



## Test Monitoring Center


@ Carnegie Mellon University  
6555 Penn Avenue, Pittsburgh, PA 15206, USA

<http://astmtmc.cmu.edu>  
412-365-1000

MEMORANDUM: 14-033

DATE: November 18, 2014

TO: Chris Pregelman, Chairman, L-37 Surveillance Panel

FROM: Scott Parke 

SUBJECT: L-37 Rater Calibration from April 1, 2014 through September 30, 2014

Please find attached a summary of L-37 rater calibration activity this period.

SDP/sdp/mem14-033.sdp.doc

cc: Frank Farber

Jeff Clark

L-37 Surveillance Panel

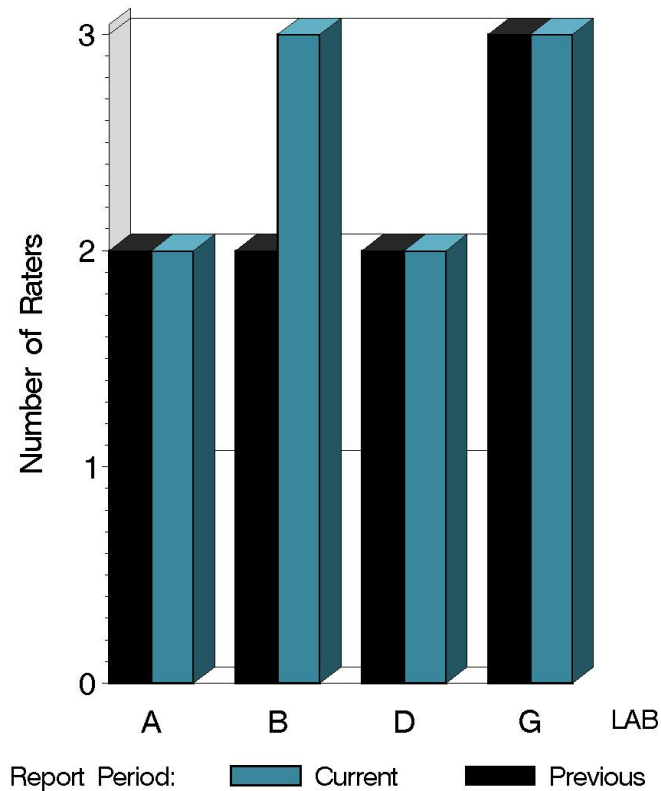
<ftp://ftp.astmtmc.cmu.edu/docs/gear/l37rc/semiannualreports/l37rc-10-2014.pdf>

Distribution: email

# L-37 Rater Calibration

	Reporting Data	Calibrated on 9-30-14
Number of Labs	4	4
Number of Raters	10	10

BY-LAB RATER  
DISTRIBUTION



13:10:44 17NOV2014

# L-37 Rater Calibration

## Test Distribution by Validity

		Totals	
		Last Period	This Period
Accepted for calibration	AC	11	13
Rejected (Mild)	OC	0	2
Rejected (Severe)	OC	0	0
Rejected (Multiple)	OC	0	1
Rejected (Precision)	OC	0	0
Workshop data	AG	24	15
<hr/>			
Total		35	31

