unit)	\$ 39.50
Replacement Meter Costs	\$39,619
Total Residential Meter Costs Under 2012 Program	\$206,637
<b>Meter Cost Savings From 2012 Program</b>	<b>\$657,813</b>

[1] Based On Residential Meters On Line Beginning Year 2012

# APPENDIX A

Control Group Data/Analysis

Control Group Test Data Range

Frequency Histograms (Examples)

## Statistical Definitions

### **MEDIAN**

The median is the number in the middle of a set of numbers; that is, half the numbers have values that are greater than the median and half have values that are less.

### **STANDARD DEVIATION**

The standard deviation is a measure of how widely values are dispersed from the average value (the mean).

### **SKEWNESS**

Skewness characterizes the degree of asymmetry of a distribution around its mean. Positive skewness indicates a distribution with an asymmetric tail extending towards more positive values. Negative skewness indicates a distribution with an asymmetric tail extending towards more negative values.

### **CONFIDENCE**

The confidence interval is a range on either side of a sample mean. For example, if you order a product through the mail, you can determine, with a particular level of confidence, the earliest and latest the product should arrive.

American AL425  
425 CFH

Test Year 2012

	Control Group-Installed Year												
	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2006	2008	2010
Sample Plan	Reduced	Reduced	Reduced	Reduced	Reduced	Reduced	Reduced	Reduced	Reduced	Reduced	Reduced	Reduced	Reduced
Sample Size	32	32	32	32	32	32	32	32	32	32	32	32	32
Original Population	36	363	283	375	269	303	427	231	255	320	510	456	603
# of Slow Failures	0	0	0	2	1	0	0	0	0	0	0	0	0
# of Fast Failures	0	1	0	1	0	0	1	1	0	1	0	0	0
Total Failures:	0	1	0	3	1	0	1	1	0	1	0	0	0
Accept Level	5	5	5	5	5	5	5	5	5	5	5	5	5
Reject Level	8	8	8	8	8	8	8	8	8	8	8	8	8
Pass/ Fail?	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass
If Failed - Remove By:	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
<b>Statistical Data:</b>													
Mean (Average Proof)	-0.22344	-0.52031	-0.42813	-0.29688	-0.26563	-0.22969	-0.12188	-0.225	-0.48438	-0.29531	-0.3625	-0.28906	-0.36563
Median	-0.25	-0.675	-0.4	-0.45	-0.175	-0.275	-0.225	-0.3	-0.525	-0.35	-0.45	-0.25	-0.45
Standard Deviation	0.661741	0.831231	0.746814	0.92753	0.957941	0.51067	0.671414	1.068387	0.466185	0.816203	0.6	0.433801	0.532104
Sample Variance	0.437901	0.690945	0.557732	0.860313	0.917651	0.260784	0.450796	1.141452	0.217329	0.666187	0.36	0.188183	0.283135
Skewness	0.890893	3.448701	0.314682	0.33734	-0.93674	0.086418	1.476225	1.581711	0.579584	3.2337	0.12279	-0.53555	0.069214
Minimum	-1.65	-1.3	-1.8	-2.7	-3.25	-1.3	-1.25	-1.9	-1.25	-1.6	-1.95	-1.5	-1.45
Maximum	1.55	3.35	1.3	2.45	1.6	1	2.2	3.65	0.55	3.5	1.15	0.55	0.8
Count	32	32	32	32	32	32	32	32	32	32	32	32	32
Confidence Level(95.0%)	0.238583	0.299691	0.269255	0.33441	0.345375	0.184116	0.24207	0.385195	0.168078	0.294272	0.216323	0.156402	0.191844

Year 2012

Meter Code 015 American AL 425

Code & Year: 1995	
Data Range	Number
LT -3.6	0
-3.6 to -2.8	0
-2.8 to -2	0
-2 to -1.2	1
-1.2 to -.4	13
-.4 to .4	14
.4 to 1.2	2
1.2 to 2.0	2
2.0 to 2.8	0
2.8 to 3.6	0
GT 3.6	0
Total	32

Code & Year: 1996	
Data Range	Number
LT -3.6	0
-3.6 to -2.8	0
-2.8 to -2	0
-2 to -1.2	1
-1.2 to -.4	24
-.4 to .4	6
.4 to 1.2	0
1.2 to 2.0	0
2.0 to 2.8	0
2.8 to 3.6	1
GT 3.6	0
Total	32

Code & Year: 1997	
Data Range	Number
LT -3.6	0
-3.6 to -2.8	0
-2.8 to -2	0
-2 to -1.2	6
-1.2 to -.4	9
-.4 to .4	13
.4 to 1.2	3
1.2 to 2.0	1
2.0 to 2.8	0
2.8 to 3.6	0
GT 3.6	0
Total	32

Code & Year: 1998	
Data Range	Number
LT -3.6	0
-3.6 to -2.8	0
-2.8 to -2	2
-2 to -1.2	0
-1.2 to -.4	15
-.4 to .4	11
.4 to 1.2	2
1.2 to 2.0	1
2.0 to 2.8	1
2.8 to 3.6	0
GT 3.6	0
Total	32

Code & Year: 1999	
Data Range	Number
LT -3.6	0
-3.6 to -2.8	1
-2.8 to -2	0
-2 to -1.2	3
-1.2 to -.4	6
-.4 to .4	16
.4 to 1.2	5
1.2 to 2.0	1
2.0 to 2.8	0
2.8 to 3.6	0
GT 3.6	0
Total	32

Code & Year: 2000	
Data Range	Number
LT -3.6	0
-3.6 to -2.8	0
-2.8 to -2	0
-2 to -1.2	1
-1.2 to -.4	10
-.4 to .4	18
.4 to 1.2	3
1.2 to 2.0	0
2.0 to 2.8	0
2.8 to 3.6	0
GT 3.6	0
Total	32

Code & Year: 2001	
Data Range	Number
LT -3.6	0
-3.6 to -2.8	0
-2.8 to -2	0
-2 to -1.2	1
-1.2 to -.4	9
-.4 to .4	18
.4 to 1.2	2
1.2 to 2.0	1
2.0 to 2.8	1
2.8 to 3.6	0
GT 3.6	0
Total	32

Code & Year: 2002	
Data Range	Number
LT -3.6	0
-3.6 to -2.8	0
-2.8 to -2	0
-2 to -1.2	5
-1.2 to -.4	7
-.4 to .4	15
.4 to 1.2	3
1.2 to 2.0	1
2.0 to 2.8	0
2.8 to 3.6	0
GT 3.6	1
Total	32

Code & Year: 2003	
Data Range	Number
LT -3.6	0
-3.6 to -2.8	0
-2.8 to -2	0
-2 to -1.2	1
-1.2 to -.4	18
-.4 to .4	11
.4 to 1.2	2
1.2 to 2.0	0
2.0 to 2.8	0
2.8 to 3.6	0
GT 3.6	0
Total	32

Code & Year: 2004	
Data Range	Number
LT -3.6	0
-3.6 to -2.8	0
-2.8 to -2	0
-2 to -1.2	1
-1.2 to -.4	13
-.4 to .4	17
.4 to 1.2	0
1.2 to 2.0	0
2.0 to 2.8	0
2.8 to 3.6	1
GT 3.6	0
Total	32

Year 2012

Meter Code 015 American AL 425

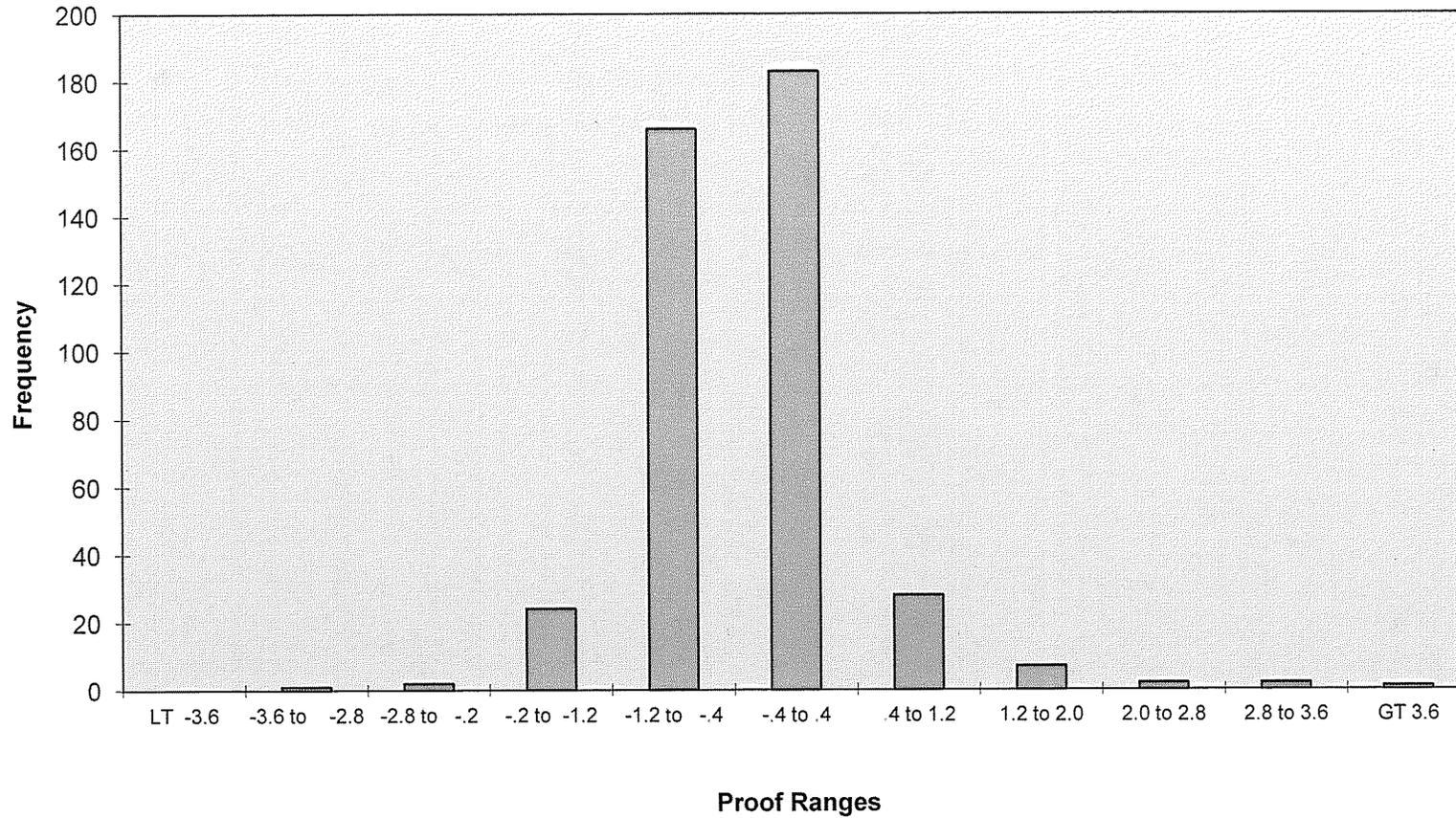
Code & Year: 2006	
Data Range	Number
LT -3.6	0
-3.6 to -2.8	0
-2.8 to -.2	0
-.2 to -1.2	1
-1.2 to -.4	16
-.4 to .4	12
.4 to 1.2	3
1.2 to 2.0	0
2.0 to 2.8	0
2.8 to 3.6	0
GT 3.6	0
Total	32

Code & Year: 2008	
Data Range	Number
LT -3.6	0
-3.6 to -2.8	0
-2.8 to -.2	0
-.2 to -1.2	1
-1.2 to -.4	11
-.4 to .4	19
.4 to 1.2	1
1.2 to 2.0	0
2.0 to 2.8	0
2.8 to 3.6	0
GT 3.6	0
Total	32

Code & Year: 2010	
Data Range	Number
LT -3.6	0
-3.6 to -2.8	0
-2.8 to -.2	0
-.2 to -1.2	2
-1.2 to -.4	15
-.4 to .4	13
.4 to 1.2	2
1.2 to 2.0	0
2.0 to 2.8	0
2.8 to 3.6	0
GT 3.6	0
Total	32

Code & Year: Total	
Data Range	Number
LT -3.6	0
-3.6 to -2.8	1
-2.8 to -.2	2
-.2 to -1.2	24
-1.2 to -.4	166
-.4 to .4	183
.4 to 1.2	28
1.2 to 2.0	7
2.0 to 2.8	2
2.8 to 3.6	2
GT 3.6	1
Total	416

**American AL425 Distribution Profile - 015**  
(1995, 1996, 1997, 1998, 1999, 2000, 2001, 2002, 2003, 2004, 2006, 2008, 2010)



Metris 250

Test Year 2012

250 CFH

Code: 018

	Control Group-Installed Year								
	2000	2001	2002	2003	2004				
Sample Plan	Single	Single	Single	Single	Single				
Sample Size	80	80	200	200	200				
Original Population	962	547	3559	4737	4682				
# of Slow Failures	2	1	3	17	8				
# of Fast Failures	0	0	1	0	2				
Total Failures:	2	1	4	17	10				
Accept Level	10	10	21	21	21				
Reject Level	11	11	22	22	22				
Pass / Fail?	Pass	Pass	Pass	Pass	Pass				
If Failed - Remove By:									
<b>Statistical Data:</b>									
Mean (Average Proof)	-0.36125	-0.42375	-0.75075	-0.9635	-0.74075				
Median	-0.225	-0.275	-0.85	-0.9	-0.8				
Standard Deviation	2.234751	1.164859	0.834156	1.006857	0.975054				
Sample Variance	4.994112	1.356897	0.695816	1.013762	0.950731				
Skewness	-7.10029	-5.79415	0.976142	-3.25658	1.397661				
Minimum	-18.65	-9.35	-2.3	-9.6	-3.45				
Maximum	1.85	0.9	2.75	1.2	5.45				
Count	80	80	200	200	200				
Confidence Level(95.0%)	0.497319	0.259227	0.116313	0.140395	0.13596				

Year 2012

Meter Code

018

Metris 250

Code & Year: 2000	
Data Range	Number
LT -3.6	1
-3.6 to -2.8	1
-2.8 to -.2	0
-.2 to -1.2	4
-1.2 to -.4	22
-.4 to .4	34
.4 to 1.2	14
1.2 to 2.0	4
2.0 to 2.8	0
2.8 to 3.6	0
GT 3.6	0
Total	80

Code & Year: 2001	
Data Range	Number
LT -3.6	1
-3.6 to -2.8	0
-2.8 to -.2	0
-.2 to -1.2	4
-1.2 to -.4	28
-.4 to .4	40
.4 to 1.2	7
1.2 to 2.0	0
2.0 to 2.8	0
2.8 to 3.6	0
GT 3.6	0
Total	80

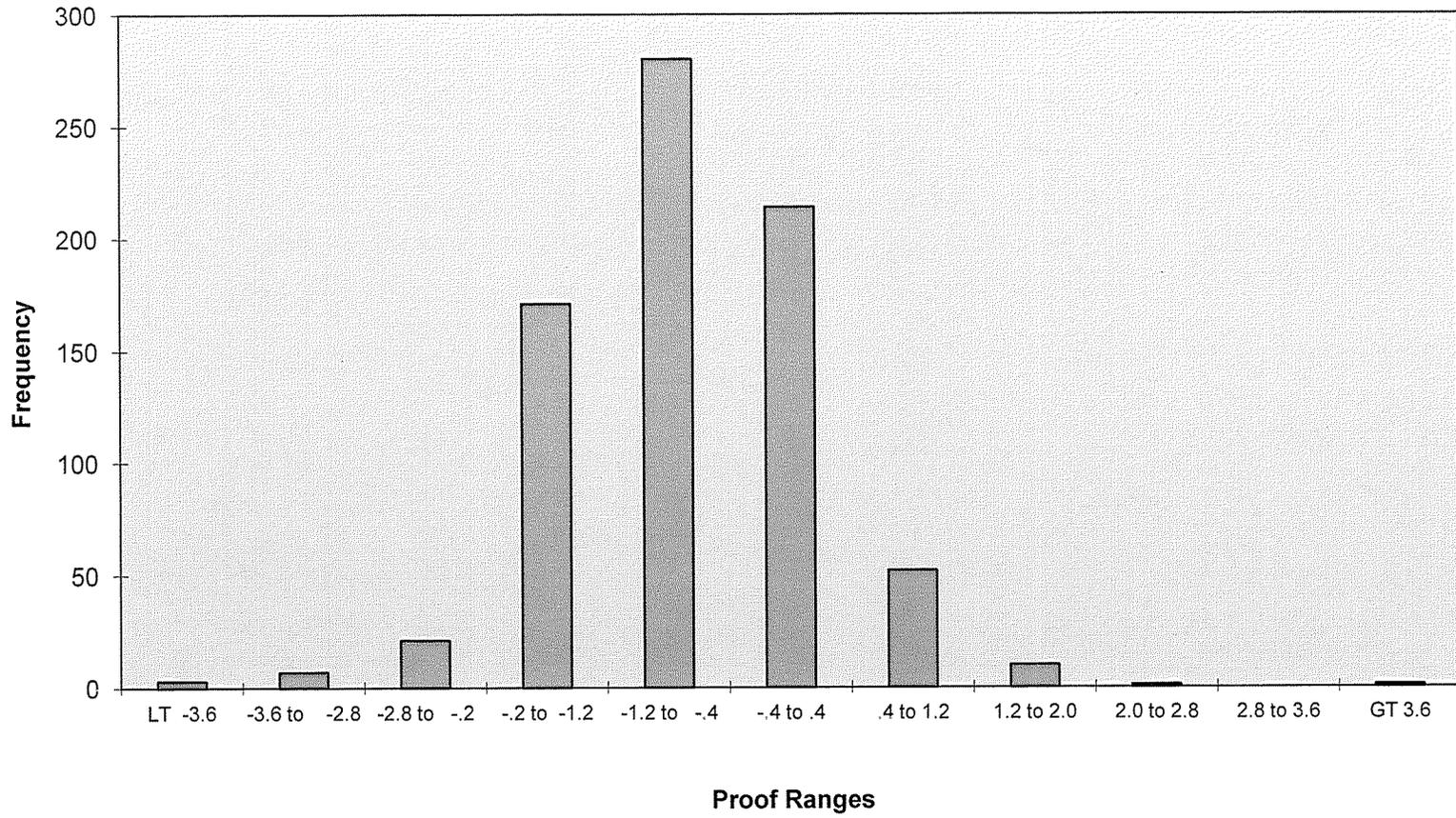
Code & Year: 2002	
Data Range	Number
LT -3.6	0
-3.6 to -2.8	0
-2.8 to -.2	3
-.2 to -1.2	54
-1.2 to -.4	85
-.4 to .4	44
.4 to 1.2	9
1.2 to 2.0	4
2.0 to 2.8	1
2.8 to 3.6	0
GT 3.6	0
Total	200

Code & Year: 2003	
Data Range	Number
LT -3.6	1
-3.6 to -2.8	4
-2.8 to -.2	12
-.2 to -1.2	49
-1.2 to -.4	81
-.4 to .4	48
.4 to 1.2	5
1.2 to 2.0	0
2.0 to 2.8	0
2.8 to 3.6	0
GT 3.6	0
Total	200

Code & Year: 2004	
Data Range	Number
LT -3.6	0
-3.6 to -2.8	2
-2.8 to -.2	6
-.2 to -1.2	60
-1.2 to -.4	64
-.4 to .4	48
.4 to 1.2	17
1.2 to 2.0	2
2.0 to 2.8	0
2.8 to 3.6	0
GT 3.6	1
Total	200

Code & Year: Total	
Data Range	Number
LT -3.6	3
-3.6 to -2.8	7
-2.8 to -.2	21
-.2 to -1.2	171
-1.2 to -.4	280
-.4 to .4	214
.4 to 1.2	52
1.2 to 2.0	10
2.0 to 2.8	1
2.8 to 3.6	0
GT 3.6	1
Total	760

### Metris 250 Distribution Profile - 018 (2000, 2001, 2002, 2003, 2004)





Year 2012

Meter Code

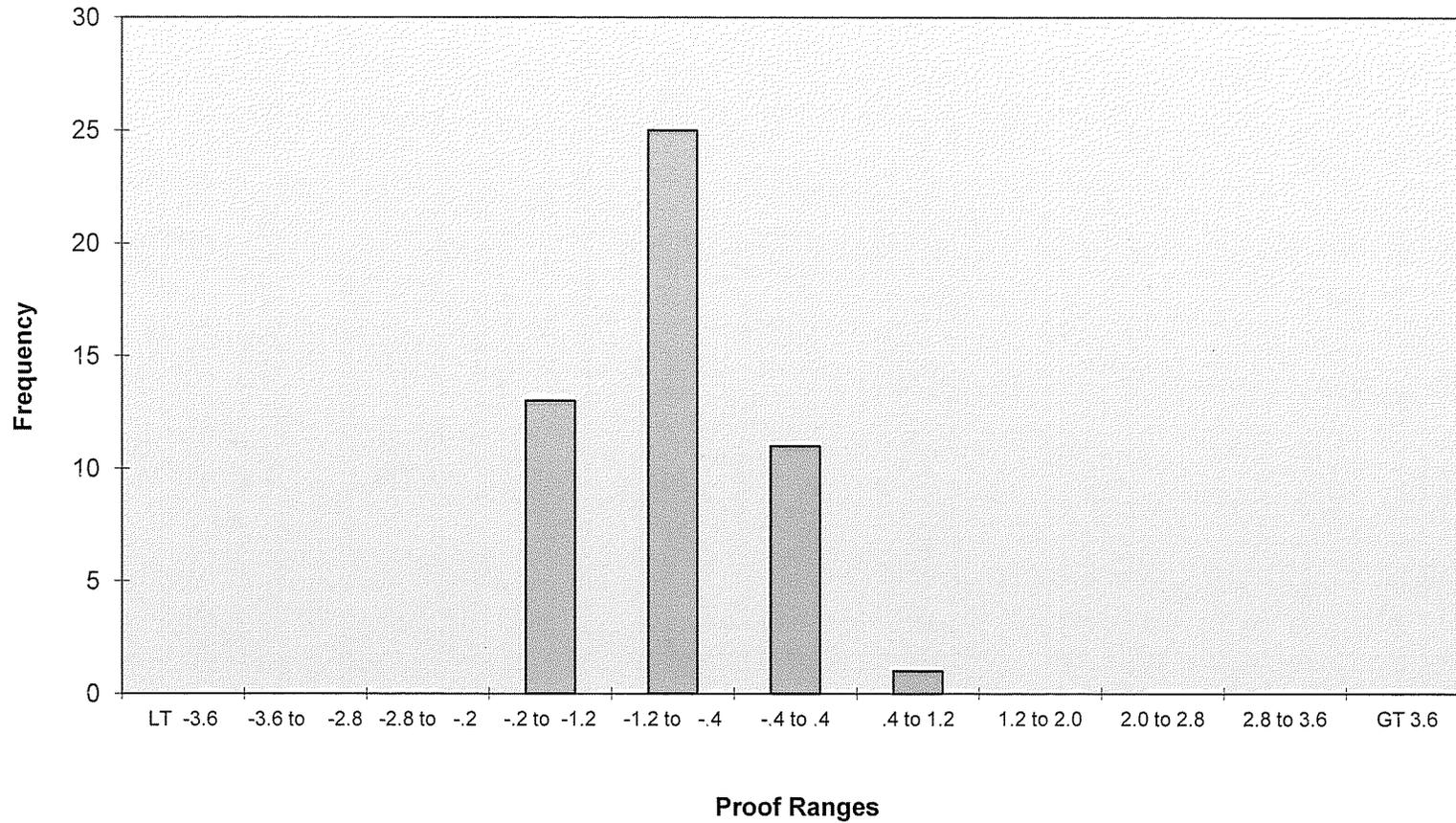
18T

Metris 250 TC

Code & Year: 2002	
Data Range	Number
LT -3.6	0
-3.6 to -2.8	0
-2.8 to -2	0
-2 to -1.2	13
-1.2 to -.4	25
-.4 to .4	11
.4 to 1.2	1
1.2 to 2.0	0
2.0 to 2.8	0
2.8 to 3.6	0
GT 3.6	0
Total	50