# L-37 Rater Calibration

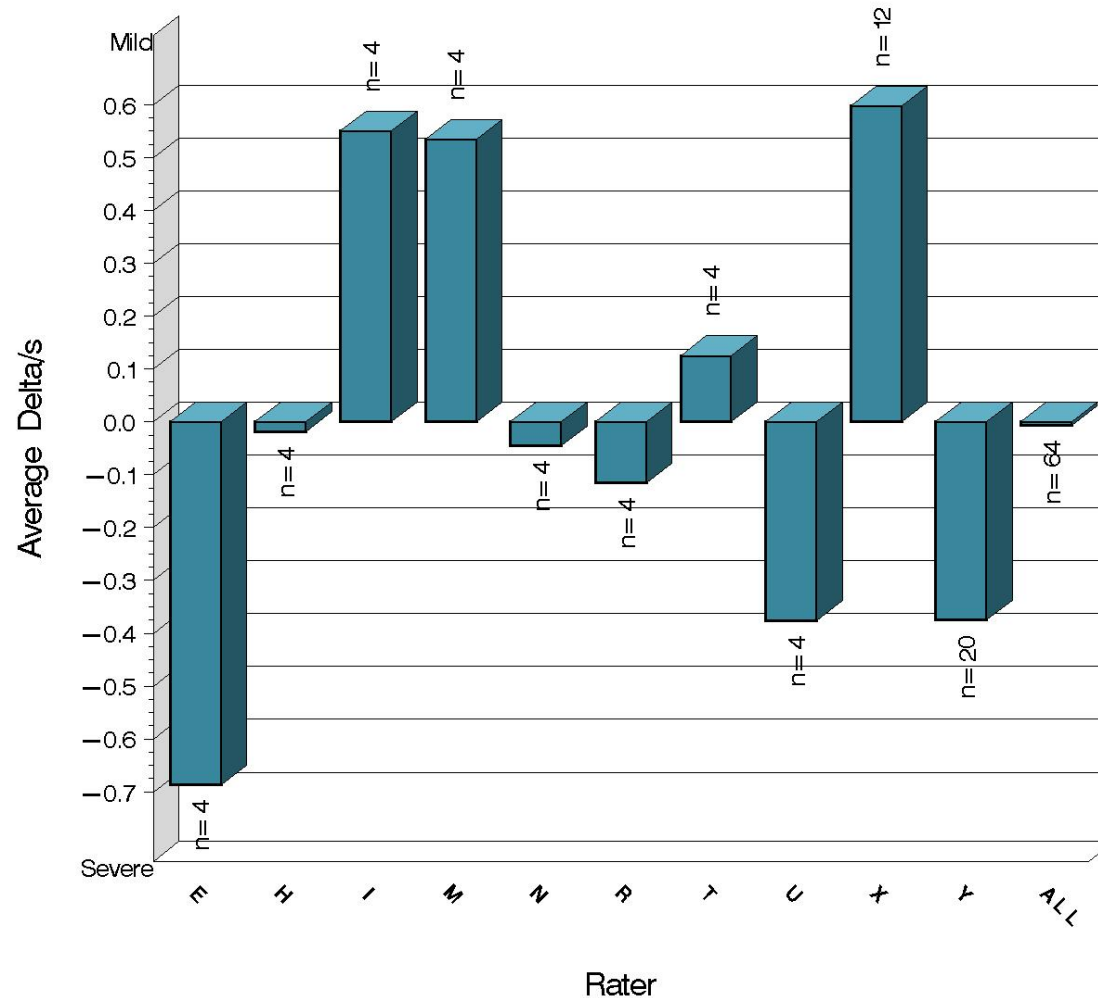
Rater	N	RIDG		RIPP		SPIT		WEAR	
		Avg Yi	STD*	Avg Yi	STD*	Avg Yi	STD*	Avg Yi	STD*
E	4	-0.686	0.423	-0.244	1.051	-0.083	0.388	-0.319	1.055
H	4	-0.018	0.507	0.047	0.296	0.067	0.378	-0.261	0.709
I	4	0.550	0.615	-0.221	0.906	0.417	0.313	0.319	0.391
M	4	0.534	0.625	0.513	0.804	0.015	0.365	0.368	0.250
N	4	-0.045	0.896	0.272	0.489	-0.599	0.942	0.121	0.688
R	4	-0.116	0.837	-0.125	0.719	-0.245	0.642	0.353	0.573
T	4	0.126	1.034	0.545	0.240	-0.024	0.333	0.151	0.630
U	4	-0.376	0.332	-0.741	1.467	0.000	0.000	-0.657	0.921
X	12	0.598	1.490	0.154	1.089	0.090	0.399	0.481	1.129
Y	20	-0.375	1.378	-0.196	0.706	0.105	0.391	0.442	0.967
ALL	64	-0.007	1.156	-0.030	0.851	0.021	0.457	0.233	0.897

\* Due to the small number of ratings per pinion, the standard deviation of the Yi values is given in place of a pooled standard deviation.