Code & Year: Totals	
Data Range	Number
LT -3.6	0
-3.6 to -2.8	0
-2.8 to -2	0
-2 to -1.2	13
-1.2 to -.4	25
-.4 to .4	11
.4 to 1.2	1
1.2 to 2.0	0
2.0 to 2.8	0
2.8 to 3.6	0
GT 3.6	0
Total	50

### Metris 250 Distribution Profile - 18T (2002)



## Rockwell R175

Test Year 2012

175 CFH

Code: 024

	Control Group-Installed Year											
	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997
Sample Plan	Single	Single	Single	Single	Single	Single	Single	Single	Single	Single	Single	Single
Sample Size	200	200	125	200	125	125	200	200	125	125	80	50
Original Population	3432	3263	2347	3349	2878	3185	3720	3966	2847	2665	1103	441
# of Slow Failures	8	3	4	8	2	3	2	14	4	4	2	5
# of Fast Failures	8	7	2	3	2	3	1	2	2	0	1	1
Total Failures:	16	10	6	11	4	6	3	16	6	4	3	6
Accept Level	21	21	14	21	14	14	21	21	14	14	10	7
Reject Level	22	22	15	22	15	15	22	22	15	15	11	8
Pass / Fail?	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass
If Failed - Remove By:	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
<b>Statistical Data:</b>												
Mean (Average Proof)	0.054	0.06125	-0.1344	-0.19775	-0.0536	0.2876	-0.14675	-0.382	-0.0496	-0.2044	-0.52375	-0.633
Median	0.1	0.05	-0.05	-0.2	-0.1	0.3	-0.1	-0.325	0.1	-0.15	-0.45	-0.3
Standard Deviation	1.441239	1.219332	1.1469	1.067817	0.858031	1.04684	0.88684	1.108408	0.940605	0.95643	0.90172	1.487588
Sample Variance	2.07717	1.48677	1.31538	1.140234	0.736217	1.095873	0.786484	1.228569	0.884738	0.914759	0.8131	2.212919
Skewness	-1.93566	-2.17873	-1.80174	-0.57317	0.171949	-0.02237	0.162036	-0.30357	-0.22901	-0.34226	0.437146	-2.41211
Minimum	-9.45	-9.45	-6.6	-5.4	-2.4	-2.75	-2.25	-3.8	-2.55	-3.05	-2.25	-7.7
Maximum	4.5	3.25	3	3.95	2.45	4	2.9	2.55	2.35	2	2.25	2.15
Count	200	200	125	200	125	125	200	200	125	125	80	50
Confidence Level(95.0%)	0.200964	0.170022	0.203038	0.148895	0.151899	0.185324	0.123659	0.154555	0.166517	0.169319	0.200668	0.422768

\* Population less than required 32 minimum sample size - all meters to be changed - Single Sampling Plan For Normal Inspection used to obtain obtain sample size to determine if control passed or failed.

Rockwell R175

Test Year 2012

175 CFH

Code: 024

	Control Group-Installed Year									
	1998	1999	2000	2001	2002	2003	2004	2006	2008	2010
Sample Plan	Single	Single	Single	Single	Single	Single	Single	Single	Single	Single
Sample Size	80	125	80	80	125	125	125	200	125	2
Original Population	865	1536	934	993	1409	2155	2568	3525	2764	8*
# of Slow Failures	2	2	1	6	7	1	3	3	3	0
# of Fast Failures	0	1	1	0	1	0	0	1	1	0
Total Failures:	2	3	2	6	8	1	3	4	4	0
Accept Level	10	14	10	10	14	14	14	21	14	0
Reject Level	11	15	11	11	15	15	15	22	15	1
Pass / Fail?	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass
If Failed - Remove By:	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
<b>Statistical Data:</b>										
Mean (Average Proof)	-0.57688	-0.272	-0.21438	-0.37938	-0.29	-0.236	-0.2516	-0.1415	-0.0808	-0.475
Median	-0.2	-0.2	-0.175	-0.225	0	-0.05	-0.25	-0.05	0	-0.475
Standard Deviation	3.226825	0.930084	0.866507	1.081276	2.313381	1.723341	0.753405	0.831284	1.04965	0.176777
Sample Variance	10.4124	0.865056	0.750835	1.169158	5.351734	2.969903	0.567618	0.691033	1.101765	0.03125
Skewness	-6.61266	-0.19643	-0.14218	-0.91711	-7.83561	-8.6394	-1.11759	-1.14639	-2.18174	NA
Minimum	-25.75	-3	-2.45	-3.85	-22.85	-17.8	-3.5	-4.35	-6.55	-0.6
Maximum	1.9	2.65	2.35	1.95	2.25	1.65	1.45	2.9	2.4	-0.35
Count	80	125	80	80	125	125	125	200	125	2
Confidence Level(95.0%)	0.718095	0.164655	0.192832	0.240626	0.409543	0.305087	0.133377	0.115913	0.185822	1.588276

\* Population less than required 32 minimum sample size - all meters to be changed - Single Sampling Plan For Normal Inspection used to obtain obtain sample size to determine if control passed or failed.

Year 2012

Meter Code 024 Rockwell R175

Code & Year: 1986	
Data Range	Number
LT -3.6	3
-3.6 to -2.8	1
-2.8 to -.2	4
-.2 to -1.2	14
-1.2 to -.4	32
-.4 to .4	65
.4 to 1.2	49
1.2 to 2.0	24
2.0 to 2.8	5
2.8 to 3.6	1
GT 3.6	2
Total	200

Code & Year: 1987	
Data Range	Number
LT -3.6	1
-3.6 to -2.8	0
-2.8 to -.2	2
-.2 to -1.2	16
-1.2 to -.4	44
-.4 to .4	66
.4 to 1.2	47
1.2 to 2.0	17
2.0 to 2.8	6
2.8 to 3.6	1
GT 3.6	0
Total	200

Code & Year: 1988	
Data Range	Number
LT -3.6	2
-3.6 to -2.8	1
-2.8 to -.2	1
-.2 to -1.2	10
-1.2 to -.4	24
-.4 to .4	50
.4 to 1.2	30
1.2 to 2.0	5
2.0 to 2.8	1
2.8 to 3.6	1
GT 3.6	0
Total	125

Code & Year: 1989	
Data Range	Number
LT -3.6	2
-3.6 to -2.8	1
-2.8 to -.2	5
-.2 to -1.2	20
-1.2 to -.4	45
-.4 to .4	73
.4 to 1.2	41
1.2 to 2.0	10
2.0 to 2.8	2
2.8 to 3.6	0
GT 3.6	1
Total	200

Code & Year: 1990	
Data Range	Number
LT -3.6	0
-3.6 to -2.8	0
-2.8 to -.2	2
-.2 to -1.2	7
-1.2 to -.4	30
-.4 to .4	52
.4 to 1.2	25
1.2 to 2.0	7
2.0 to 2.8	2
2.8 to 3.6	0
GT 3.6	0
Total	125

Code & Year: 1991	
Data Range	Number
LT -3.6	0
-3.6 to -2.8	0
-2.8 to -.2	3
-.2 to -1.2	8
-1.2 to -.4	12
-.4 to .4	46
.4 to 1.2	37
1.2 to 2.0	16
2.0 to 2.8	1
2.8 to 3.6	1
GT 3.6	1
Total	125

Code & Year: 1992	
Data Range	Number
LT -3.6	0
-3.6 to -2.8	0
-2.8 to -.2	2
-.2 to -1.2	20
-1.2 to -.4	51
-.4 to .4	78
.4 to 1.2	35
1.2 to 2.0	13
2.0 to 2.8	0
2.8 to 3.6	1
GT 3.6	0
Total	200

Code & Year: 1993	
Data Range	Number
LT -3.6	1
-3.6 to -2.8	4
-2.8 to -.2	9
-.2 to -1.2	29
-1.2 to -.4	48
-.4 to .4	65
.4 to 1.2	29
1.2 to 2.0	13
2.0 to 2.8	2
2.8 to 3.6	0
GT 3.6	0
Total	200

Code & Year: 1994	
Data Range	Number
LT -3.6	0
-3.6 to -2.8	0
-2.8 to -.2	4
-.2 to -1.2	9
-1.2 to -.4	26
-.4 to .4	45
.4 to 1.2	31
1.2 to 2.0	8
2.0 to 2.8	2
2.8 to 3.6	0
GT 3.6	0
Total	125

Code & Year: 1995	
Data Range	Number
LT -3.6	0
-3.6 to -2.8	2
-2.8 to -.2	2
-.2 to -1.2	13
-1.2 to -.4	35
-.4 to .4	41
.4 to 1.2	24
1.2 to 2.0	8
2.0 to 2.8	0
2.8 to 3.6	0
GT 3.6	0
Total	125

Year 2012

Meter Code 024 Rockwell R175

Code & Year: 1996	
Data Range	Number
LT -3.6	0
-3.6 to -2.8	0
-2.8 to -.2	2
-.2 to -1.2	15
-1.2 to -.4	29
-.4 to .4	24
.4 to 1.2	7
1.2 to 2.0	2
2.0 to 2.8	1
2.8 to 3.6	0
GT 3.6	0
Total	80

Code & Year: 1997	
Data Range	Number
LT -3.6	1
-3.6 to -2.8	2
-2.8 to -.2	2
-.2 to -1.2	8
-1.2 to -.4	10
-.4 to .4	20
.4 to 1.2	5
1.2 to 2.0	1
2.0 to 2.8	1
2.8 to 3.6	0
GT 3.6	0
Total	50

Code & Year: 1998	
Data Range	Number
LT -3.6	2
-3.6 to -2.8	0
-2.8 to -.2	0
-.2 to -1.2	8
-1.2 to -.4	21
-.4 to .4	28
.4 to 1.2	17
1.2 to 2.0	4
2.0 to 2.8	0
2.8 to 3.6	0
GT 3.6	0
Total	80

Code & Year: 1999	
Data Range	Number
LT -3.6	0
-3.6 to -2.8	1
-2.8 to -.2	1
-.2 to -1.2	20
-1.2 to -.4	26
-.4 to .4	53
.4 to 1.2	18
1.2 to 2.0	5
2.0 to 2.8	1
2.8 to 3.6	0
GT 3.6	0
Total	125

Code & Year: 2000	
Data Range	Number
LT -3.6	0
-3.6 to -2.8	0
-2.8 to -.2	1
-.2 to -1.2	2
-1.2 to -.4	17
-.4 to .4	33
.4 to 1.2	16
1.2 to 2.0	10
2.0 to 2.8	1
2.8 to 3.6	0
GT 3.6	0
Total	80

Code & Year: 2001	
Data Range	Number
LT -3.6	2
-3.6 to -2.8	0
-2.8 to -.2	4
-.2 to -1.2	9
-1.2 to -.4	16
-.4 to .4	33
.4 to 1.2	13
1.2 to 2.0	3
2.0 to 2.8	0
2.8 to 3.6	0
GT 3.6	0
Total	80

Code & Year: 2002	
Data Range	Number
LT -3.6	3
-3.6 to -2.8	0
-2.8 to -.2	4
-.2 to -1.2	5
-1.2 to -.4	23
-.4 to .4	54
.4 to 1.2	31
1.2 to 2.0	4
2.0 to 2.8	1
2.8 to 3.6	0
GT 3.6	0
Total	125

Code & Year: 2003	
Data Range	Number
LT -3.6	1
-3.6 to -2.8	0
-2.8 to -.2	0
-.2 to -1.2	8
-1.2 to -.4	27
-.4 to .4	66
.4 to 1.2	19
1.2 to 2.0	4
2.0 to 2.8	0
2.8 to 3.6	0
GT 3.6	0
Total	125

Code & Year: 2004	
Data Range	Number
LT -3.6	0
-3.6 to -2.8	2
-2.8 to -.2	1
-.2 to -1.2	4
-1.2 to -.4	38
-.4 to .4	61
.4 to 1.2	17
1.2 to 2.0	2
2.0 to 2.8	0
2.8 to 3.6	0
GT 3.6	0
Total	125

Code & Year: 2006	
Data Range	Number
LT -3.6	2
-3.6 to -2.8	0
-2.8 to -.2	1
-.2 to -1.2	11
-1.2 to -.4	45
-.4 to .4	95
.4 to 1.2	43
1.2 to 2.0	2
2.0 to 2.8	0
2.8 to 3.6	1
GT 3.6	0
Total	200

Year 2012

Meter Code 024 Rockwell R175

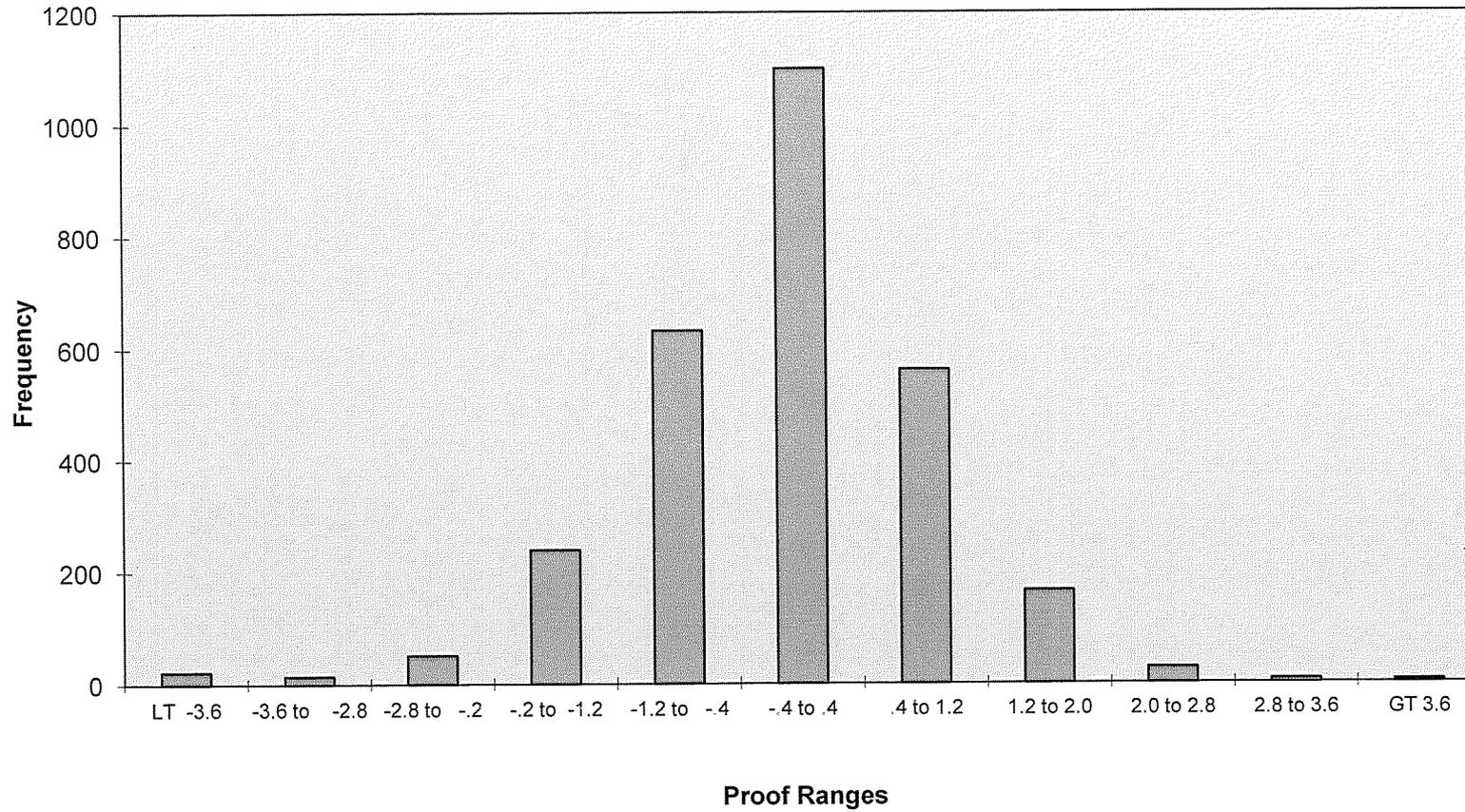
Code & Year: 2008	
Data Range	Number
LT -3.6	2
-3.6 to -2.8	0
-2.8 to -.2	1
-.2 to -1.2	3
-1.2 to -.4	32
-.4 to .4	51
.4 to 1.2	28
1.2 to 2.0	7
2.0 to 2.8	1
2.8 to 3.6	0
GT 3.6	0
Total	125

Code & Year: 2010	
Data Range	Number
LT -3.6	0
-3.6 to -2.8	0
-2.8 to -.2	0
-.2 to -1.2	0
-1.2 to -.4	1
-.4 to .4	1
.4 to 1.2	0
1.2 to 2.0	0
2.0 to 2.8	0
2.8 to 3.6	0
GT 3.6	0
Total	2

Code & Year: Total	
Data Range	Number
LT -3.6	22
-3.6 to -2.8	14
-2.8 to -.2	51
-.2 to -1.2	239
-1.2 to -.4	632
-.4 to .4	1100
.4 to 1.2	562
1.2 to 2.0	165
2.0 to 2.8	27
2.8 to 3.6	6
GT 3.6	4
Total	2822

### Rockwell R175 Distribution Profile - 024

(1986, 1987, 1988, 1989, 1990, 1991, 1992, 1993, 1994, 1995, 1996, 1997, 1998, 1999, 2000, 2001, 2002, 2003, 2004, 2006, 2008, 2010)



<b>Rockwell R175</b> <b>175 CFH</b> <b>Code: 24T</b> Sample Plan Sample Size  Original Population  # of Slow Failures # of Fast Failures Total Failures:  Accept Level Reject Level Pass / Fail?  If Failed - Remove By:  <b>Statistical Data:</b> Mean (Average Proof) Median Standard Deviation Sample Variance Skewness Minimum Maximum Count Confidence Level(95.0%)	Test Year 2012						
	Control Group-Installed Year						
	2010						
	Single						
	125						
	2017						
	5						
	0						
	5						
	14						
	15						
	Pass						
	NA						
	-0.2268						
	-0.05						
	1.1557804						
	1.3358284						
	-2.7744953						
	-8						
	1.85						
	125						
	0.2046103						

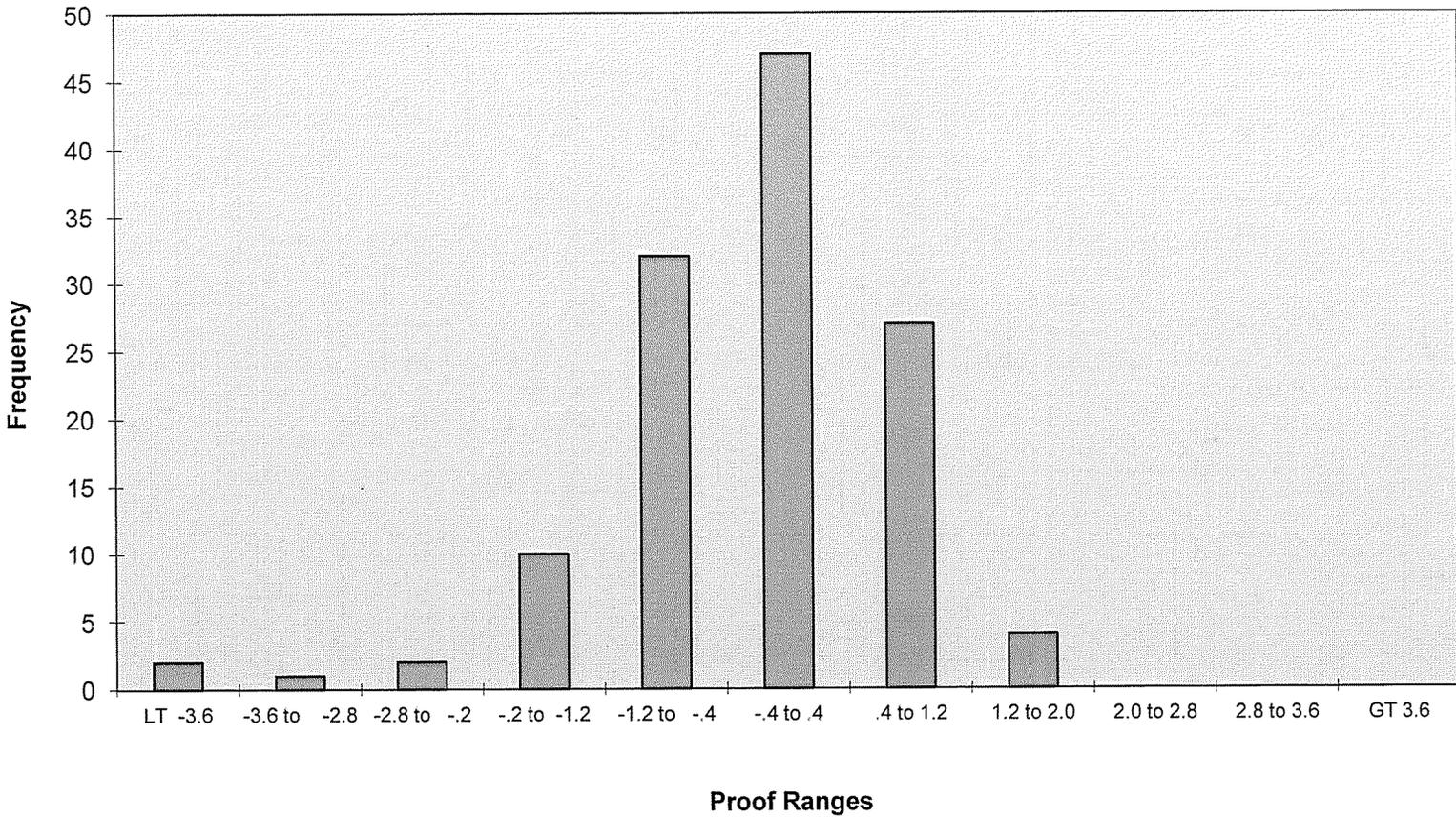
Year 2012

Meter Code 24T Rockwell 175

Code & Year: 2010	
Data Range	Number
LT -3.6	2
-3.6 to -2.8	1
-2.8 to -2	2
-.2 to -1.2	10
-1.2 to -.4	32
-.4 to .4	47
.4 to 1.2	27
1.2 to 2.0	4
2.0 to 2.8	0
2.8 to 3.6	0
GT 3.6	0
Total	125