# L-37 Rater Calibration

## RIDGING

Severity as Measured by Delta/s

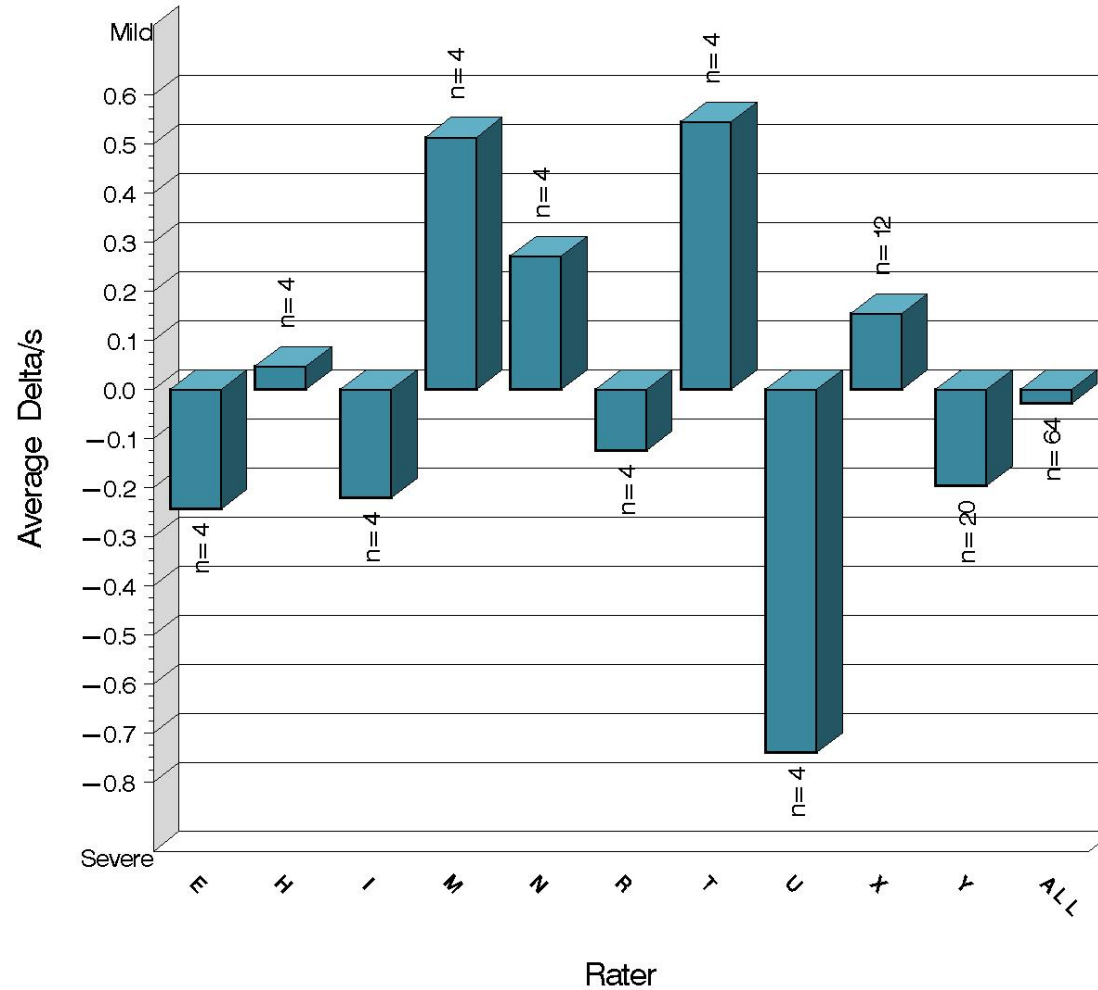


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# L-37 Rater Calibration