Code & Year: Totals	
Data Range	Number
LT -3.6	2
-3.6 to -2.8	1
-2.8 to -2	2
-.2 to -1.2	10
-1.2 to -.4	32
-.4 to .4	47
.4 to 1.2	27
1.2 to 2.0	4
2.0 to 2.8	0
2.8 to 3.6	0
GT 3.6	0
Total	125

# Rockwell R175 Distribution Profile - 24T (2010)



<b>Rockwell R175</b> <b>175 CFH</b> <b>Code: 24B</b> Sample Plan Sample Size  Original Population  # of Slow Failures # of Fast Failures Total Failures:  Accept Level Reject Level Pass / Fail?  If Failed - Remove By:  <b>Statistical Data:</b> Mean (Average Proof) Median Standard Deviation Sample Variance Skewness Minimum Maximum Count Confidence Level(95.0%)	Test Year 2012						
	Control Group-Installed Year						
	<b>2010</b>						
	Single						
	125						
	2856						
	2						
	1						
	3						
	14						
	15						
	Pass						
	NA						
	-0.3036						
	-0.3						
	0.75480119						
	0.56972484						
	-0.6608894						
	-3.85						
	2.4						
	125						
	0.13362411						

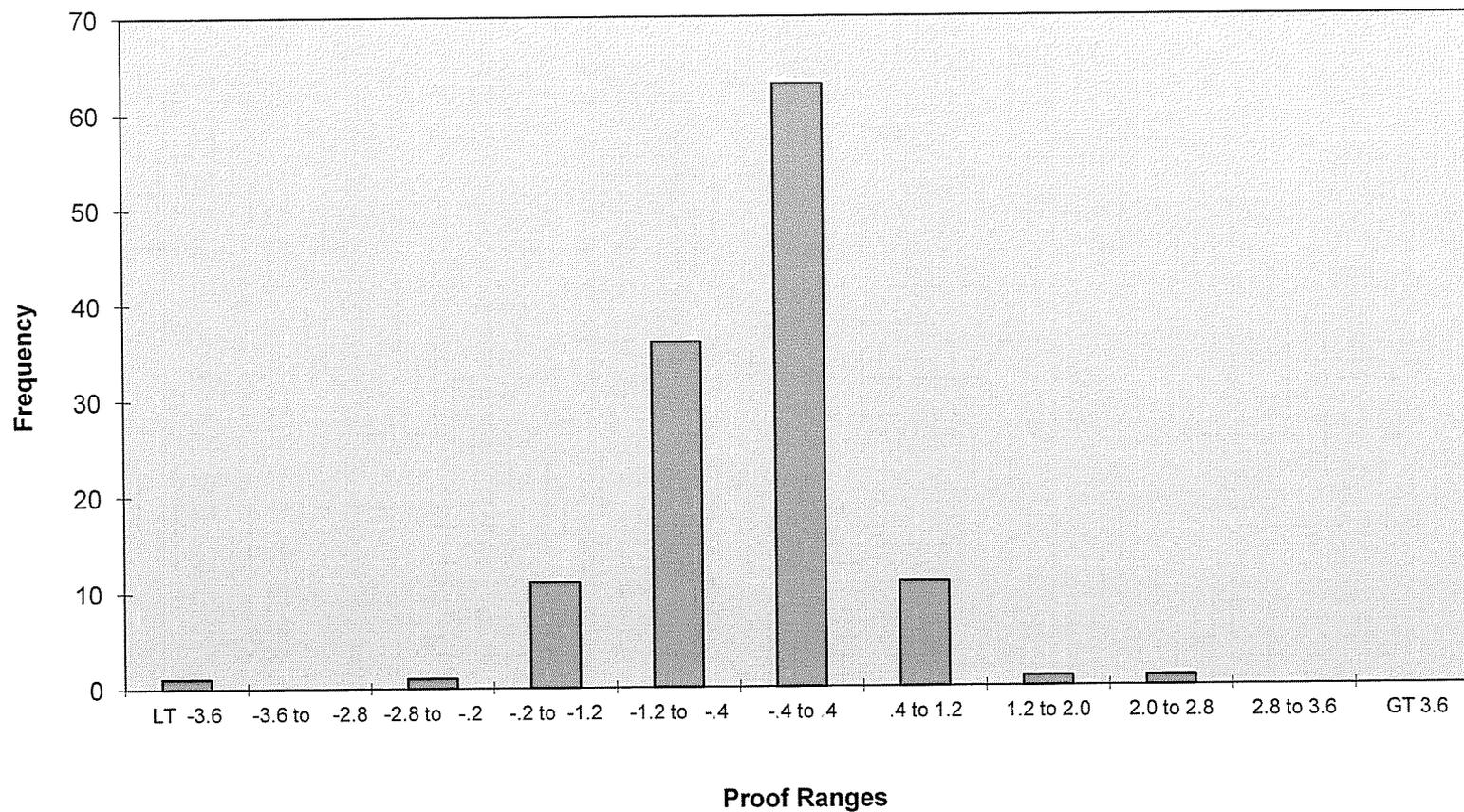
Year 2012

Meter Code 24B Rockwell 175

Code & Year: 2010	
Data Range	Number
LT -3.6	1
-3.6 to -2.8	0
-2.8 to -.2	1
-.2 to -1.2	11
-1.2 to -.4	36
-.4 to .4	63
.4 to 1.2	11
1.2 to 2.0	1
2.0 to 2.8	1
2.8 to 3.6	0
GT 3.6	0
Total	125

Code & Year: Totals	
Data Range	Number
LT -3.6	1
-3.6 to -2.8	0
-2.8 to -.2	1
-.2 to -1.2	11
-1.2 to -.4	36
-.4 to .4	63
.4 to 1.2	11
1.2 to 2.0	1
2.0 to 2.8	1
2.8 to 3.6	0
GT 3.6	0
Total	125

### Rockwell R175 Distribution Profile - 24B (2010)



American AL175

Test Year 2012

175 CFH

Code: 033

	Control Group-Installed Year											
	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996
Sample Plan	Reduced	Reduced	Reduced	Reduced	Reduced	Reduced	Reduced	Reduced	Reduced	Reduced	Reduced	Reduced
Sample Size	32	50	32	80	50	80	80	80	80	80	80	80
Original Population	1063	1649	756	3385	2027	6153	7578	7338	7367	7673	7656	4847
# of Slow Failures	0	4	1	0	0	1	0	3	0	2	3	2
# of Fast Failures	0	2	0	0	0	1	1	1	0	0	1	0
Total Failures:	0	6	1	0	0	2	1	4	0	2	4	2
Accept Level	5	7	5	10	7	10	10	10	10	10	10	10
Reject Level	8	10	8	13	10	13	13	13	13	13	13	13
Pass / Fail?	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass
If Failed - Remove By:	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
<b>Statistical Data:</b>												
Mean (Average Proof)	-0.08594	-0.321	-0.17656	0.054375	0.197	-0.04438	0.340625	0.0775	0.108125	-0.2125	-0.09688	-0.4425
Median	-0.075	-0.325	-0.175	0.05	0.1	-0.1	0.275	0.2	0.075	-0.1	-0.15	-0.4
Standard Deviation	0.559267	2.215509	0.761893	0.567372	0.673129	0.86898	0.68557	0.858682	0.71181	1.03136	0.883153	0.679589
Sample Variance	0.31278	4.908479	0.580481	0.321911	0.453103	0.755126	0.470006	0.737335	0.506674	1.063703	0.779958	0.461842
Skewness	0.067268	1.507635	-2.4704	0.130727	0.36765	3.301455	0.080079	-1.09917	-0.21271	-4.83693	0.342224	-0.31807
Minimum	-1.3	-7.5	-3.5	-1.4	-1.6	-2.45	-1.8	-3.25	-1.95	-7.65	-3.1	-2.65
Maximum	1.15	10.1	1.2	1.45	2	5.6	2.3	2.4	1.85	1.15	4.05	1.2
Count	32	50	32	80	50	80	80	80	80	80	80	80
Confidence Level(95.0%)	0.201637	0.629641	0.274692	0.126262	0.191301	0.193382	0.152566	0.19109	0.158406	0.229518	0.196536	0.151235

American AL175

Test Year 2011

175 CFH

Code: 033

	Control Group-Installed Year											
	1997	1998	1999	2000	2001	2002	2003	2004	2006	2008	2010	
Sample Plan	Reduced	Reduced	Reduced	Reduced	Reduced	Reduced	Reduced	Reduced	Reduced	Reduced	Reduced	
Sample Size	80	80	80	80	80	50	50	50	50	50	50	
Original Population	8987	5401	8109	7420	4248	2594	2647	2065	1382	1972	1774	
# of Slow Failures	1	3	0	0	1	0	0	1	0	0	0	
# of Fast Failures	1	0	1	0	1	0	0	0	0	0	0	
Total Failures:	2	3	1	0	2	0	0	1	0	0	0	
Accept Level	10	10	10	10	10	7	7	7	7	7	7	
Reject Level	13	13	13	13	13	10	10	10	10	10	10	
Pass / Fail?	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	
If Failed - Remove By:	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
<b>Statistical Data:</b>												
Mean (Average Proof)	-0.16125	-0.50438	-0.20438	-0.16688	-0.31875	-0.433	-0.465	-0.639	-0.439	-0.222	-0.596	
Median	-0.25	-0.525	-0.3	-0.15	-0.375	-0.45	-0.475	-0.55	-0.4	-0.3	-0.55	
Standard Deviation	0.818805	0.768576	0.768823	0.578843	0.792982	0.562575	0.386936	0.694019	0.512327	0.640405	0.549753	
Sample Variance	0.670441	0.590708	0.591088	0.33506	0.628821	0.316491	0.149719	0.481662	0.262479	0.410118	0.302229	
Skewness	0.453678	-0.52126	2.239069	-0.30591	1.746498	0.071097	0.194001	-0.38899	0.209602	1.155624	-0.35786	
Minimum	-2.5	-3.3	-1.35	-1.8	-2.7	-1.85	-1.35	-2.9	-1.5	-1.45	-1.9	
Maximum	2.85	1.9	4	1.25	3.85	0.9	0.5	1.4	0.75	2	0.55	
Count	80	80	80	80	80	50	50	50	50	50	50	
Confidence Level(95.0%)	0.182216	0.171038	0.171093	0.128815	0.17647	0.159882	0.109966	0.197238	0.145602	0.182001	0.156238	

Year 2012

Meter Code 033 American AL175

Code & Year: 1985	
Data Range	Number
LT -3.6	0
-3.6 to -2.8	0
-2.8 to -.2	0
-.2 to -1.2	1
-1.2 to -.4	7
-.4 to .4	17
.4 to 1.2	7
1.2 to 2.0	0
2.0 to 2.8	0
2.8 to 3.6	0
GT 3.6	0
Total	32

Code & Year: 1986	
Data Range	Number
LT -3.6	3
-3.6 to -2.8	1
-2.8 to -.2	0
-.2 to -1.2	3
-1.2 to -.4	11
-.4 to .4	25
.4 to 1.2	5
1.2 to 2.0	0
2.0 to 2.8	0
2.8 to 3.6	0
GT 3.6	2
Total	50

Code & Year: 1987	
Data Range	Number
LT -3.6	0
-3.6 to -2.8	1
-2.8 to -.2	0
-.2 to -1.2	0
-1.2 to -.4	7
-.4 to .4	20
.4 to 1.2	4
1.2 to 2.0	0
2.0 to 2.8	0
2.8 to 3.6	0
GT 3.6	0
Total	32

Code & Year: 1988	
Data Range	Number
LT -3.6	0
-3.6 to -2.8	0
-2.8 to -.2	0
-.2 to -1.2	1
-1.2 to -.4	14
-.4 to .4	47
.4 to 1.2	16
1.2 to 2.0	2
2.0 to 2.8	0
2.8 to 3.6	0
GT 3.6	0
Total	80

Code & Year: 1989	
Data Range	Number
LT -3.6	0
-3.6 to -2.8	0
-2.8 to -.2	0
-.2 to -1.2	1
-1.2 to -.4	5
-.4 to .4	29
.4 to 1.2	12
1.2 to 2.0	3
2.0 to 2.8	0
2.8 to 3.6	0
GT 3.6	0
Total	50

Code & Year: 1990	
Data Range	Number
LT -3.6	0
-3.6 to -2.8	0
-2.8 to -.2	1
-.2 to -1.2	0
-1.2 to -.4	17
-.4 to .4	47
.4 to 1.2	13
1.2 to 2.0	1
2.0 to 2.8	0
2.8 to 3.6	0
GT 3.6	1
Total	80

Code & Year: 1991	
Data Range	Number
LT -3.6	0
-3.6 to -2.8	0
-2.8 to -.2	0
-.2 to -1.2	1
-1.2 to -.4	8
-.4 to .4	35
.4 to 1.2	30
1.2 to 2.0	5
2.0 to 2.8	1
2.8 to 3.6	0
GT 3.6	0
Total	80

Code & Year: 1992	
Data Range	Number
LT -3.6	0
-3.6 to -2.8	1
-2.8 to -.2	2
-.2 to -1.2	1
-1.2 to -.4	12
-.4 to .4	36
.4 to 1.2	24
1.2 to 2.0	3
2.0 to 2.8	1
2.8 to 3.6	0
GT 3.6	0
Total	80

Code & Year: 1993	
Data Range	Number
LT -3.6	0
-3.6 to -2.8	0
-2.8 to -.2	0
-.2 to -1.2	4
-1.2 to -.4	10
-.4 to .4	43
.4 to 1.2	19
1.2 to 2.0	4
2.0 to 2.8	0
2.8 to 3.6	0
GT 3.6	0
Total	80

Code & Year: 1994	
Data Range	Number
LT -3.6	1
-3.6 to -2.8	0
-2.8 to -.2	1
-.2 to -1.2	2
-1.2 to -.4	21
-.4 to .4	41
.4 to 1.2	14
1.2 to 2.0	0
2.0 to 2.8	0
2.8 to 3.6	0
GT 3.6	0
Total	80

Year 2012

Meter Code 033 American AL175

Code & Year: 1995	
Data Range	Number
LT -3.6	0
-3.6 to -2.8	2
-2.8 to -.2	1
-.2 to -1.2	1
-1.2 to -.4	15
-.4 to .4	50
.4 to 1.2	9
1.2 to 2.0	1
2.0 to 2.8	0
2.8 to 3.6	0
GT 3.6	1
Total	80

Code & Year: 1996	
Data Range	Number
LT -3.6	0
-3.6 to -2.8	0
-2.8 to -.2	2
-.2 to -1.2	6
-1.2 to -.4	31
-.4 to .4	33
.4 to 1.2	8
1.2 to 2.0	0
2.0 to 2.8	0
2.8 to 3.6	0
GT 3.6	0
Total	80

Code & Year: 1997	
Data Range	Number
LT -3.6	0
-3.6 to -2.8	0
-2.8 to -.2	1
-.2 to -1.2	5
-1.2 to -.4	21
-.4 to .4	39
.4 to 1.2	8
1.2 to 2.0	5
2.0 to 2.8	0
2.8 to 3.6	1
GT 3.6	0
Total	80

Code & Year: 1998	
Data Range	Number
LT -3.6	0
-3.6 to -2.8	2
-2.8 to -.2	1
-.2 to -1.2	4
-1.2 to -.4	39
-.4 to .4	29
.4 to 1.2	4
1.2 to 2.0	1
2.0 to 2.8	0
2.8 to 3.6	0
GT 3.6	0
Total	80

Code & Year: 1999	
Data Range	Number
LT -3.6	0
-3.6 to -2.8	0
-2.8 to -.2	0
-.2 to -1.2	4
-1.2 to -.4	29
-.4 to .4	32
.4 to 1.2	13
1.2 to 2.0	1
2.0 to 2.8	0
2.8 to 3.6	0
GT 3.6	1
Total	80

Code & Year: 2000	
Data Range	Number
LT -3.6	0
-3.6 to -2.8	0
-2.8 to -.2	0
-.2 to -1.2	3
-1.2 to -.4	17
-.4 to .4	48
.4 to 1.2	11
1.2 to 2.0	1
2.0 to 2.8	0
2.8 to 3.6	0
GT 3.6	0
Total	80

Code & Year: 2001	
Data Range	Number
LT -3.6	0
-3.6 to -2.8	0
-2.8 to -.2	1
-.2 to -1.2	3
-1.2 to -.4	30
-.4 to .4	38
.4 to 1.2	5
1.2 to 2.0	2
2.0 to 2.8	0
2.8 to 3.6	0
GT 3.6	1
Total	80

Code & Year: 2002	
Data Range	Number
LT -3.6	0
-3.6 to -2.8	0
-2.8 to -.2	0
-.2 to -1.2	4
-1.2 to -.4	22
-.4 to .4	19
.4 to 1.2	5
1.2 to 2.0	0
2.0 to 2.8	0
2.8 to 3.6	0
GT 3.6	0
Total	50

Code & Year: 2003	
Data Range	Number
LT -3.6	0
-3.6 to -2.8	0
-2.8 to -.2	0
-.2 to -1.2	1
-1.2 to -.4	26
-.4 to .4	21
.4 to 1.2	2
1.2 to 2.0	0
2.0 to 2.8	0
2.8 to 3.6	0
GT 3.6	0
Total	50

Code & Year: 2004	
Data Range	Number
LT -3.6	0
-3.6 to -2.8	1
-2.8 to -.2	0
-.2 to -1.2	8
-1.2 to -.4	22
-.4 to .4	17
.4 to 1.2	1
1.2 to 2.0	1
2.0 to 2.8	0
2.8 to 3.6	0
GT 3.6	0
Total	50

Year 2012

Meter Code 033 American AL175

Code & Year: 2006	
Data Range	Number
LT -3.6	0
-3.6 to -2.8	0
-2.8 to -.2	0
-.2 to -1.2	2
-1.2 to -.4	22
-.4 to .4	24
.4 to 1.2	2
1.2 to 2.0	0
2.0 to 2.8	0
2.8 to 3.6	0
GT 3.6	0
Total	50

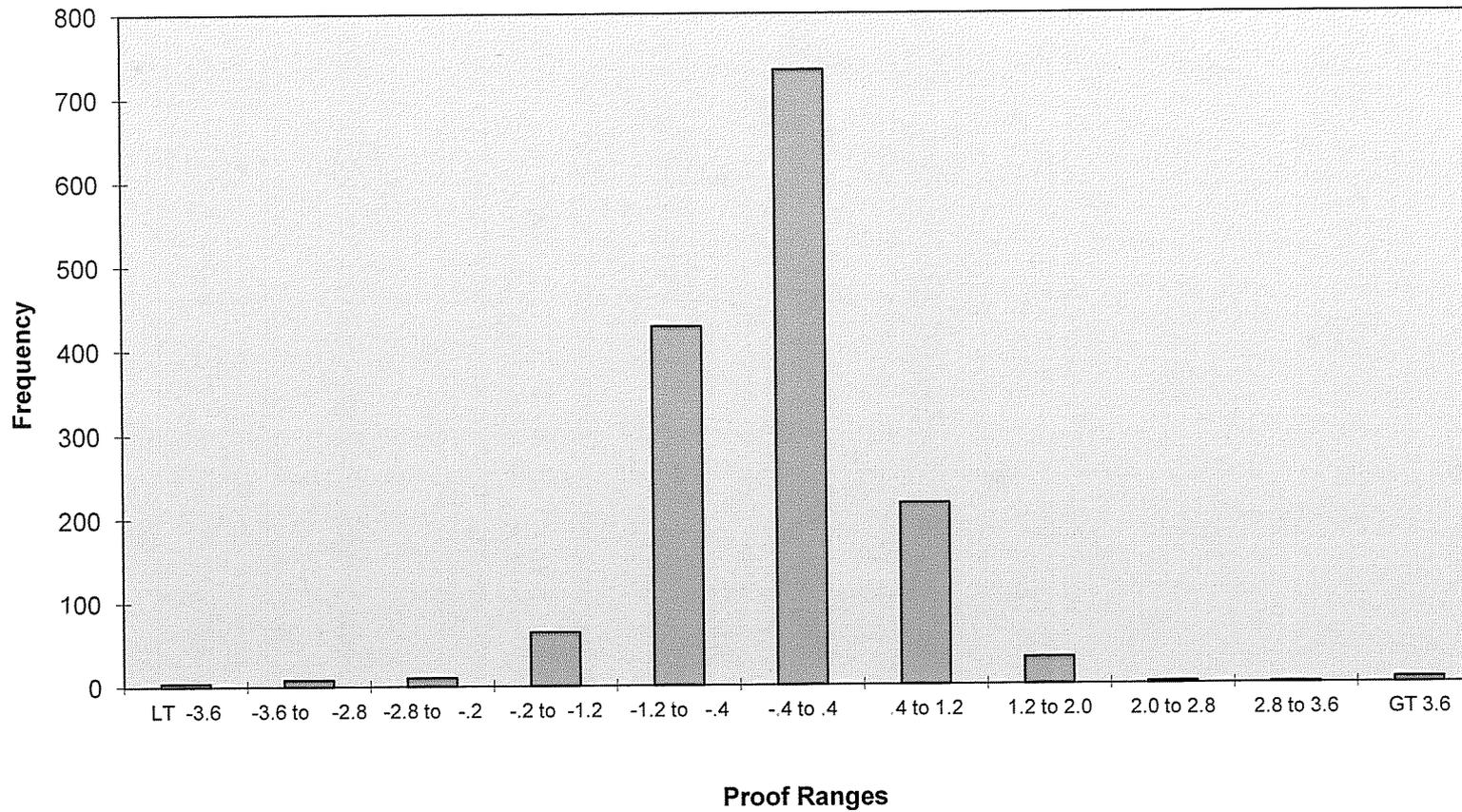
Code & Year: 2008	
Data Range	Number
LT -3.6	0
-3.6 to -2.8	0
-2.8 to -.2	0
-.2 to -1.2	2
-1.2 to -.4	17
-.4 to .4	25
.4 to 1.2	4
1.2 to 2.0	2
2.0 to 2.8	0
2.8 to 3.6	0
GT 3.6	0
Total	50

Code & Year: 2010	
Data Range	Number
LT -3.6	0
-3.6 to -2.8	0
-2.8 to -.2	0
-.2 to -1.2	7
-1.2 to -.4	24
-.4 to .4	18
.4 to 1.2	1
1.2 to 2.0	0
2.0 to 2.8	0
2.8 to 3.6	0
GT 3.6	0
Total	50

Code & Year: Total	
Data Range	Number
LT -3.6	4
-3.6 to -2.8	8
-2.8 to -.2	10
-.2 to -1.2	64
-1.2 to -.4	427
-.4 to .4	733
.4 to 1.2	217
1.2 to 2.0	32
2.0 to 2.8	2
2.8 to 3.6	1
GT 3.6	6
Total	1504

### American AL175 Distribution Profile - 033

(1985, 1986, 1987, 1988, 1989, 1990, 1991, 1992, 1993, 1994, 1995, 1996, 1997, 1998, 1999, 2000, 2001, 2002, 2003, 2004, 2006, 2008, 2010)



American AL175

Test Year 2012

175 CFH

Code: 33A

	Control Group-Installed Year								
	1992	1993	1994						
Sample Plan	Reduced	Reduced	Reduced						
Sample Size	80	50	50						
Original Population	4743	1859	2456						
# of Slow Failures	0	0	0						
# of Fast Failures	0	0	0						
Total Failures:	0	0	0						
Accept Level	10	7	7						
Reject Level	13	10	10						
Pass / Fail?	Pass	Pass	Pass						
If Failed - Remove By:	NA	NA	NA						
<b>Statistical Data:</b>									
Mean (Average Proof)	0.07875	0.056	-0.158						
Median	0.15	0.075	-0.2						
Standard Deviation	0.648356	0.528344	0.729926						
Sample Variance	0.420366	0.279147	0.532792						
Skewness	0.114507	-0.03019	-0.16567						
Minimum	-1.5	-0.95	-1.9						
Maximum	2	1.25	1.6						
Count	80	50	50						
Confidence Level(95.0%)	0.144285	0.150154	0.207443						

Year 2012

Meter Code 33A American AL175

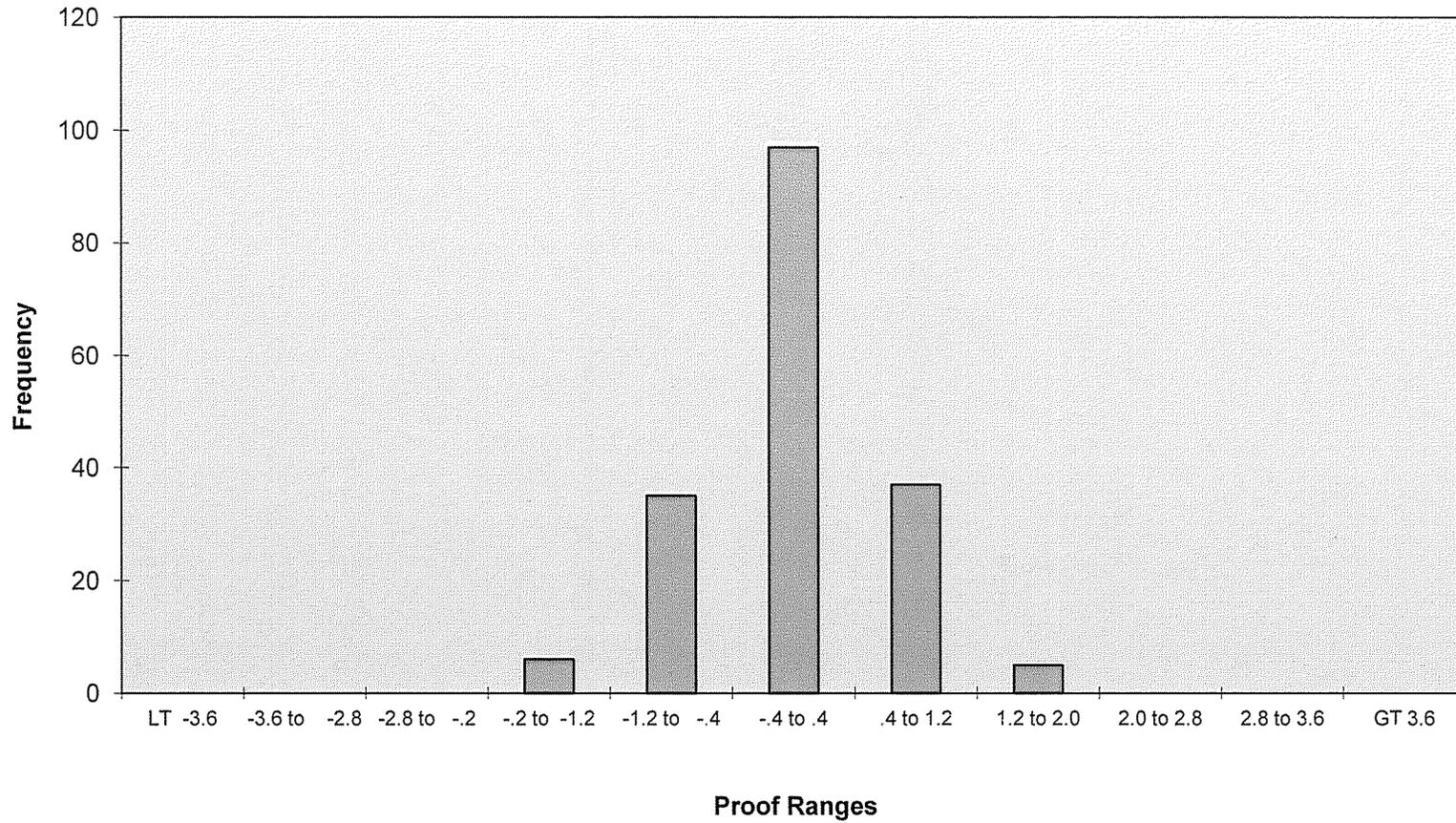
Code & Year: 1992	
Data Range	Number
LT -3.6	0
-3.6 to -2.8	0
-2.8 to -.2	0
-.2 to -1.2	2
-1.2 to -.4	12
-.4 to .4	46
.4 to 1.2	17
1.2 to 2.0	3
2.0 to 2.8	0
2.8 to 3.6	0
GT 3.6	0
Total	80

Code & Year: 1993	
Data Range	Number
LT -3.6	0
-3.6 to -2.8	0
-2.8 to -.2	0
-.2 to -1.2	0
-1.2 to -.4	11
-.4 to .4	25
.4 to 1.2	13
1.2 to 2.0	1
2.0 to 2.8	0
2.8 to 3.6	0
GT 3.6	0
Total	50

Code & Year: 1994	
Data Range	Number
LT -3.6	0
-3.6 to -2.8	0
-2.8 to -.2	0
-.2 to -1.2	4
-1.2 to -.4	12
-.4 to .4	26
.4 to 1.2	7
1.2 to 2.0	1
2.0 to 2.8	0
2.8 to 3.6	0
GT 3.6	0
Total	50

Code & Year: Total	
Data Range	Number
LT -3.6	0
-3.6 to -2.8	0
-2.8 to -.2	0
-.2 to -1.2	6
-1.2 to -.4	35
-.4 to .4	97
.4 to 1.2	37
1.2 to 2.0	5
2.0 to 2.8	0
2.8 to 3.6	0
GT 3.6	0
Total	180

### American AL175 Distribution Profile - 33A (1992, 1993, 1994)



American 5B225

Test Year 2012

225 CFH

Code: 041

	Control Group-Installed Year						
	1995	1996					
Sample Plan	Single	Single					
Sample Size	32	32					
Original Population	44	79					
# of Slow Failures	0	0					
# of Fast Failures	0	1					
Total Failures:	0	1					
Accept Level	5	5					
Reject Level	6	6					
Pass / Fail?	Pass	Pass					
If Failed - Remove By:	NA	NA					
<b>Statistical Data:</b>							
Mean (Average Proof)	-0.3875	-0.62188					
Median	-0.425	-0.75					
Standard Deviation	0.6752538	1.000962					
Sample Variance	0.4559677	1.001925					
Skewness	0.2248365	2.664426					
Minimum	-1.5	-2					
Maximum	1	3.75					
Count	32	32					
Confidence Level(95.0%)	0.243455	0.360885					

Year 2012

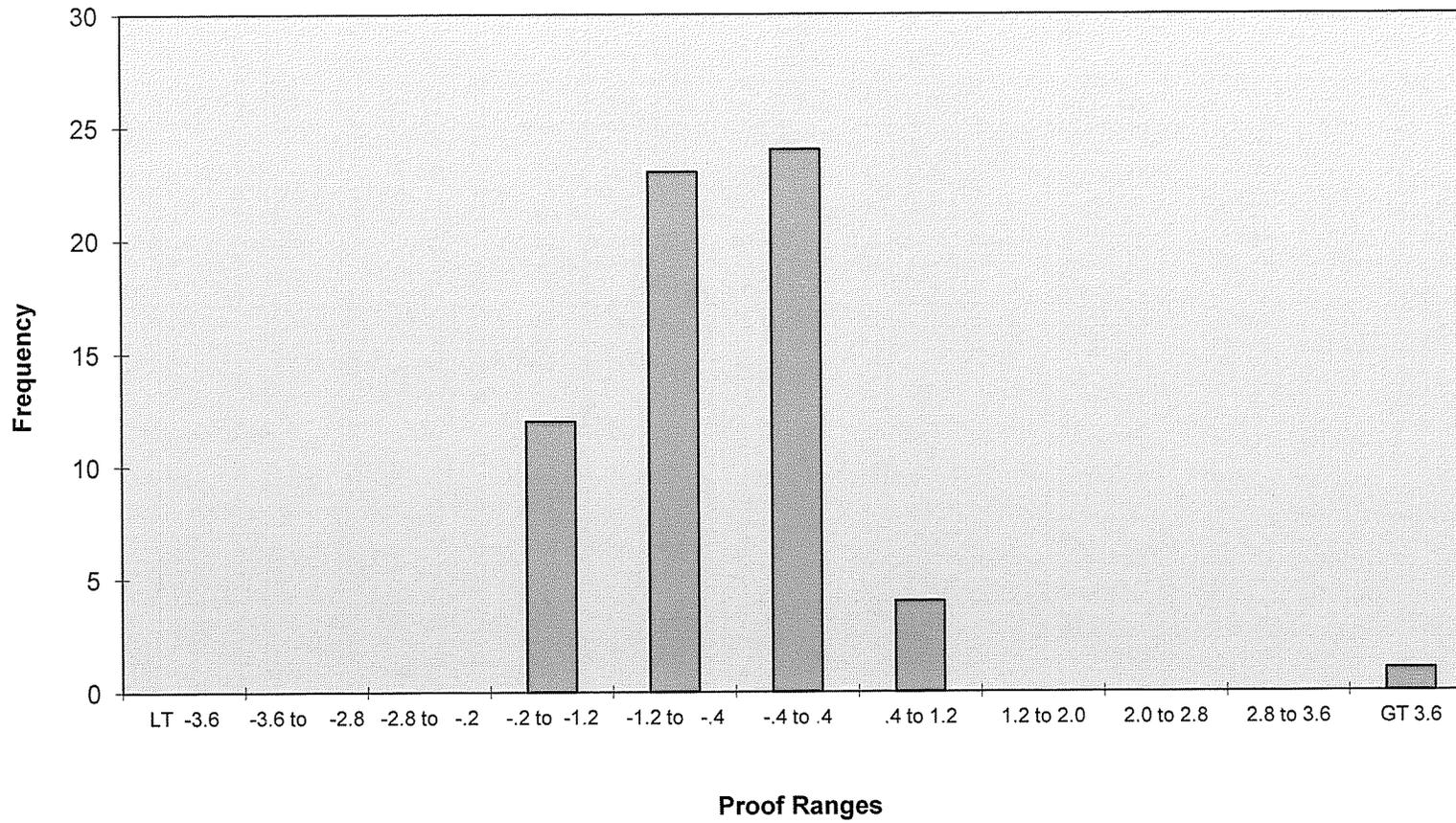
Meter Code 041 American 5B-225

Code & Year: 1995	
Data Range	Number
LT -3.6	0
-3.6 to -2.8	0
-2.8 to -.2	0
-.2 to -1.2	4
-1.2 to -.4	12
-.4 to .4	12
.4 to 1.2	4
1.2 to 2.0	0
2.0 to 2.8	0
2.8 to 3.6	0
GT 3.6	0
Total	32

Code & Year: 1996	
Data Range	Number
LT -3.6	0
-3.6 to -2.8	0
-2.8 to -.2	0
-.2 to -1.2	8
-1.2 to -.4	11
-.4 to .4	12
.4 to 1.2	0
1.2 to 2.0	0
2.0 to 2.8	0
2.8 to 3.6	0
GT 3.6	1
Total	32

Code & Year: Total	
Data Range	Number
LT -3.6	0
-3.6 to -2.8	0
-2.8 to -.2	0
-.2 to -1.2	12
-1.2 to -.4	23
-.4 to .4	24
.4 to 1.2	4
1.2 to 2.0	0
2.0 to 2.8	0
2.8 to 3.6	0
GT 3.6	1
Total	64

### American 5B225 Distribution Profile - 041 (1995, 1996)



Rockwell R250

Test Year 2012

250 CFH

Code: 057

	Control Group-Installed Year							
	1990	1995						
Sample Plan	Single	Single						
Sample Size	32	32						
Original Population	184	64						
# of Slow Failures	2	6						
# of Fast Failures	0	1						
Total Failures:	2	7						
Accept Level	5	5						
Reject Level	6	6						
Pass / Fail?	Pass	Fail						
If Failed - Remove By:	NA	June 2014						
<b>Statistical Data:</b>								
Mean (Average Proof)	-0.6078125	-0.675						
Median	-0.525	-0.175						
Standard Deviation	0.9480974	1.4043136						
Sample Variance	0.8988886	1.9720968						
Skewness	0.1381715	-0.5581513						
Minimum	-2.45	-3.75						
Maximum	1.75	2.35						
Count	32	32						
Confidence Level(95.0%)	0.3418255	0.5063091						

Year 2012

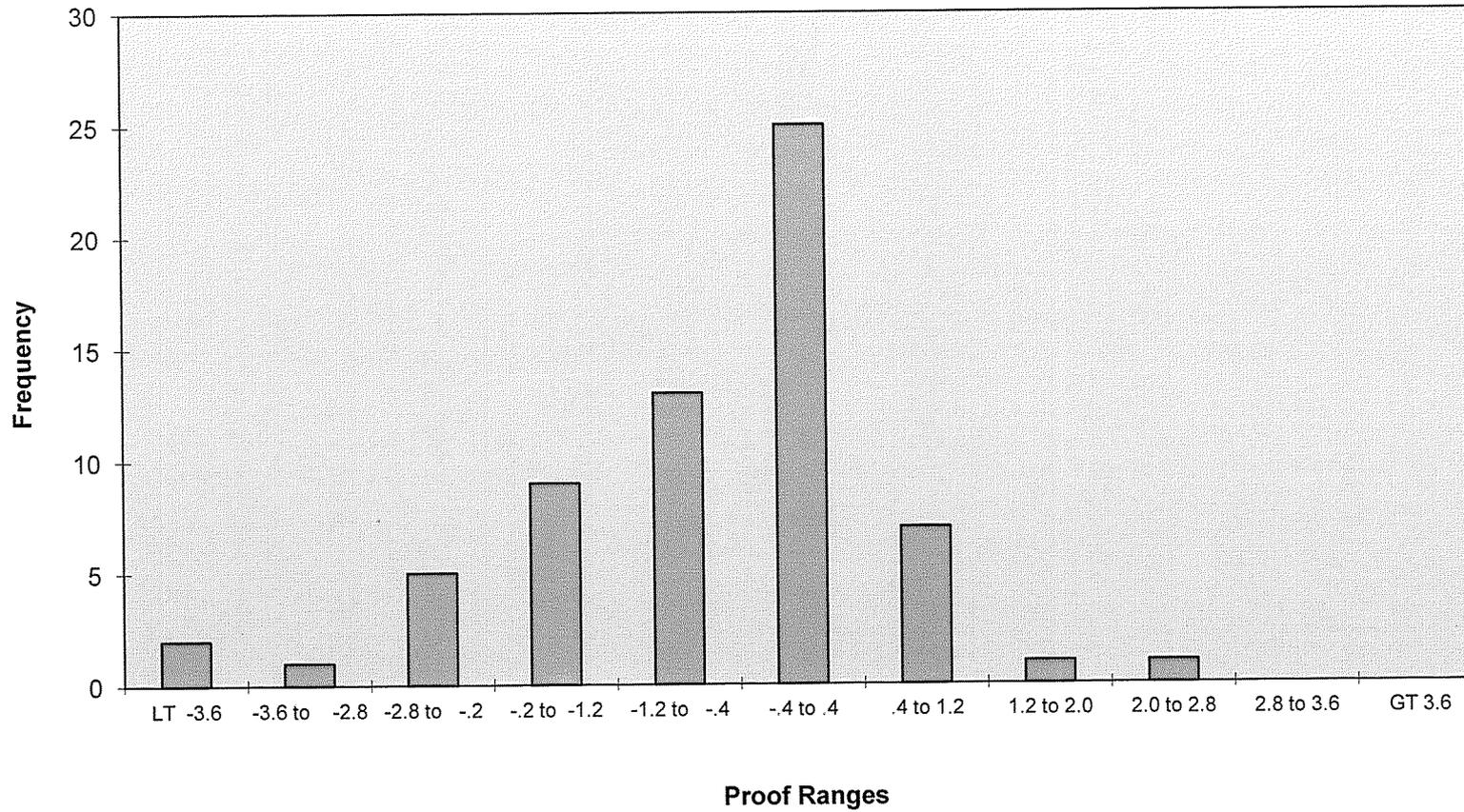
Meter Code 057 Rockwell R250

Code & Year: 1990	
Data Range	Number
LT -3.6	0
-3.6 to -2.8	0
-2.8 to -.2	2
-.2 to -1.2	6
-1.2 to -.4	9
-.4 to .4	11
.4 to 1.2	3
1.2 to 2.0	1
2.0 to 2.8	0
2.8 to 3.6	0
GT 3.6	0
Total	32

Code & Year: 1995	
Data Range	Number
LT -3.6	2
-3.6 to -2.8	1
-2.8 to -.2	3
-.2 to -1.2	3
-1.2 to -.4	4
-.4 to .4	14
.4 to 1.2	4
1.2 to 2.0	0
2.0 to 2.8	1
2.8 to 3.6	0
GT 3.6	0
Total	32

Code & Year: Total	
Data Range	Number
LT -3.6	2
-3.6 to -2.8	1
-2.8 to -.2	5
-.2 to -1.2	9
-1.2 to -.4	13
-.4 to .4	25
.4 to 1.2	7
1.2 to 2.0	1
2.0 to 2.8	1
2.8 to 3.6	0
GT 3.6	0
Total	64

### Rockwell R250 Distribution Profile - 057 (1990, 1995)



American AC250  
250 CFH  
Code: 078

Test Year 2012

	Control Group-Installed Year											
	1985	1986	1987	1988	1989	1990	1991	1993	1994	1995	1996	
Sample Plan	Reduced	Reduced	Reduced	Reduced	Reduced	Reduced	Reduced	Reduced	Reduced	Reduced	Reduced	
Sample Size	32	80	80	80	50	80	50	32	50	80	80	
Original Population	812	3379	3287	3836	2928	4123	2503	531	2179	4149	9039	
# of Slow Failures	0	0	0	0	0	0	0	0	0	0	0	
# of Fast Failures	0	1	0	0	0	0	2	0	0	0	1	
Total Failures:	0	1	0	0	0	0	2	0	0	0	1	
Accept Level	5	10	10	10	7	10	7	5	7	10	10	
Reject Level	8	13	13	13	10	13	10	8	10	13	13	
Pass / Fail?	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	
If Failed - Remove By:	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
<b>Statistical Data:</b>												
Mean (Average Proof)	-0.31094	-0.06125	-0.61813	-0.65625	-0.767	-0.36813	-0.614	0.051563	-0.502	-0.195	-0.39063	
Median	-0.425	-0.2	-0.65	-0.6	-0.85	-0.35	-1.05	0.025	-0.6	-0.2	-0.425	
Standard Deviation	0.659635	0.843215	0.52036	0.518846	0.545633	0.554455	2.312213	0.642762	0.50254	0.560323	0.616344	
Sample Variance	0.435118	0.711011	0.270775	0.269201	0.297715	0.30742	5.346331	0.413143	0.252547	0.313962	0.379879	
Skewness	1.250496	2.589248	0.647709	-0.24169	0.460667	0.049731	4.66689	0.605348	0.516408	0.24549	1.538482	
Minimum	-1.35	-1.65	-1.65	-2	-1.9	-1.7	-2	-1.2	-1.65	-1.4	-1.9	
Maximum	1.55	4.8	1.2	0.5	0.9	1.05	12.2	1.65	0.95	1.4	2.75	
Count	32	80	80	80	50	80	50	32	50	80	80	
Confidence Level(95.0%)	0.237824	0.187648	0.115801	0.115463	0.155067	0.123388	0.657124	0.23174	0.14282	0.124694	0.137161	

American AC250

Test Year 2012

250 CFH

Code: 078

	Control Group-Installed Year										
	1997	1998	1999	2000	2001	2002	2003	2004	2006	2008	2010
Sample Plan	Reduced	Reduced	Reduced	Reduced	Reduced	Reduced	Reduced	Reduced	Reduced	Reduced	Reduced
Sample Size	80	80	80	80	80	50	50	80	80	80	50
Original Population	8319	6254	4494	5387	5159	2286	2030	3786	6229	6832	3102
# of Slow Failures	2	0	1	0	0	0	0	1	0	1	0
# of Fast Failures	0	0	0	0	0	0	0	1	0	0	0
Total Failures:	2	0	1	0	0	0	0	2	0	1	0
Accept Level	10	10	10	10	10	7	7	10	10	10	7
Reject Level	13	13	13	13	13	10	10	13	13	13	10
Pass / Fail?	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass
If Failed - Remove By:	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
<b>Statistical Data:</b>											
Mean (Average Proof)	-0.16438	-0.25813	-0.3175	-0.11375	-0.23313	-0.308	-0.448	0.095	0.035625	-0.0225	-0.304
Median	-0.1	-0.25	-0.35	-0.1	-0.2	-0.225	-0.45	0.1	0.05	-0.05	-0.35
Standard Deviation	0.626382	0.434103	0.517118	0.440582	0.436611	0.451343	0.398717	1.094595	0.605523	0.587685	0.40706
Sample Variance	0.392354	0.188446	0.267411	0.194112	0.190629	0.20371	0.158976	1.198139	0.366658	0.345373	0.165698
Skewness	-1.14756	-0.27642	-0.98343	1.753247	0.085455	-1.19096	-0.09986	-2.98837	-0.00171	-0.82716	0.158435
Minimum	-2.7	-1.45	-2.5	-0.85	-1.4	-1.9	-1.35	-6.8	-1.6	-2.65	-1.15
Maximum	0.9	0.6	0.75	1.9	0.75	0.35	0.45	2.8	1.85	1.35	0.5
Count	80	80	80	80	80	50	50	80	80	80	50
Confidence Level(95.0%)	0.139394	0.096605	0.115079	0.098047	0.097163	0.12827	0.113314	0.24359	0.134752	0.130783	0.115685