## RIPPLING

Severity as Measured by Delta/s

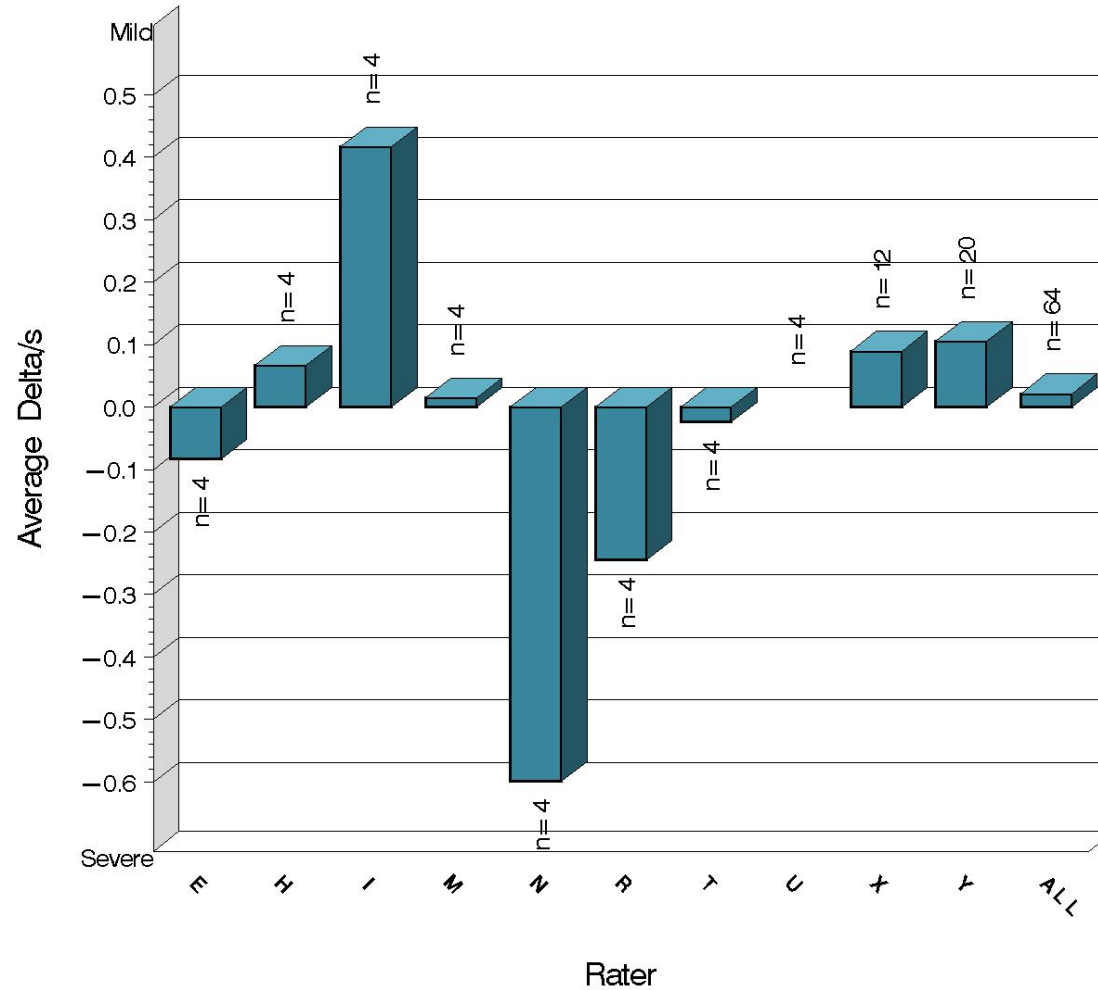


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# L-37 Rater Calibration