Year 2012

Meter Code 078 American AC250

Code & Year: 1985	
Data Range	Number
LT -3.6	0
-3.6 to -2.8	0
-2.8 to -.2	0
-.2 to -1.2	2
-1.2 to -.4	14
-.4 to .4	12
.4 to 1.2	2
1.2 to 2.0	2
2.0 to 2.8	0
2.8 to 3.6	0
GT 3.6	0
Total	32

Code & Year: 1986	
Data Range	Number
LT -3.6	0
-3.6 to -2.8	0
-2.8 to -.2	0
-.2 to -1.2	2
-1.2 to -.4	25
-.4 to .4	33
.4 to 1.2	17
1.2 to 2.0	2
2.0 to 2.8	0
2.8 to 3.6	0
GT 3.6	1
Total	80

Code & Year: 1987	
Data Range	Number
LT -3.6	0
-3.6 to -2.8	0
-2.8 to -.2	0
-.2 to -1.2	9
-1.2 to -.4	45
-.4 to .4	23
.4 to 1.2	3
1.2 to 2.0	0
2.0 to 2.8	0
2.8 to 3.6	0
GT 3.6	0
Total	80

Code & Year: 1988	
Data Range	Number
LT -3.6	0
-3.6 to -2.8	0
-2.8 to -.2	0
-.2 to -1.2	13
-1.2 to -.4	41
-.4 to .4	25
.4 to 1.2	1
1.2 to 2.0	0
2.0 to 2.8	0
2.8 to 3.6	0
GT 3.6	0
Total	80

Code & Year: 1989	
Data Range	Number
LT -3.6	0
-3.6 to -2.8	0
-2.8 to -.2	0
-.2 to -1.2	9
-1.2 to -.4	28
-.4 to .4	12
.4 to 1.2	1
1.2 to 2.0	0
2.0 to 2.8	0
2.8 to 3.6	0
GT 3.6	0
Total	50

Code & Year: 1990	
Data Range	Number
LT -3.6	0
-3.6 to -2.8	0
-2.8 to -.2	0
-.2 to -1.2	4
-1.2 to -.4	31
-.4 to .4	39
.4 to 1.2	6
1.2 to 2.0	0
2.0 to 2.8	0
2.8 to 3.6	0
GT 3.6	0
Total	80

Code & Year: 1991	
Data Range	Number
LT -3.6	0
-3.6 to -2.8	0
-2.8 to -.2	0
-.2 to -1.2	20
-1.2 to -.4	23
-.4 to .4	3
.4 to 1.2	2
1.2 to 2.0	0
2.0 to 2.8	0
2.8 to 3.6	0
GT 3.6	2
Total	50

Code & Year: 1993	
Data Range	Number
LT -3.6	0
-3.6 to -2.8	0
-2.8 to -.2	0
-.2 to -1.2	0
-1.2 to -.4	8
-.4 to .4	17
.4 to 1.2	5
1.2 to 2.0	2
2.0 to 2.8	0
2.8 to 3.6	0
GT 3.6	0
Total	32

Code & Year: 1994	
Data Range	Number
LT -3.6	0
-3.6 to -2.8	0
-2.8 to -.2	0
-.2 to -1.2	3
-1.2 to -.4	28
-.4 to .4	17
.4 to 1.2	2
1.2 to 2.0	0
2.0 to 2.8	0
2.8 to 3.6	0
GT 3.6	0
Total	50

Code & Year: 1995	
Data Range	Number
LT -3.6	0
-3.6 to -2.8	0
-2.8 to -.2	0
-.2 to -1.2	3
-1.2 to -.4	26
-.4 to .4	41
.4 to 1.2	9
1.2 to 2.0	1
2.0 to 2.8	0
2.8 to 3.6	0
GT 3.6	0
Total	80

Year 2012

Meter Code 078 American AC250

Code & Year: 1996	
Data Range	Number
LT -3.6	0
-3.6 to -2.8	0
-2.8 to -.2	0
-.2 to -1.2	5
-1.2 to -.4	35
-.4 to .4	35
.4 to 1.2	4
1.2 to 2.0	0
2.0 to 2.8	1
2.8 to 3.6	0
GT 3.6	0
Total	80

Code & Year: 1997	
Data Range	Number
LT -3.6	0
-3.6 to -2.8	0
-2.8 to -.2	2
-.2 to -1.2	0
-1.2 to -.4	20
-.4 to .4	46
.4 to 1.2	12
1.2 to 2.0	0
2.0 to 2.8	0
2.8 to 3.6	0
GT 3.6	0
Total	80

Code & Year: 1998	
Data Range	Number
LT -3.6	0
-3.6 to -2.8	0
-2.8 to -.2	0
-.2 to -1.2	1
-1.2 to -.4	26
-.4 to .4	48
.4 to 1.2	5
1.2 to 2.0	0
2.0 to 2.8	0
2.8 to 3.6	0
GT 3.6	0
Total	80

Code & Year: 1999	
Data Range	Number
LT -3.6	0
-3.6 to -2.8	0
-2.8 to -.2	1
-.2 to -1.2	2
-1.2 to -.4	29
-.4 to .4	43
.4 to 1.2	5
1.2 to 2.0	0
2.0 to 2.8	0
2.8 to 3.6	0
GT 3.6	0
Total	80

Code & Year: 2000	
Data Range	Number
LT -3.6	0
-3.6 to -2.8	0
-2.8 to -.2	0
-.2 to -1.2	0
-1.2 to -.4	22
-.4 to .4	55
.4 to 1.2	1
1.2 to 2.0	2
2.0 to 2.8	0
2.8 to 3.6	0
GT 3.6	0
Total	80

Code & Year: 2001	
Data Range	Number
LT -3.6	0
-3.6 to -2.8	0
-2.8 to -.2	0
-.2 to -1.2	1
-1.2 to -.4	29
-.4 to .4	43
.4 to 1.2	7
1.2 to 2.0	0
2.0 to 2.8	0
2.8 to 3.6	0
GT 3.6	0
Total	80

Code & Year: 2002	
Data Range	Number
LT -3.6	0
-3.6 to -2.8	0
-2.8 to -.2	0
-.2 to -1.2	2
-1.2 to -.4	13
-.4 to .4	35
.4 to 1.2	0
1.2 to 2.0	0
2.0 to 2.8	0
2.8 to 3.6	0
GT 3.6	0
Total	50

Code & Year: 2003	
Data Range	Number
LT -3.6	0
-3.6 to -2.8	0
-2.8 to -.2	0
-.2 to -1.2	2
-1.2 to -.4	25
-.4 to .4	22
.4 to 1.2	1
1.2 to 2.0	0
2.0 to 2.8	0
2.8 to 3.6	0
GT 3.6	0
Total	50

Code & Year: 2004	
Data Range	Number
LT -3.6	1
-3.6 to -2.8	0
-2.8 to -.2	0
-.2 to -1.2	2
-1.2 to -.4	17
-.4 to .4	34
.4 to 1.2	19
1.2 to 2.0	6
2.0 to 2.8	1
2.8 to 3.6	0
GT 3.6	0
Total	80

Code & Year: 2006	
Data Range	Number
LT -3.6	0
-3.6 to -2.8	0
-2.8 to -.2	0
-.2 to -1.2	2
-1.2 to -.4	12
-.4 to .4	47
.4 to 1.2	17
1.2 to 2.0	2
2.0 to 2.8	0
2.8 to 3.6	0
GT 3.6	0
Total	80

Year 2012

Meter Code 078 American AC250

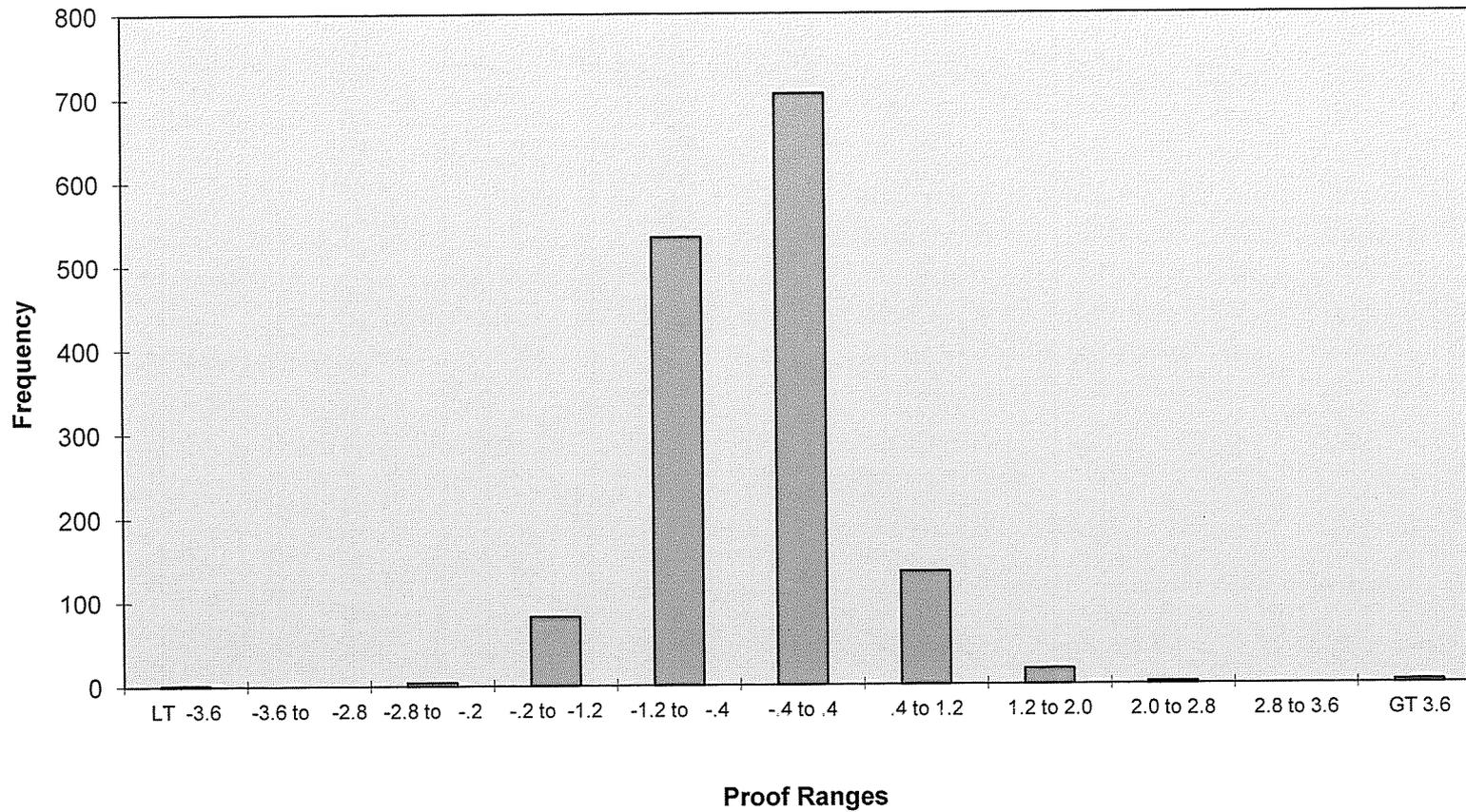
Code & Year: 2008	
Data Range	Number
LT -3.6	0
-3.6 to -2.8	0
-2.8 to -.2	1
-.2 to -1.2	0
-1.2 to -.4	17
-.4 to .4	47
.4 to 1.2	14
1.2 to 2.0	1
2.0 to 2.8	0
2.8 to 3.6	0
GT 3.6	0
Total	80

Code & Year: 2010	
Data Range	Number
LT -3.6	0
-3.6 to -2.8	0
-2.8 to -.2	0
-.2 to -1.2	0
-1.2 to -.4	20
-.4 to .4	28
.4 to 1.2	2
1.2 to 2.0	0
2.0 to 2.8	0
2.8 to 3.6	0
GT 3.6	0
Total	50

Code & Year: Total	
Data Range	Number
LT -3.6	1
-3.6 to -2.8	0
-2.8 to -.2	4
-.2 to -1.2	82
-1.2 to -.4	534
-.4 to .4	705
.4 to 1.2	135
1.2 to 2.0	18
2.0 to 2.8	2
2.8 to 3.6	0
GT 3.6	3
Total	1484

### American AC250 Distribution Profile - 078

(1985, 1986, 1987, 1988, 1989, 1990, 1991, 1993, 1994, 1995, 1996, 1997, 1998, 1999, 2000, 2001, 2002, 2003, 2004, 2006, 2008, 2010)



Rockwell R200

Test Year 2012

200 CFH

Code: 079

	Control Group-Installed Year							
	1985	1996						
Sample Plan	Single	Single						
Sample Size	32	32						
Original Population	93	42						
# of Slow Failures	0	0						
# of Fast Failures	0	0						
Total Failures:	0	0						
Accept Level	5	5						
Reject Level	6	6						
Pass/ Fail?	Pass	Pass						
If Failed - Remove By:	NA	NA						
<b>Statistical Data:</b>								
Mean (Average Proof)	0.448438	-0.34844						
Median	0.5	-0.35						
Standard Deviation	0.554234	0.758871						
Sample Variance	0.307175	0.575885						
Skewness	-0.26021	0.055542						
Minimum	-0.7	-1.75						
Maximum	1.65	1.15						
Count	32	32						
Confidence Level(95.0%)	0.199823	0.273602						

Year 2012

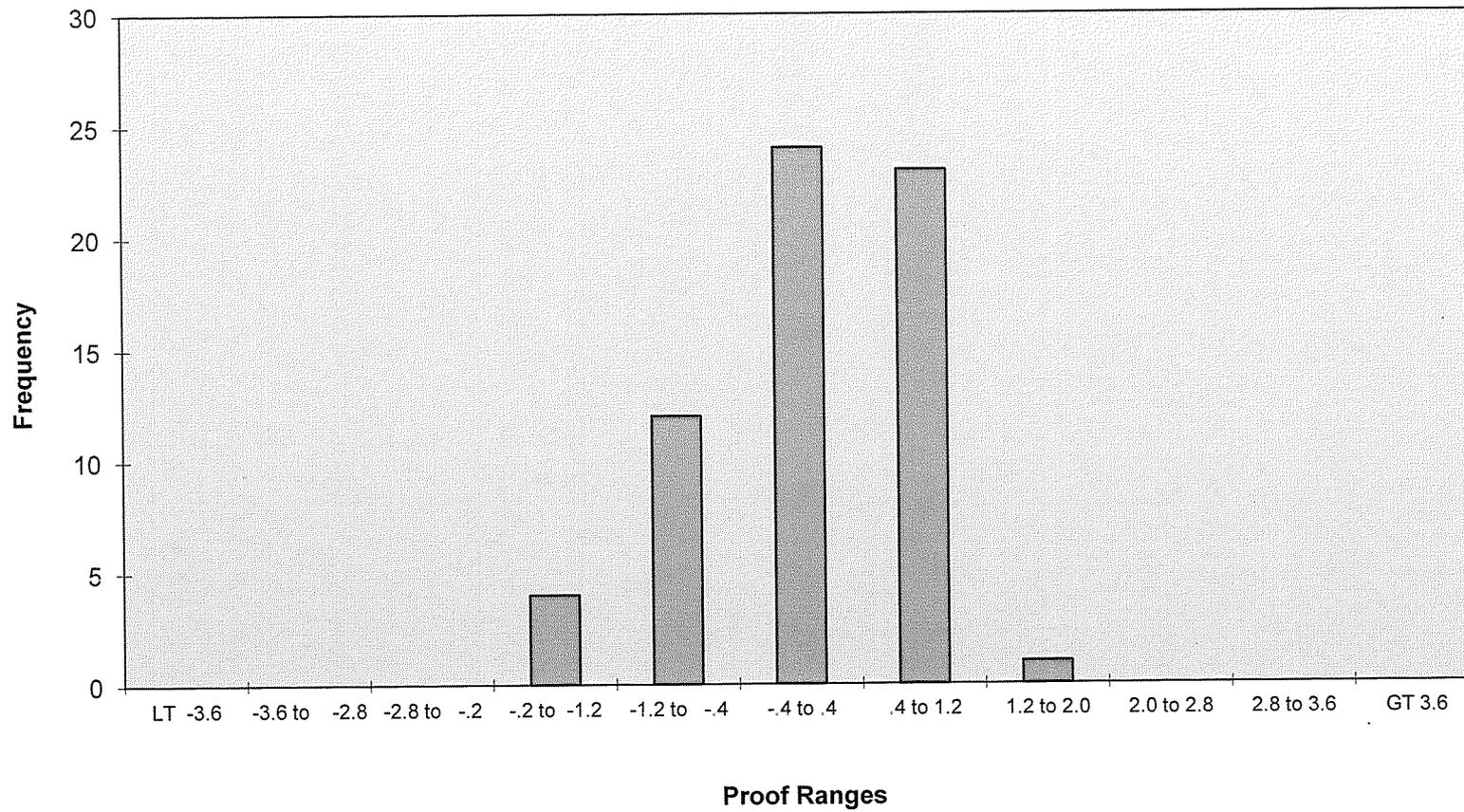
Meter Code 079 Rockwell R200

Code & Year: 1985	
Data Range	Number
LT -3.6	0
-3.6 to -2.8	0
-2.8 to -2	0
-2 to -1.2	0
-1.2 to -.4	2
-.4 to .4	12
.4 to 1.2	17
1.2 to 2.0	1
2.0 to 2.8	0
2.8 to 3.6	0
GT 3.6	0
Total	32

Code & Year: 1996	
Data Range	Number
LT -3.6	0
-3.6 to -2.8	0
-2.8 to -2	0
-2 to -1.2	4
-1.2 to -.4	10
-.4 to .4	12
.4 to 1.2	6
1.2 to 2.0	0
2.0 to 2.8	0
2.8 to 3.6	0
GT 3.6	0
Total	32

Code & Year: Total	
Data Range	Number
LT -3.6	0
-3.6 to -2.8	0
-2.8 to -2	0
-2 to -1.2	4
-1.2 to -.4	12
-.4 to .4	24
.4 to 1.2	23
1.2 to 2.0	1
2.0 to 2.8	0
2.8 to 3.6	0
GT 3.6	0
Total	64

### Rockwell R200 Distribution Profile - 079 (1985, 1996)



American AL1000

1000 CFH

Code: 014

Test Year 2012

	Control Group-Installed Year							
	2002	2003	2004	2005	2006	2007	2008	2010
Sample Plan	Single	Single	Single	Single	Single	Single	Single	Single
Sample Size	2*	20	32	32	32	50	50	50
Original Population	12	100	208	253	220	290	403	468
# of Slow Failures	0	1	3	7	0	1	2	3
# of Fast Failures	0	0	0	0	0	1	0	1
Total Failures:	0	1	3	7	0	2	2	4
Accept Level	0	3	5	5	5	7	7	7
Reject Level	1	4	6	6	6	8	8	8
Pass / Fail?	Pass	Pass	Pass	Failed	Pass	Pass	Pass	Pass
If Failed - Remove By:	Exhaust	NA	NA	June 2014	NA	NA	NA	NA
<b>Statistical Data:</b>								
Mean (Average Proof)	-1	-0.825	-0.89531	-0.89219	-0.46406	-0.046	-0.323	-0.27
Median	-1	-0.65	-0.875	-0.6	-0.425	-0.025	-0.225	-0.25
Standard Deviation	1.20208153	0.8272497	0.98794	1.141809	0.675401	0.929935	0.843777	1.252385
Sample Variance	1.445	0.6843421	0.976026	1.303727	0.456167	0.86478	0.71196	1.568469
Skewness	NA	-1.390346	-0.2057	-0.22873	0.084269	-0.08361	-0.38456	-0.00754
Minimum	-1.85	-3.25	-3.5	-3.1	-1.75	-2.3	-2.5	-3.5
Maximum	-0.15	0.5	1.35	1.3	0.85	2.55	1.7	3.8
Count	2	20	32	32	32	50	50	50
Confidence Level(95.0%)	10.800274	0.3871648	0.35619	0.411666	0.243508	0.264285	0.239799	0.355924

\* Control group in 10th year of service - maximum service period - all meters to be removed/tested. Sample size based on population was used to determine if group passed/failed in it's last year of service.

Year 2012

Meter Code 014 American AL1000

Code & Year: 2002	
Data Range	Number
LT -3.6	0
-3.6 to -2.8	0
-2.8 to -.2	0
-.2 to -1.2	1
-1.2 to -.4	0
-.4 to .4	1
.4 to 1.2	0
1.2 to 2.0	0
2.0 to 2.8	0
2.8 to 3.6	0
GT 3.6	0
Total	2

Code & Year: 2003	
Data Range	Number
LT -3.6	0
-3.6 to -2.8	1
-2.8 to -.2	0
-.2 to -1.2	3
-1.2 to -.4	9
-.4 to .4	7
.4 to 1.2	0
1.2 to 2.0	0
2.0 to 2.8	0
2.8 to 3.6	0
GT 3.6	0
Total	20

Code & Year: 2004	
Data Range	Number
LT -3.6	0
-3.6 to -2.8	1
-2.8 to -.2	2
-.2 to -1.2	8
-1.2 to -.4	12
-.4 to .4	6
.4 to 1.2	2
1.2 to 2.0	1
2.0 to 2.8	0
2.8 to 3.6	0
GT 3.6	0
Total	32

Code & Year: 2005	
Data Range	Number
LT -3.6	0
-3.6 to -2.8	2
-2.8 to -.2	5
-.2 to -1.2	5
-1.2 to -.4	7
-.4 to .4	11
.4 to 1.2	1
1.2 to 2.0	1
2.0 to 2.8	0
2.8 to 3.6	0
GT 3.6	0
Total	32

Code & Year: 2006	
Data Range	Number
LT -3.6	0
-3.6 to -2.8	0
-2.8 to -.2	0
-.2 to -1.2	5
-1.2 to -.4	11
-.4 to .4	12
.4 to 1.2	4
1.2 to 2.0	0
2.0 to 2.8	0
2.8 to 3.6	0
GT 3.6	0
Total	32

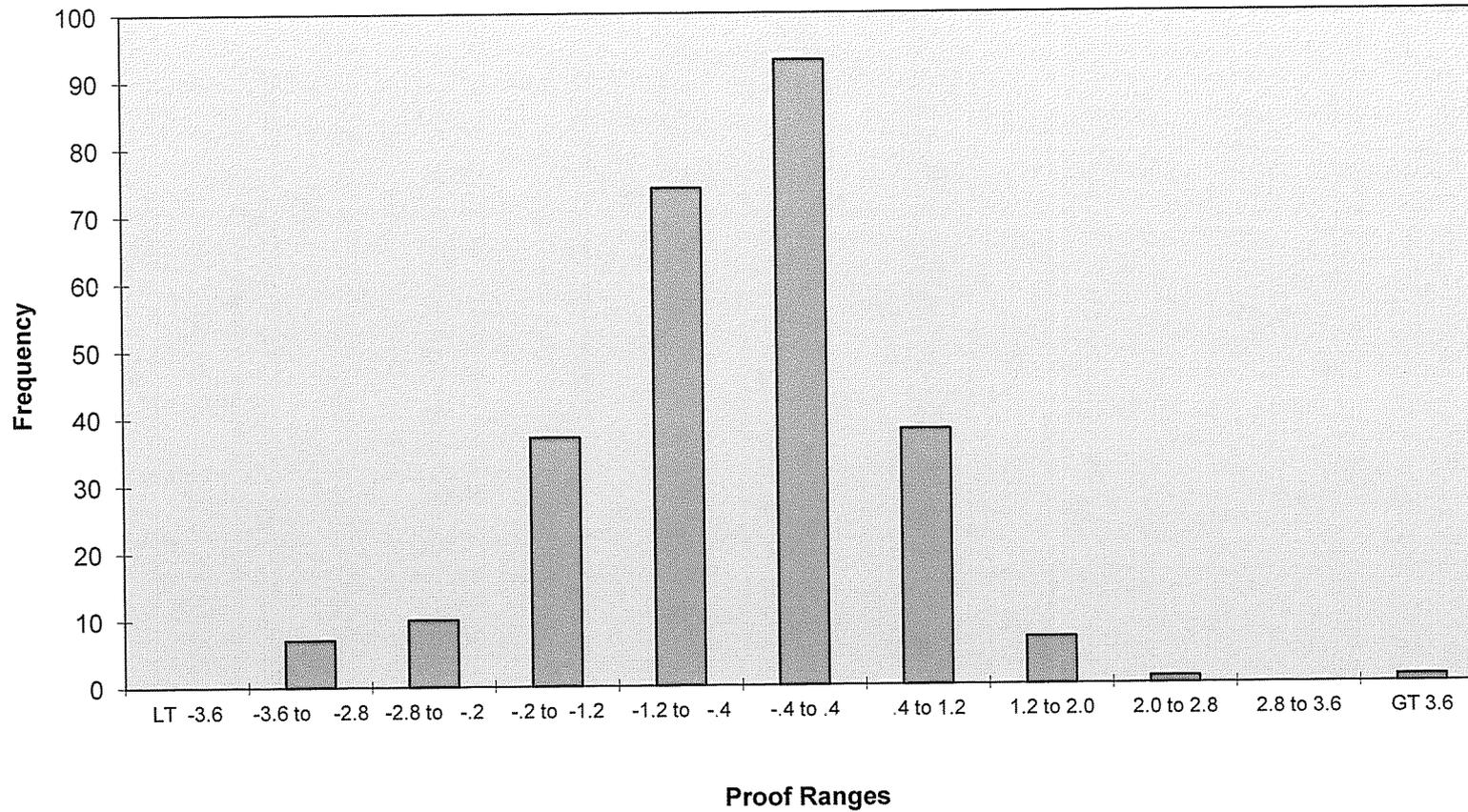
Code & Year: 2007	
Data Range	Number
LT -3.6	0
-3.6 to -2.8	0
-2.8 to -.2	1
-.2 to -1.2	5
-1.2 to -.4	8
-.4 to .4	21
.4 to 1.2	13
1.2 to 2.0	1
2.0 to 2.8	1
2.8 to 3.6	0
GT 3.6	0
Total	50

Code & Year: 2008	
Data Range	Number
LT -3.6	0
-3.6 to -2.8	0
-2.8 to -.2	2
-.2 to -1.2	5
-1.2 to -.4	14
-.4 to .4	21
.4 to 1.2	7
1.2 to 2.0	1
2.0 to 2.8	0
2.8 to 3.6	0
GT 3.6	0
Total	50

Code & Year: 2010	
Data Range	Number
LT -3.6	0
-3.6 to -2.8	3
-2.8 to -.2	0
-.2 to -1.2	5
-1.2 to -.4	13
-.4 to .4	14
.4 to 1.2	11
1.2 to 2.0	3
2.0 to 2.8	0
2.8 to 3.6	0
GT 3.6	1
Total	50

Code & Year: Total	
Data Range	Number
LT -3.6	0
-3.6 to -2.8	7
-2.8 to -.2	10
-.2 to -1.2	37
-1.2 to -.4	74
-.4 to .4	93
.4 to 1.2	38
1.2 to 2.0	7
2.0 to 2.8	1
2.8 to 3.6	0
GT 3.6	1
Total	268

### American AL1000 Distribution Profile - 014 (2002, 2003, 2004, 2005, 2006, 2007, 2008, 2010)



Actaris 800A

Test Year 2012

800 CFH

Code 16T

	Control Group-Installed Year								
	2002								
Sample Plan	Single								
Sample Size	8*								
Original Population	32								
# of Slow Failures	0								
# of Fast Failures	0								
Total Failures:	0								
Accept Level	1								
Reject Level	2								
Pass / Fail ?	Pass								
If Failed - Remove By:	Exhaust								
<b>Statistical Data:</b>									
Mean (Average Proof)	0.06875								
Median	0.075								
Standard Deviation	0.415707								
Sample Variance	0.172813								
Skewness	1.053348								
Minimum	-0.4								
Maximum	0.9								
Count	8								
Confidence Level(95.0%)	0.34754								

\* Control group in 10th year of service - maximum service period - all meters to be removed/tested. Sample size based on population was used to determine if group passed/failed in it's last year of service.

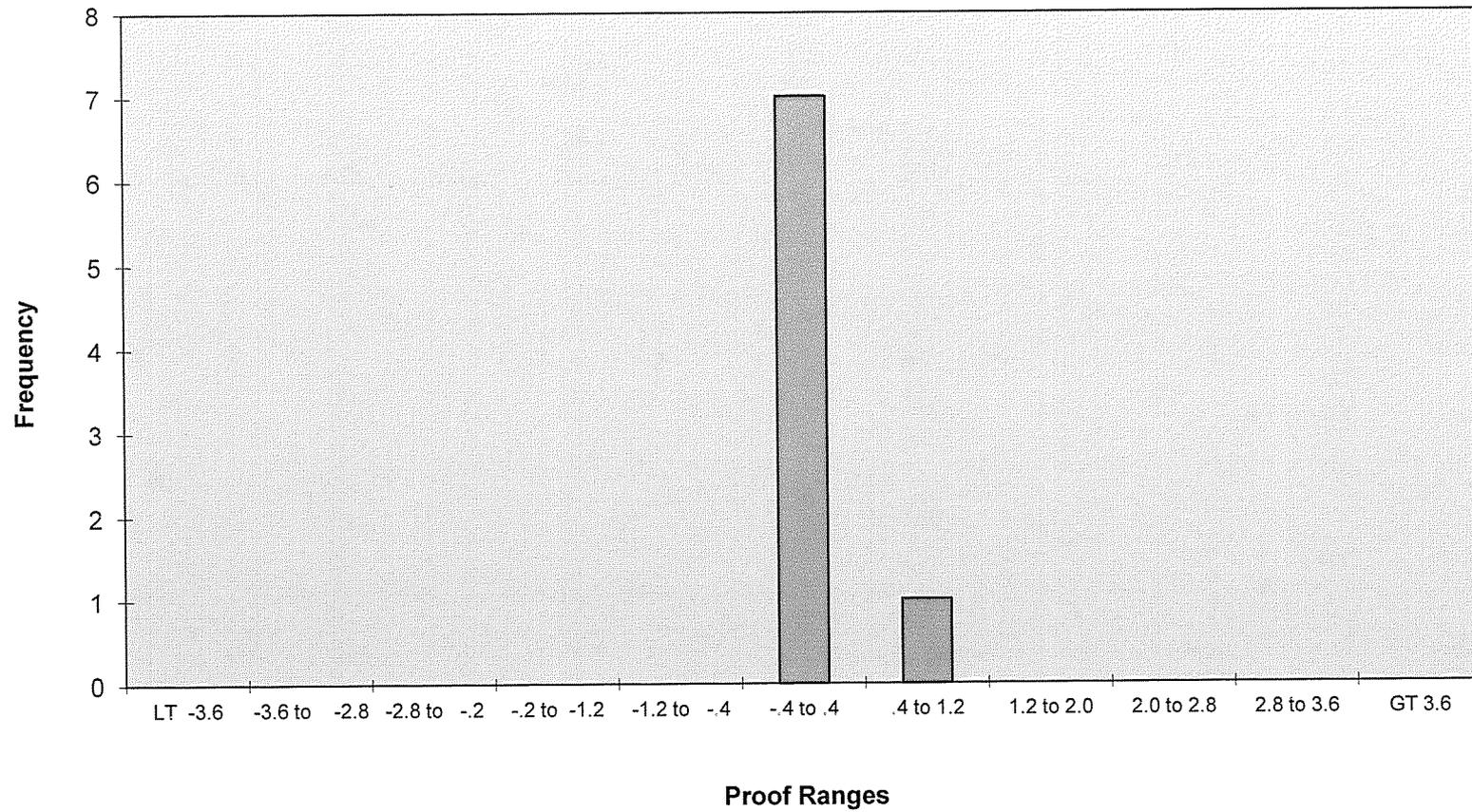
Year 2012

Meter Code 16T Actaris 800A

Code & Year: 2002	
Data Range	Number
LT -3.6	0
-3.6 to -2.8	0
-2.8 to -2	0
-2 to -1.2	0
-1.2 to -.4	0
-.4 to .4	7
.4 to 1.2	1
1.2 to 2.0	0
2.0 to 2.8	0
2.8 to 3.6	0
GT 3.6	0
Total	8

Code & Year: Total	
Data Range	Number
LT -3.6	0
-3.6 to -2.8	0
-2.8 to -2	0
-2 to -1.2	0
-1.2 to -.4	0
-.4 to .4	7
.4 to 1.2	1
1.2 to 2.0	0
2.0 to 2.8	0
2.8 to 3.6	0
GT 3.6	0
Total	8

### Actaris 800A Distribution Profile - 16T (2002)



Actaris 1000A

Test Year 2012

1000 CFH

Code 017

	Control Group-Installed Year							
	2002	2003						
Sample Plan	Single	Single						
Sample Size	8*	2						
Original Population	31	2						
# of Slow Failures	0	0						
# of Fast Failures	0	0						
Total Failures:	0	0						
Accept Level	1	0						
Reject Level	2	1						
Pass / Fail ?	Pass	Pass						
If Failed - Remove By:	Exhaust	NA						
<b>Statistical Data:</b>								
Mean (Average Proof)	-0.36875	-0.4						
Median	-0.4	-0.4						
Standard Deviation	0.462862	0.777817						
Sample Variance	0.214241	0.605						
Skewness	-0.09069	NA						
Minimum	-1	-0.95						
Maximum	0.3	0.15						
Count	8	2						
Confidence Level(95.0%)	0.386962	6.988413						

\* Control group in 10th year of service - maximum service period - all meters to be removed/tested. Sample size based on population was used to determine if group passed/failed in it's last year of service.

Year 2012

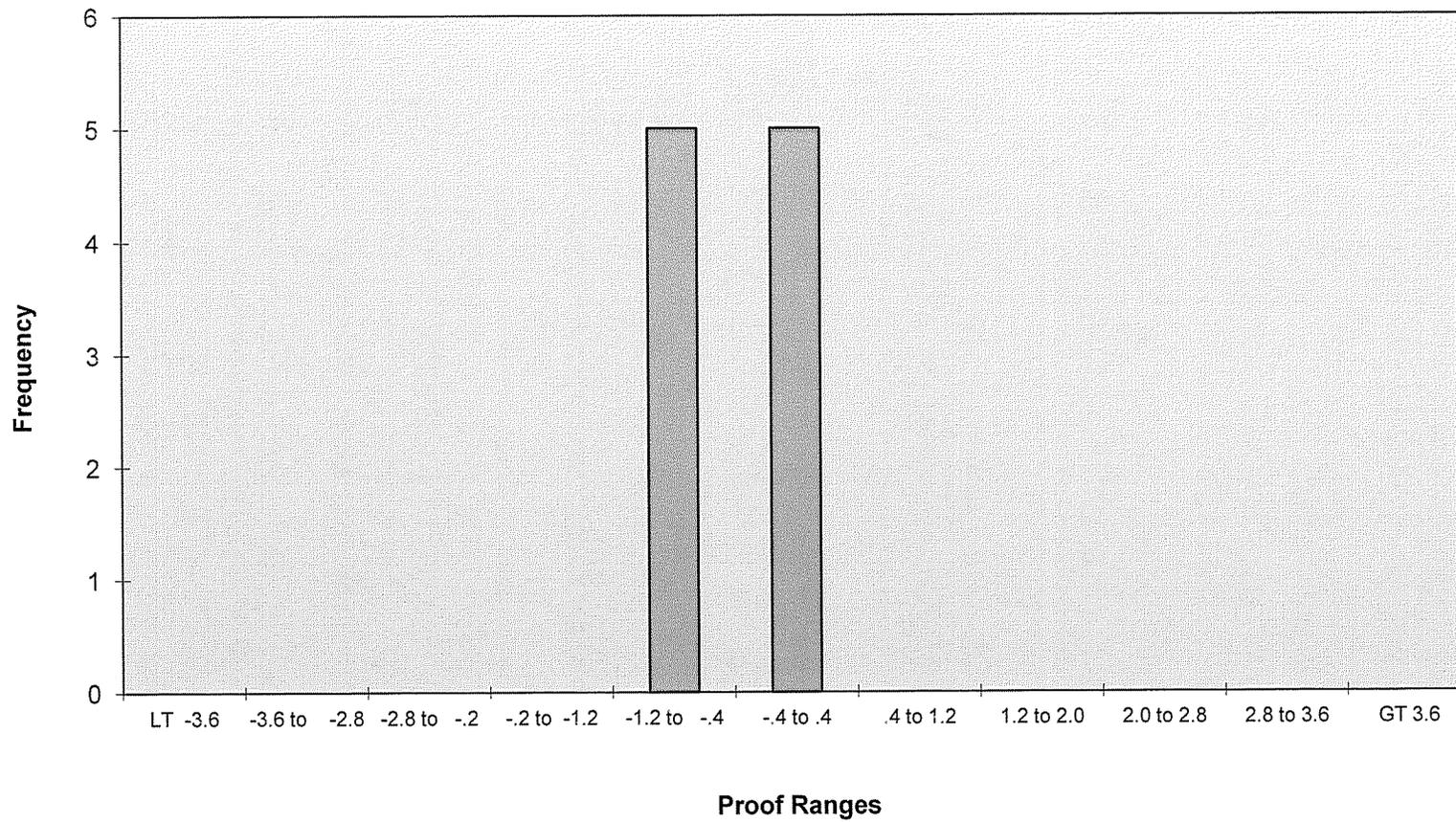
Meter Code 017 Actaris 1000A

Code & Year: 2002	
Data Range	Number
LT -3.6	0
-3.6 to -2.8	0
-2.8 to -2	0
-2 to -1.2	0
-1.2 to -.4	4
-.4 to .4	4
.4 to 1.2	0
1.2 to 2.0	0
2.0 to 2.8	0
2.8 to 3.6	0
GT 3.6	0
Total	8

Code & Year: 2003	
Data Range	Number
LT -3.6	0
-3.6 to -2.8	0
-2.8 to -2	0
-2 to -1.2	0
-1.2 to -.4	1
-.4 to .4	1
.4 to 1.2	0
1.2 to 2.0	0
2.0 to 2.8	0
2.8 to 3.6	0
GT 3.6	0
Total	2

Code & Year: Total	
Data Range	Number
LT -3.6	0
-3.6 to -2.8	0
-2.8 to -2	0
-2 to -1.2	0
-1.2 to -.4	5
-.4 to .4	5
.4 to 1.2	0
1.2 to 2.0	0
2.0 to 2.8	0
2.8 to 3.6	0
GT 3.6	0
Total	10

**Actaris 1000A Distribution Profile - 017**  
(2002, 2003)



American AL 1400

Test Year 2012

1400 CFH

Code: 019

	Control Group-Installed Year								
	2002	2003	2004	2005	2006	2007	2008	2010	
Sample Plan	Single	Single	Single	Single	Single	Single	Single	Single	
Sample Size	2*	2	2	2	2	8	8	2	
Original Population	12	13	11	15	11	22	33	8	
# of Slow Failures	0	0	0	0	0	0	0	0	
# of Fast Failures	0	0	0	0	0	0	0	0	
Total Failures:	0	0	0	0	0	0	0	0	
Accept Level	0	0	0	0	0	1	1	0	
Reject Level	1	1	1	1	1	2	2	1	
Pass / Fail?	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	
If Failed - Remove By:	Exhaust	NA							
<b>Statistical Data:</b>									
Mean (Average Proof)	-1.775	-0.7	-0.3	-0.95	-1.5	-1.06875	-0.86875	-0.95	
Median	-1.775	-0.7	-0.3	-0.95	-1.5	-1.4	-1.35	-0.95	
Standard Deviation	0.176777	0.353553	0.212132	1.202082	0.424264	0.611168	0.998548	0.070711	
Sample Variance	0.03125	0.125	0.045	1.445	0.18	0.373527	0.997098	0.005	
Skewness	NA	NA	NA	NA	NA	0.677511	0.677525	NA	
Minimum	-1.9	-0.95	-0.45	-1.8	-1.8	-1.65	-1.9	-1	
Maximum	-1.65	-0.45	-0.15	-0.1	-1.2	-0.15	0.55	-0.9	
Count	2	2	2	2	2	8	8	2	
Confidence Level(95.0%)	1.588276	3.176551	1.905931	10.80027	3.811861	0.51095	0.834807	0.63531	

\* Control group in 10th year of service - maximum service period - all meters to be removed/tested. Sample size based on population was used to determine if group passed/failed in it's last year of service.

Year 2012

Meter Code

019

American AL 1400

Code & Year: 2002	
Data Range	Number
LT -3.6	0
-3.6 to -2.8	0
-2.8 to -.2	0
-.2 to -1.2	2
-1.2 to -.4	0
-.4 to .4	0
.4 to 1.2	0
1.2 to 2.0	0
2.0 to 2.8	0
2.8 to 3.6	0
GT 3.6	0
Total	2

Code & Year: 2003	
Data Range	Number
LT -3.6	0
-3.6 to -2.8	0
-2.8 to -.2	0
-.2 to -1.2	0
-1.2 to -.4	2
-.4 to .4	0
.4 to 1.2	0
1.2 to 2.0	0
2.0 to 2.8	0
2.8 to 3.6	0
GT 3.6	0
Total	2

Code & Year: 2004	
Data Range	Number
LT -3.6	0
-3.6 to -2.8	0
-2.8 to -.2	0
-.2 to -1.2	0
-1.2 to -.4	1
-.4 to .4	1
.4 to 1.2	0
1.2 to 2.0	0
2.0 to 2.8	0
2.8 to 3.6	0
GT 3.6	0
Total	2

Code & Year: 2005	
Data Range	Number
LT -3.6	0
-3.6 to -2.8	0
-2.8 to -.2	0
-.2 to -1.2	1
-1.2 to -.4	0
-.4 to .4	1
.4 to 1.2	0
1.2 to 2.0	0
2.0 to 2.8	0
2.8 to 3.6	0
GT 3.6	0
Total	2

Code & Year: 2006	
Data Range	Number
LT -3.6	0
-3.6 to -2.8	0
-2.8 to -.2	0
-.2 to -1.2	1
-1.2 to -.4	1
-.4 to .4	0
.4 to 1.2	0
1.2 to 2.0	0
2.0 to 2.8	0
2.8 to 3.6	0
GT 3.6	0
Total	2

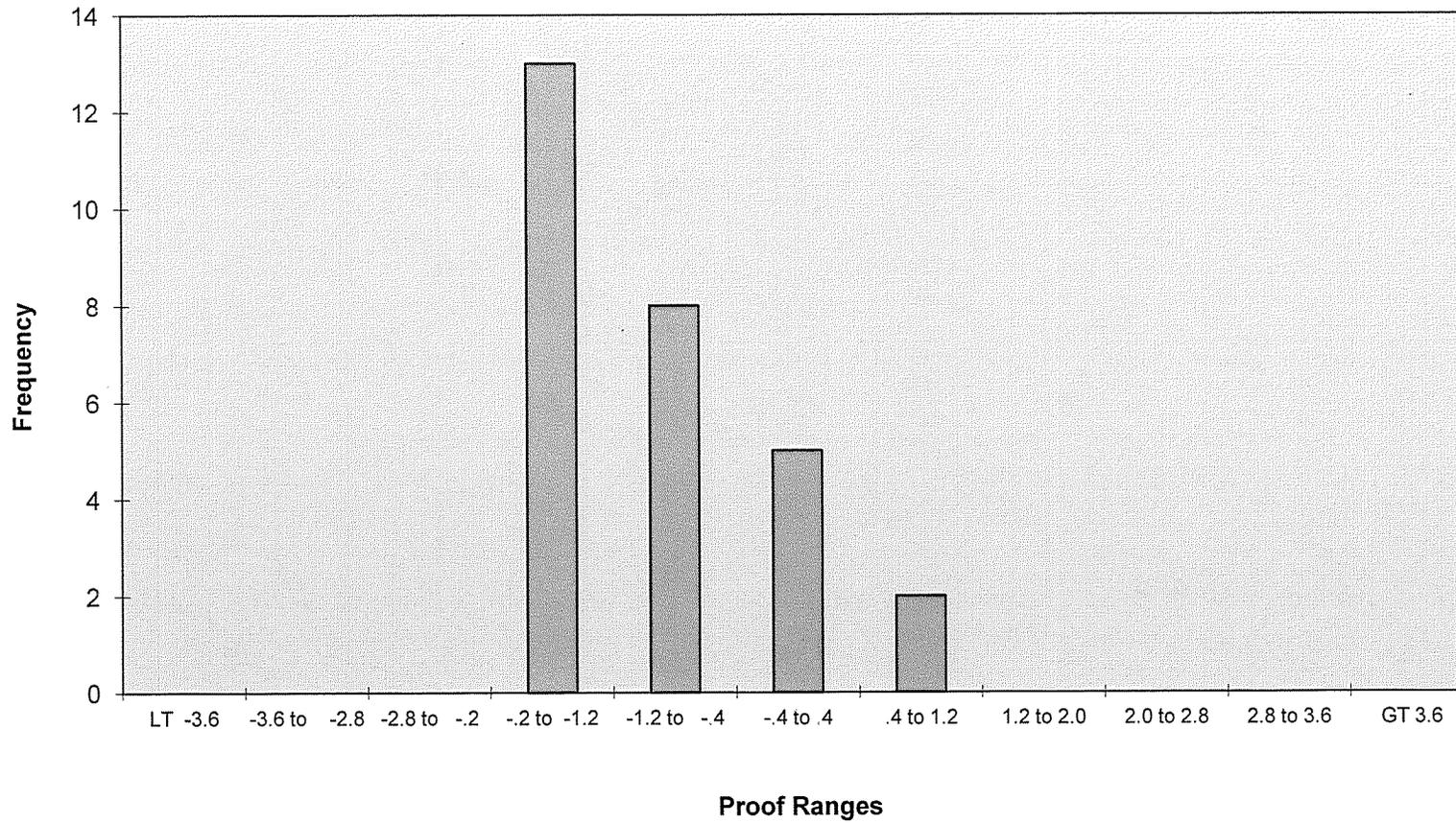
Code & Year: 2007	
Data Range	Number
LT -3.6	0
-3.6 to -2.8	0
-2.8 to -.2	0
-.2 to -1.2	5
-1.2 to -.4	1
-.4 to .4	2
.4 to 1.2	0
1.2 to 2.0	0
2.0 to 2.8	0
2.8 to 3.6	0
GT 3.6	0
Total	8

Code & Year: 2008	
Data Range	Number
LT -3.6	0
-3.6 to -2.8	0
-2.8 to -.2	0
-.2 to -1.2	4
-1.2 to -.4	1
-.4 to .4	1
.4 to 1.2	2
1.2 to 2.0	0
2.0 to 2.8	0
2.8 to 3.6	0
GT 3.6	0
Total	8

Code & Year: 2010	
Data Range	Number
LT -3.6	0
-3.6 to -2.8	0
-2.8 to -.2	0
-.2 to -1.2	0
-1.2 to -.4	2
-.4 to .4	0
.4 to 1.2	0
1.2 to 2.0	0
2.0 to 2.8	0
2.8 to 3.6	0
GT 3.6	0
Total	2

Code & Year: Total	
Data Range	Number
LT -3.6	0
-3.6 to -2.8	0
-2.8 to -.2	0
-.2 to -1.2	13
-1.2 to -.4	8
-.4 to .4	5
.4 to 1.2	2
1.2 to 2.0	0
2.0 to 2.8	0
2.8 to 3.6	0
GT 3.6	0
Total	28

### American AL1400 Distribution Profile - 019 (2002, 2003, 2004, 2005, 2006, 2007, 2008, 2010)



Rockwell R800  
 800 CFH  
 Code: 053

Test Year 2012

	Control Group-Installed Year							
	2010							
Sample Plan	Single							
Sample Size	1							
Original Population	1							
# of Slow Failures	0							
# of Fast Failures	0							
Total Failures:	0							
Accept Level	0							
Reject Level	1							
Pass / Fail?	Pass							
If Failed - Remove By:	Exhaust							
<b>Statistical Data:</b>								
Mean (Average Proof)	-1.8							
Median	-1.8							
Standard Deviation	NA							
Sample Variance	NA							
Skewness	NA							
Minimum	-1.8							
Maximum	-1.8							
Count	1							
Confidence Level(95.0%)	NA							

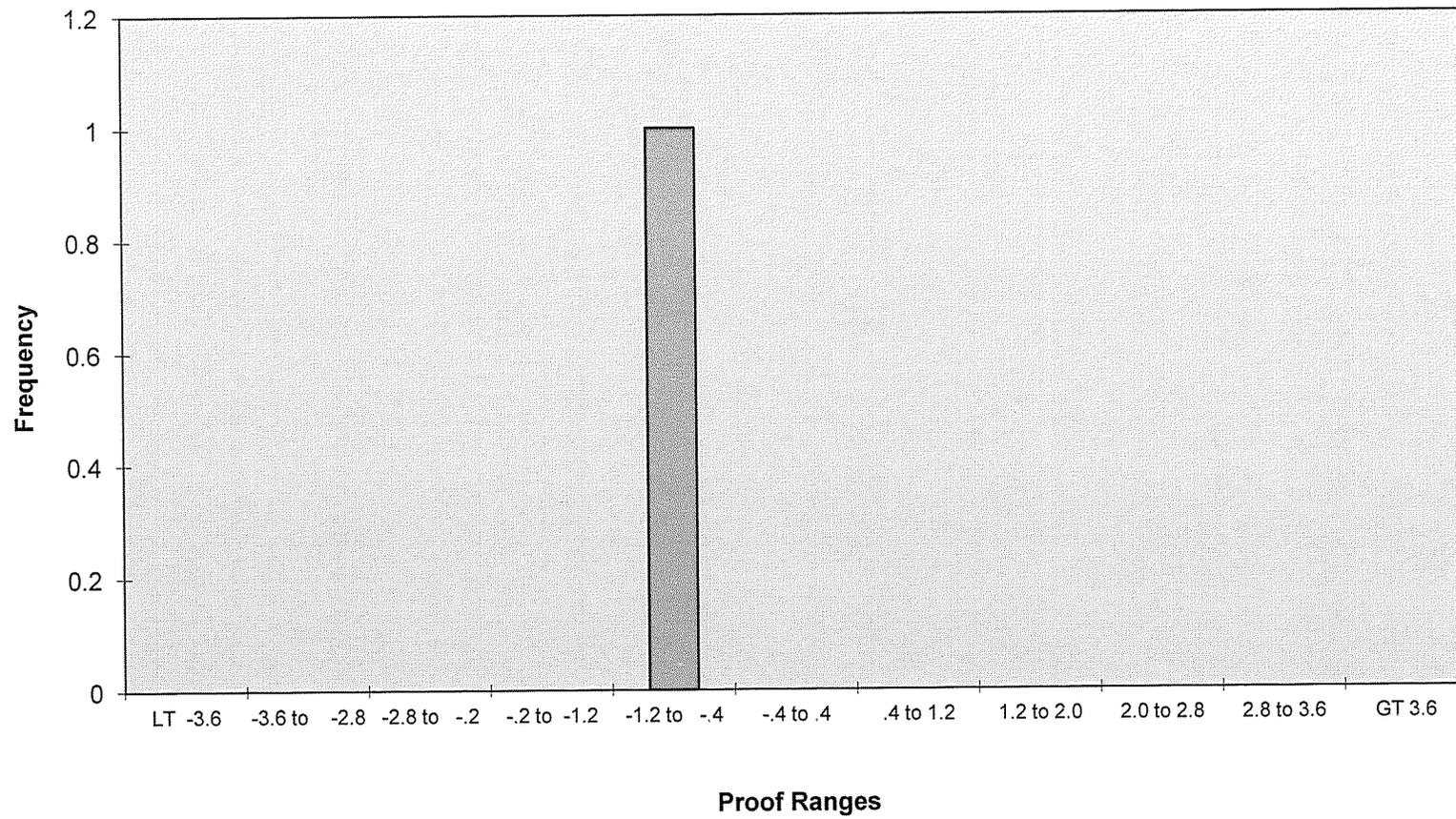
Year 2012

Meter Code 053 Rockwell R800

Code & Year: 2010	
Data Range	Number
LT -3.6	0
-3.6 to -2.8	0
-2.8 to -.2	0
-.2 to -1.2	1
-1.2 to -.4	0
-.4 to .4	0
.4 to 1.2	0
1.2 to 2.0	0
2.0 to 2.8	0
2.8 to 3.6	0
GT 3.6	0
Total	1

Code & Year: Total	
Data Range	Number
LT -3.6	0
-3.6 to -2.8	0
-2.8 to -.2	0
-.2 to -1.2	1
-1.2 to -.4	0
-.4 to .4	0
.4 to 1.2	0
1.2 to 2.0	0
2.0 to 2.8	0
2.8 to 3.6	0
GT 3.6	0
Total	1

### Rockwell R800 Distribution Profile - 053 (2010)



Rockwell #3 Emco  
1200 CFH  
Code: 056

Test Year 2012

	Control Group-Installed Year								
	2002	2003	2004	2005	2006	2007	2008	2010	
Sample Plan	Single	Single	Single	Single	Single	Single	Single	Single	
Sample Size	2*	8	8	8	8	8	13	13	
Original Population	9	16	47	33	28	50	53	77	
# of Slow Failures	0	0	0	0	0	0	0	0	
# of Fast Failures	0	0	0	0	0	0	0	0	
Total Failures:	0	0	0	0	0	0	0	0	
Accept Level	0	1	1	1	1	1	2	2	
Reject Level	1	2	2	2	2	2	3	3	
Pass / Fail?	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	
If Failed - Remove By:	Exhaust	NA							
<b>Statistical Data:</b>									
Mean (Average Proof)	-0.4	-0.125	-0.15625	-0.6	-0.8	-0.625	-0.23462	-0.43077	
Median	-0.4	-0.15	0.05	-0.725	-0.7	-0.65	-0.6	-0.5	
Standard Deviation	1.06066	1.081335	0.861658	0.651372	0.70051	0.512696	0.857658	0.407502	
Sample Variance	1.125	1.169286	0.742455	0.424286	0.490714	0.262857	0.735577	0.166058	
Skewness	NA	0.112985	-0.65634	1.783337	0.273039	1.164454	1.208095	0.750357	
Minimum	-1.15	-1.3	-1.65	-1.3	-1.8	-1.35	-1.2	-1.05	
Maximum	0.35	1.35	0.65	0.85	0.4	0.45	1.7	0.4	
Count	2	8	8	8	8	8	13	13	
Confidence Level(95.0%)	9.529654	0.904019	0.720365	0.544561	0.585641	0.428625	0.518277	0.246251	

\* Control group in 10th year of service - maximum service period - all meters to be removed/tested. Sample size based on population was used to determine if group passed/failed in it's last year of service.

Year 2012

Meter Code 056 Rockwell #3 Emco

Code & Year: 2002	
Data Range	Number
LT -3.6	0
-3.6 to -2.8	0
-2.8 to -.2	0
-.2 to -1.2	0
-1.2 to -.4	1
-.4 to .4	1
.4 to 1.2	0
1.2 to 2.0	0
2.0 to 2.8	0
2.8 to 3.6	0
GT 3.6	0
Total	2

Code & Year: 2003	
Data Range	Number
LT -3.6	0
-3.6 to -2.8	0
-2.8 to -.2	0
-.2 to -1.2	2
-1.2 to -.4	1
-.4 to .4	2
.4 to 1.2	2
1.2 to 2.0	1
2.0 to 2.8	0
2.8 to 3.6	0
GT 3.6	0
Total	8

Code & Year: 2004	
Data Range	Number
LT -3.6	0
-3.6 to -2.8	0
-2.8 to -.2	0
-.2 to -1.2	1
-1.2 to -.4	2
-.4 to .4	1
.4 to 1.2	4
1.2 to 2.0	0
2.0 to 2.8	0
2.8 to 3.6	0
GT 3.6	0
Total	8

Code & Year: 2005	
Data Range	Number
LT -3.6	0
-3.6 to -2.8	0
-2.8 to -.2	0
-.2 to -1.2	1
-1.2 to -.4	5
-.4 to .4	1
.4 to 1.2	1
1.2 to 2.0	0
2.0 to 2.8	0
2.8 to 3.6	0
GT 3.6	0
Total	8

Code & Year: 2006	
Data Range	Number
LT -3.6	0
-3.6 to -2.8	0
-2.8 to -.2	0
-.2 to -1.2	2
-1.2 to -.4	4
-.4 to .4	2
.4 to 1.2	0
1.2 to 2.0	0
2.0 to 2.8	0
2.8 to 3.6	0
GT 3.6	0
Total	8

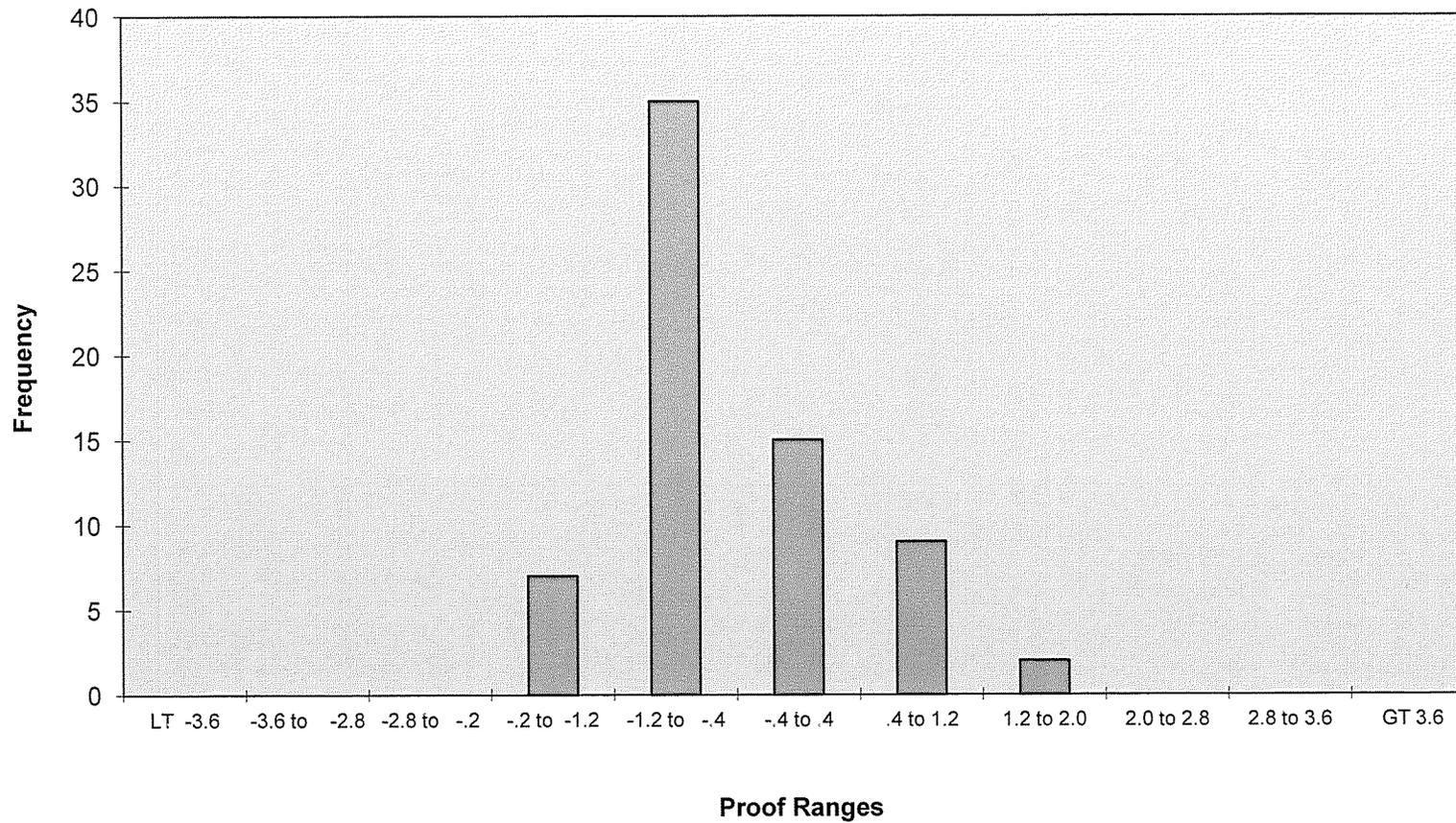
Code & Year: 2007	
Data Range	Number
LT -3.6	0
-3.6 to -2.8	0
-2.8 to -.2	0
-.2 to -1.2	1
-1.2 to -.4	7
-.4 to .4	0
.4 to 1.2	0
1.2 to 2.0	0
2.0 to 2.8	0
2.8 to 3.6	0
GT 3.6	0
Total	8

Code & Year: 2008	
Data Range	Number
LT -3.6	0
-3.6 to -2.8	0
-2.8 to -.2	0
-.2 to -1.2	0
-1.2 to -.4	8
-.4 to .4	2
.4 to 1.2	2
1.2 to 2.0	1
2.0 to 2.8	0
2.8 to 3.6	0
GT 3.6	0
Total	13

Code & Year: 2010	
Data Range	Number
LT -3.6	0
-3.6 to -2.8	0
-2.8 to -.2	0
-.2 to -1.2	0
-1.2 to -.4	7
-.4 to .4	6
.4 to 1.2	0
1.2 to 2.0	0
2.0 to 2.8	0
2.8 to 3.6	0
GT 3.6	0
Total	13

Code & Year: Total	
Data Range	Number
LT -3.6	0
-3.6 to -2.8	0
-2.8 to -.2	0
-.2 to -1.2	7
-1.2 to -.4	35
-.4 to .4	15
.4 to 1.2	9
1.2 to 2.0	2
2.0 to 2.8	0
2.8 to 3.6	0
GT 3.6	0
Total	68

### Rockwell #3EMCO Distribution Profile - 056 (2002, 2003, 2004, 2005, 2006, 2007, 2008, 2010)



Rockwell R750

Test Year 2012

750 CFH

Code: 058

	Control Group-Installed Year								
	2002	2003	2004	2005	2006	2007	2008	2010	
Sample Plan	Single	Single	Single	Single	Single	Single	Single	Single	
Sample Size	8*	20	20	32	32	50	50	50	
Original Population	42	109	140	261	273	324	370	366	
# of Slow Failures	0	0	2	0	0	0	0	0	
# of Fast Failures	1	1	0	0	0	0	0	0	
Total Failures:	1	1	2	0	0	0	0	0	
Accept Level	1	3	3	5	5	7	7	7	
Reject Level	2	4	4	6	6	8	8	8	
Pass / Fail?	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	
If Failed - Remove By:	Exhaust	NA							
<b>Statistical Data:</b>									
Mean (Average Proof)	0.025	0.3325	-1.5275	-0.28281	0.304688	-0.003	0.033	-0.051	
Median	-0.45	-0.2	-0.2	-0.275	0.475	0.05	0	-0.2	
Standard Deviation	1.181404	1.141822	6.161777	0.787873	0.74068	0.753252	0.618475	0.553605	
Sample Variance	1.395714	1.303757	37.96749	0.620743	0.548606	0.567389	0.382511	0.306479	
Skewness	1.244768	1.387332	-4.3016	0.099605	-0.68923	0.081592	0.403293	0.504333	
Minimum	-1.25	-1	-27.4	-1.9	-1.65	-1.8	-1.15	-1.3	
Maximum	2.25	3.5	1.75	1.3	1.75	2	1.55	1.45	
Count	8	20	20	32	32	50	50	50	
Confidence Level(95.0%)	0.987678	0.534389	2.8838	0.284058	0.267043	0.214072	0.175769	0.157333	

\* Control group in 10th year of service - maximum service period - all meters to be removed/tested. Sample size based on population was used to determine if group passed/failed in it's last year of service.

Year 2012

Meter Code 058 Rockwell R750

Code & Year: 2002	
Data Range	Number
LT -3.6	0
-3.6 to -2.8	0
-2.8 to -2	0
-2 to -1.2	1
-1.2 to -.4	4
-.4 to .4	1
.4 to 1.2	0
1.2 to 2.0	1
2.0 to 2.8	1
2.8 to 3.6	0
GT 3.6	0
Total	8

Code & Year: 2003	
Data Range	Number
LT -3.6	0
-3.6 to -2.8	0
-2.8 to -2	0
-2 to -1.2	0
-1.2 to -.4	4
-.4 to .4	10
.4 to 1.2	1
1.2 to 2.0	4
2.0 to 2.8	0
2.8 to 3.6	1
GT 3.6	0
Total	20

Code & Year: 2004	
Data Range	Number
LT -3.6	1
-3.6 to -2.8	0
-2.8 to -2	1
-2 to -1.2	1
-1.2 to -.4	5
-.4 to .4	8
.4 to 1.2	3
1.2 to 2.0	1
2.0 to 2.8	0
2.8 to 3.6	0
GT 3.6	0
Total	20

Code & Year: 2005	
Data Range	Number
LT -3.6	0
-3.6 to -2.8	0
-2.8 to -2	0
-2 to -1.2	5
-1.2 to -.4	9
-.4 to .4	11
.4 to 1.2	5
1.2 to 2.0	2
2.0 to 2.8	0
2.8 to 3.6	0
GT 3.6	0
Total	32

Code & Year: 2006	
Data Range	Number
LT -3.6	0
-3.6 to -2.8	0
-2.8 to -2	0
-2 to -1.2	1
-1.2 to -.4	3
-.4 to .4	9
.4 to 1.2	16
1.2 to 2.0	3
2.0 to 2.8	0
2.8 to 3.6	0
GT 3.6	0
Total	32

Code & Year: 2007	
Data Range	Number
LT -3.6	0
-3.6 to -2.8	0
-2.8 to -2	0
-2 to -1.2	4
-1.2 to -.4	10
-.4 to .4	24
.4 to 1.2	9
1.2 to 2.0	3
2.0 to 2.8	0
2.8 to 3.6	0
GT 3.6	0
Total	50

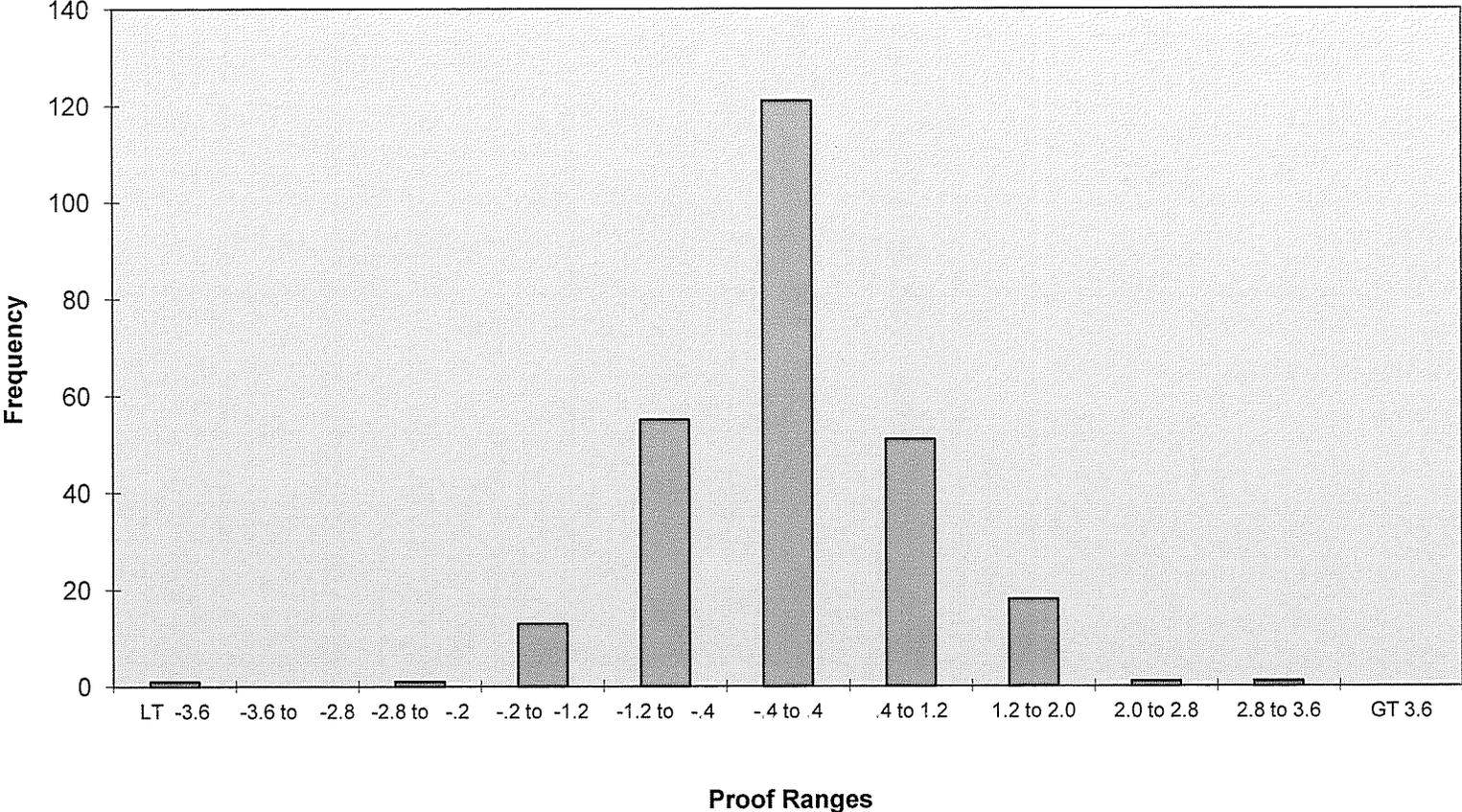
Code & Year: 2008	
Data Range	Number
LT -3.6	0
-3.6 to -2.8	0
-2.8 to -2	0
-2 to -1.2	0
-1.2 to -.4	11
-.4 to .4	27
.4 to 1.2	9
1.2 to 2.0	3
2.0 to 2.8	0
2.8 to 3.6	0
GT 3.6	0
Total	50

Code & Year: 2010	
Data Range	Number
LT -3.6	0
-3.6 to -2.8	0
-2.8 to -2	0
-2 to -1.2	1
-1.2 to -.4	9
-.4 to .4	31
.4 to 1.2	8
1.2 to 2.0	1
2.0 to 2.8	0
2.8 to 3.6	0
GT 3.6	0
Total	50

Code & Year: Total	
Data Range	Number
LT -3.6	1
-3.6 to -2.8	0
-2.8 to -2	1
-2 to -1.2	13
-1.2 to -.4	55
-.4 to .4	121
.4 to 1.2	51
1.2 to 2.0	18
2.0 to 2.8	1
2.8 to 3.6	1
GT 3.6	0
Total	262

# Rockwell R750 Distribution Profile - 058

(2002, 2003, 2004, 2005, 2006, 2007, 2008, 2010)



American AL 800  
800 CFH  
Code: 076

Test Year 2012

	Control Group-Installed Year							
	2002	2003	2004	2005	2006	2007	2008	2010
Sample Plan	Single	Single	Single	Single	Single	Single	Single	Single
Sample Size	2*	8	13	2	8	13	13	20
Original Population	3	39	60	15	44	52	74	129
# of Slow Failures	0	2	1	0	0	0	0	1
# of Fast Failures	0	0	0	0	0	0	0	0
Total Failures:	0	2	1	0	0	0	0	1
Accept Level	0	1	2	0	1	2	2	3
Reject Level	1	2	3	1	2	3	3	4
Pass / Fail?	Pass	Failed	Pass	Pass	Pass	Pass	Pass	Pass
If Failed - Remove By:	Exhaust	June 2014	NA	NA	NA	NA	NA	NA
<b>Statistical Data:</b>								
Mean (Average Proof)	-0.425	-1.73125	-1.05	-0.3	-0.84375	-0.35	-0.39231	-0.6725
Median	-0.425	-1.625	-0.85	-0.3	-0.85	-0.35	-0.5	-0.45
Standard Deviation	0.176777	1.460171	0.741058	0.565685	0.60677	0.357654	0.490682	0.678325
Sample Variance	0.03125	2.132098	0.549167	0.32	0.36817	0.127917	0.240769	0.460125
Skewness	NA	-1.6216	-0.07206	NA	0.237079	0.071038	0.441043	-0.57241
Minimum	-0.55	-4.9	-2.3	-0.7	-1.8	-0.9	-1.05	-2.25
Maximum	-0.3	-0.35	0.25	0.1	0.2	0.3	0.4	0.35
Count	2	8	13	2	8	13	13	20
Confidence Level(95.0%)	1.588276	1.220733	0.447817	5.082482	0.507272	0.216128	0.296516	0.317466

\* Control group in 10th year of service - maximum service period - all meters to be removed/tested. Sample size based on population was used to determine if group passed/failed in it's last year of service.

Year 2012 Meter Code 076 American AL800

Code & Year: 2002	
Data Range	Number
LT -3.6	0
-3.6 to -2.8	0
-2.8 to -2	0
-2 to -1.2	0
-1.2 to -.4	1
-.4 to .4	1
.4 to 1.2	0
1.2 to 2.0	0
2.0 to 2.8	0
2.8 to 3.6	0
GT 3.6	0
Total	2

Code & Year: 2003	
Data Range	Number
LT -3.6	1
-3.6 to -2.8	0
-2.8 to -2	1
-2 to -1.2	3
-1.2 to -.4	2
-.4 to .4	1
.4 to 1.2	0
1.2 to 2.0	0
2.0 to 2.8	0
2.8 to 3.6	0
GT 3.6	0
Total	8

Code & Year: 2004	
Data Range	Number
LT -3.6	0
-3.6 to -2.8	0
-2.8 to -2	1
-2 to -1.2	4
-1.2 to -.4	5
-.4 to .4	3
.4 to 1.2	0
1.2 to 2.0	0
2.0 to 2.8	0
2.8 to 3.6	0
GT 3.6	0
Total	13

Code & Year: 2005	
Data Range	Number
LT -3.6	0
-3.6 to -2.8	0
-2.8 to -2	0
-2 to -1.2	0
-1.2 to -.4	1
-.4 to .4	1
.4 to 1.2	0
1.2 to 2.0	0
2.0 to 2.8	0
2.8 to 3.6	0
GT 3.6	0
Total	2

Code & Year: 2006	
Data Range	Number
LT -3.6	0
-3.6 to -2.8	0
-2.8 to -2	0
-2 to -1.2	2
-1.2 to -.4	4
-.4 to .4	2
.4 to 1.2	0
1.2 to 2.0	0
2.0 to 2.8	0
2.8 to 3.6	0
GT 3.6	0
Total	8

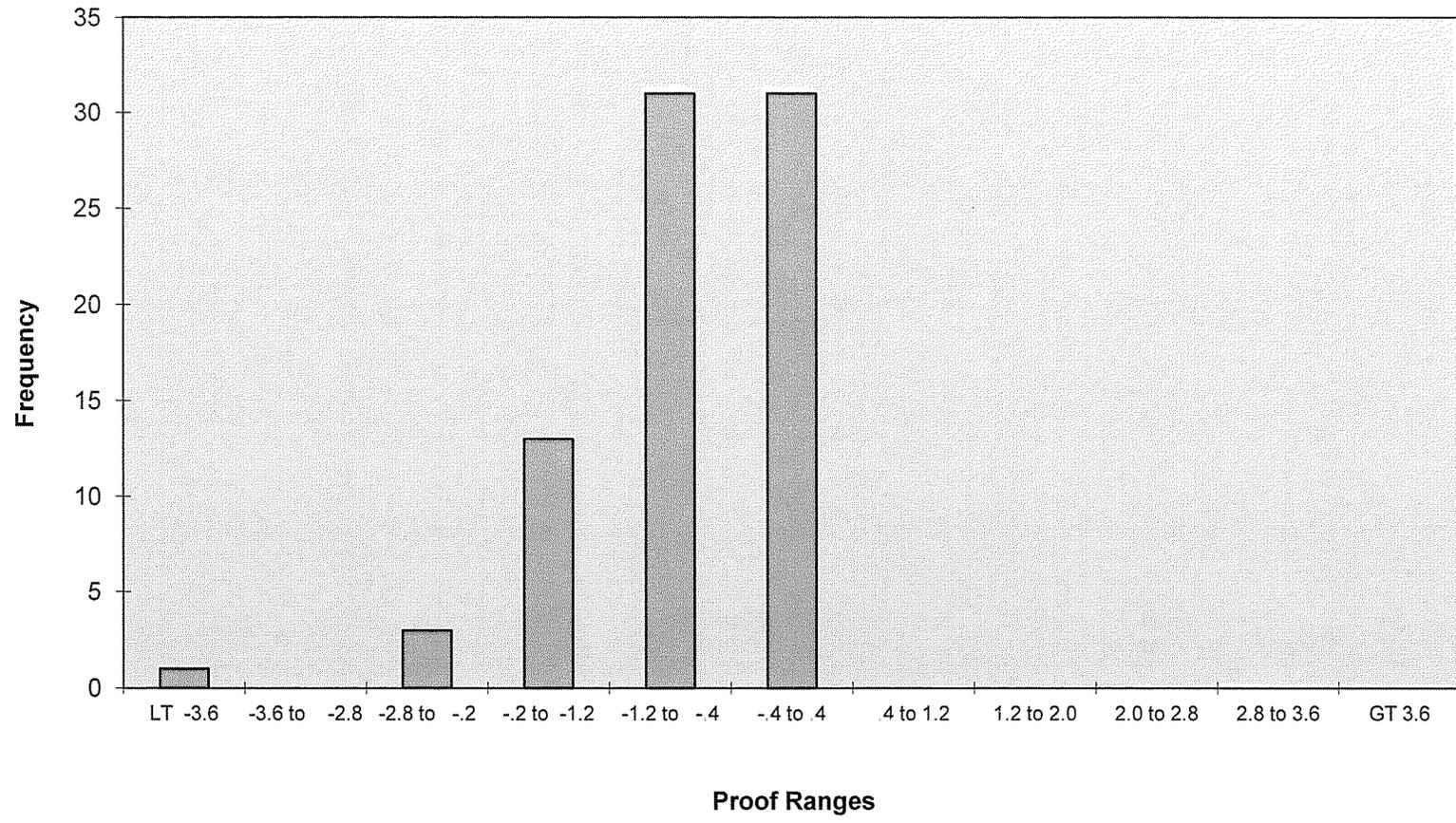
Code & Year: 2007	
Data Range	Number
LT -3.6	0
-3.6 to -2.8	0
-2.8 to -2	0
-2 to -1.2	0
-1.2 to -.4	5
-.4 to .4	8
.4 to 1.2	0
1.2 to 2.0	0
2.0 to 2.8	0
2.8 to 3.6	0
GT 3.6	0
Total	13

Code & Year: 2008	
Data Range	Number
LT -3.6	0
-3.6 to -2.8	0
-2.8 to -2	0
-2 to -1.2	0
-1.2 to -.4	8
-.4 to .4	5
.4 to 1.2	0
1.2 to 2.0	0
2.0 to 2.8	0
2.8 to 3.6	0
GT 3.6	0
Total	13

Code & Year: 2010	
Data Range	Number
LT -3.6	0
-3.6 to -2.8	0
-2.8 to -2	1
-2 to -1.2	4
-1.2 to -.4	5
-.4 to .4	10
.4 to 1.2	0
1.2 to 2.0	0
2.0 to 2.8	0
2.8 to 3.6	0
GT 3.6	0
Total	20

Code & Year: Total	
Data Range	Number
LT -3.6	1
-3.6 to -2.8	0
-2.8 to -2	3
-2 to -1.2	13
-1.2 to -.4	31
-.4 to .4	31
.4 to 1.2	0
1.2 to 2.0	0
2.0 to 2.8	0
2.8 to 3.6	0
GT 3.6	0
Total	79

**American AL800 Distribution Profile - 076**  
(2002, 2003, 2004, 2005, 2006, 2007, 2008, 2010)



Rockwell #4 Emco  
2250 CFH  
Code: 028

Test Year 2012

	Control Group-Installed Year								
	2007	2008	2009	2010					
Sample Plan	Single	Single	Single	Single					
Sample Size	13*	13	13	20					
Original Population	68	85	73	111					
# of Slow Failures	0	0	0	0					
# of Fast Failures	0	0	0	0					
Total Failures:	0	0	0	0					
Accept Level	2	2	2	3					
Reject Level	3	3	3	4					
Pass / Fail?	Pass	Pass	Pass	Pass					
If Failed - Remove By:	Exhaust	NA	NA	NA					
<b>Statistical Data:</b>									
Mean (Average Proof)	-0.40385	-0.13846	-0.39615	-0.3125					
Median	-0.65	-0.4	-0.4	-0.425					
Standard Deviation	0.956439	1.04705	0.481085	0.719077					
Sample Variance	0.914776	1.096314	0.231442	0.517072					
Skewness	1.025289	0.144606	0.45869	0.17251					
Minimum	-2	-2	-1.15	-1.85					
Maximum	1.95	1.7	0.55	1.2					
Count	13	13	13	20					
Confidence Level(95.0%)	0.57797	0.632726	0.290716	0.336539					

\* Control group in 5th year of service - maximum service period - all meters to be removed/tested. Sample size based on population was used to determine if group passed/failed in it's last year of service.

Year 2012

Meter Code 028 Rockwell #4 Emco

Code & Year: 2007	
Data Range	Number
LT -3.6	0
-3.6 to -2.8	0
-2.8 to -.2	0
-.2 to -1.2	1
-1.2 to -.4	6
-.4 to .4	4
.4 to 1.2	1
1.2 to 2.0	1
2.0 to 2.8	0
2.8 to 3.6	0
GT 3.6	0
Total	13

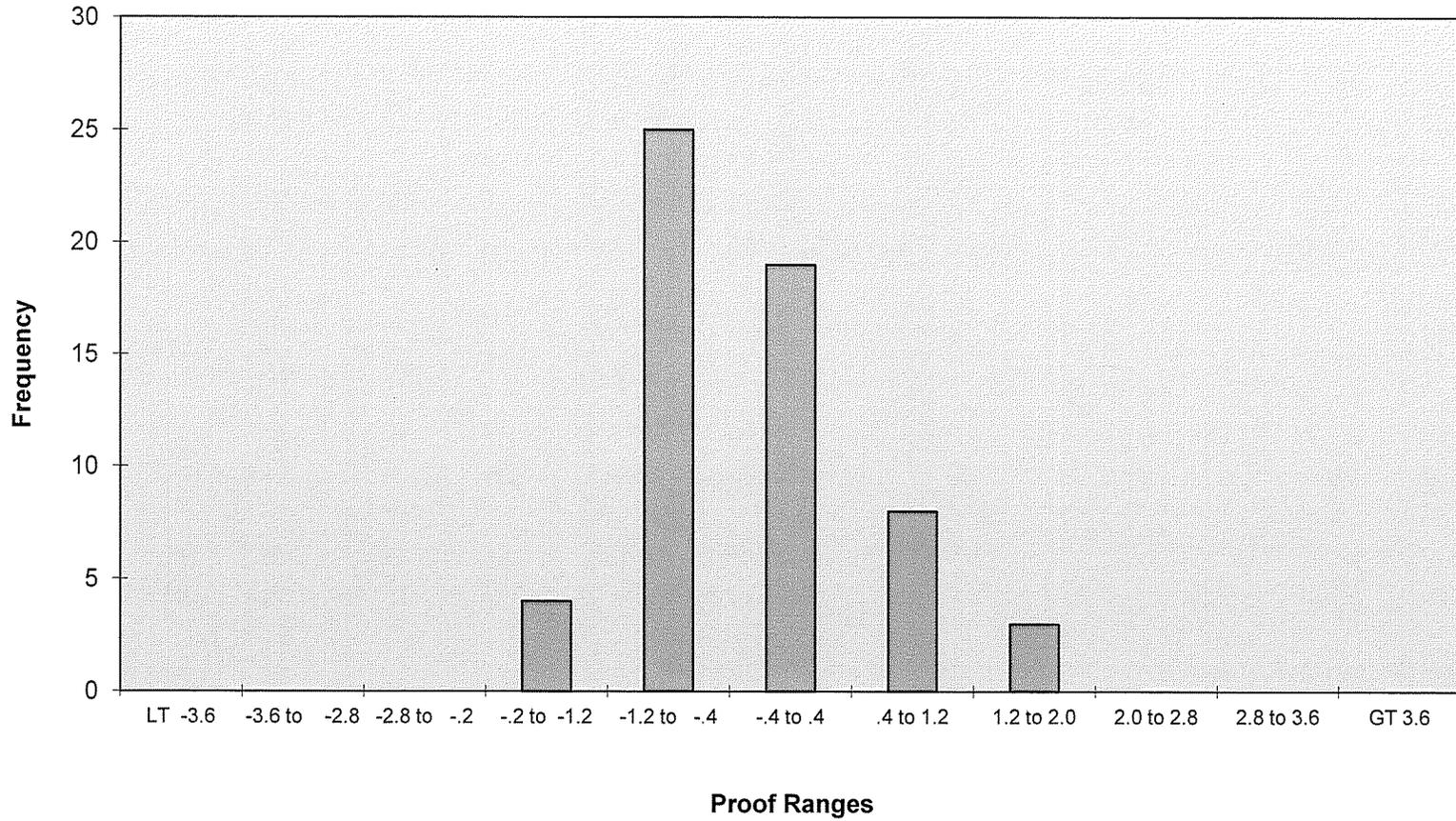
Code & Year: 2008	
Data Range	Number
LT -3.6	0
-3.6 to -2.8	0
-2.8 to -.2	0
-.2 to -1.2	1
-1.2 to -.4	5
-.4 to .4	3
.4 to 1.2	2
1.2 to 2.0	2
2.0 to 2.8	0
2.8 to 3.6	0
GT 3.6	0
Total	13

Code & Year: 2009	
Data Range	Number
LT -3.6	0
-3.6 to -2.8	0
-2.8 to -.2	0
-.2 to -1.2	0
-1.2 to -.4	6
-.4 to .4	6
.4 to 1.2	1
1.2 to 2.0	0
2.0 to 2.8	0
2.8 to 3.6	0
GT 3.6	0
Total	13

Code & Year: 2010	
Data Range	Number
LT -3.6	0
-3.6 to -2.8	0
-2.8 to -.2	0
-.2 to -1.2	2
-1.2 to -.4	8
-.4 to .4	6
.4 to 1.2	4
1.2 to 2.0	0
2.0 to 2.8	0
2.8 to 3.6	0
GT 3.6	0
Total	20

Code & Year: Total	
Data Range	Number
LT -3.6	0
-3.6 to -2.8	0
-2.8 to -.2	0
-.2 to -1.2	4
-1.2 to -.4	25
-.4 to .4	19
.4 to 1.2	8
1.2 to 2.0	3
2.0 to 2.8	0
2.8 to 3.6	0
GT 3.6	0
Total	59

### Rockwell #4EMCO Distribution Profile - 028 (2007, 2008, 2009, 2010)



Rockwell 10Emco

Test Year 2012

5000 CFH

Code: 061

	Control Group-Installed Year								
	2007	2008	2009	2010					
Sample Plan	Single	Single	Single	Single					
Sample Size	8*	8	2	13					
Original Population	23	22	13	60					
# of Slow Failures	0	0	0	0					
# of Fast Failures	0	0	0	0					
Total Failures:	0	0	0	0					
Accept Level	1	1	0	2					
Reject Level	2	2	1	3					
Pass / Fail?	Pass	Pass	Pass	Pass					
If Failed - Remove By:	Exhaust	NA	NA	NA					
<b>Statistical Data:</b>									
Mean (Average Proof)	-0.6375	-0.625	-0.7	-0.20385					
Median	-0.7	-0.4	-0.7	-0.15					
Standard Deviation	0.424054	0.719623	0	0.579677					
Sample Variance	0.179821	0.517857	0	0.336026					
Skewness	0.944916	-0.207	NA	-0.62194					
Minimum	-1.2	-1.75	-0.7	-1.4					
Maximum	0.2	0.5	-0.7	0.6					
Count	8	8	2	13					
Confidence Level(95.0%)	0.354518	0.60162	0	0.350295					

\* Control group in 5th year of service - maximum service period - all meters to be removed/tested. Sample size based on population was used to determine if group passed/failed in it's last year of service.

Year 2012

Meter Code 061 Rockwell 10M Emco

Code & Year: 2007	
Data Range	Number
LT -3.6	0
-3.6 to -2.8	0
-2.8 to -.2	0
-.2 to -1.2	0
-1.2 to -.4	7
-.4 to .4	1
.4 to 1.2	0
1.2 to 2.0	0
2.0 to 2.8	0
2.8 to 3.6	0
GT 3.6	0
Total	8

Code & Year: 2008	
Data Range	Number
LT -3.6	0
-3.6 to -2.8	0
-2.8 to -.2	0
-.2 to -1.2	2
-1.2 to -.4	2
-.4 to .4	3
.4 to 1.2	1
1.2 to 2.0	0
2.0 to 2.8	0
2.8 to 3.6	0
GT 3.6	0
Total	8

Code & Year: 209	
Data Range	Number
LT -3.6	0
-3.6 to -2.8	0
-2.8 to -.2	0
-.2 to -1.2	0
-1.2 to -.4	2
-.4 to .4	0
.4 to 1.2	0
1.2 to 2.0	0
2.0 to 2.8	0
2.8 to 3.6	0
GT 3.6	0
Total	2

Code & Year: 2010	
Data Range	Number
LT -3.6	0
-3.6 to -2.8	0
-2.8 to -.2	0
-.2 to -1.2	1
-1.2 to -.4	2
-.4 to .4	9
.4 to 1.2	1
1.2 to 2.0	0
2.0 to 2.8	0
2.8 to 3.6	0
GT 3.6	0
Total	13

Code & Year: Total	
Data Range	Number
LT -3.6	0
-3.6 to -2.8	0
-2.8 to -.2	0
-.2 to -1.2	3
-1.2 to -.4	13
-.4 to .4	13
.4 to 1.2	2
1.2 to 2.0	0
2.0 to 2.8	0
2.8 to 3.6	0
GT 3.6	0
Total	31

### Rockwell #10EMCO Distribution Profile - 061 (2007, 2008, 2009,2010)