## SPITTING

Severity as Measured by Delta/s

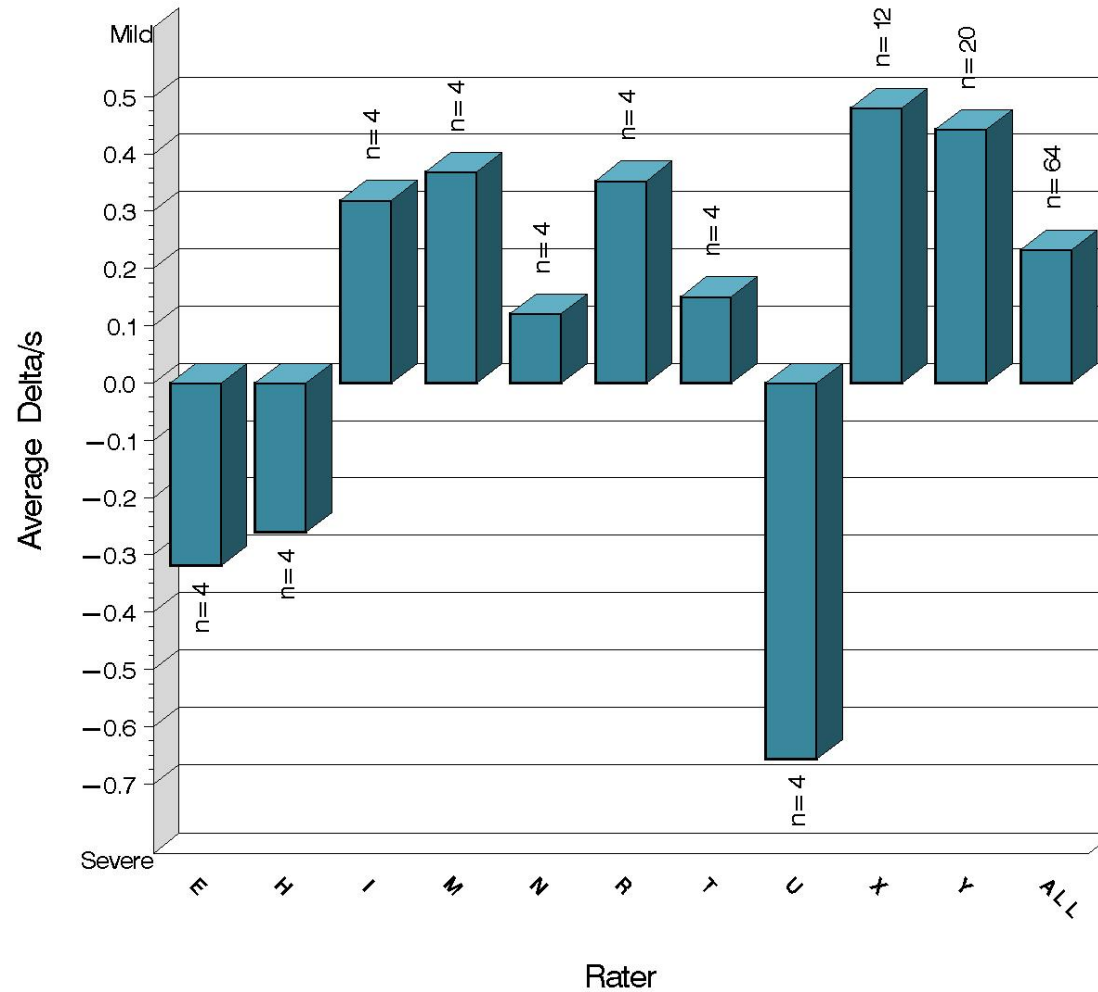


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# L-37 Rater Calibration

## WEAR

Severity as Measured by Delta/s



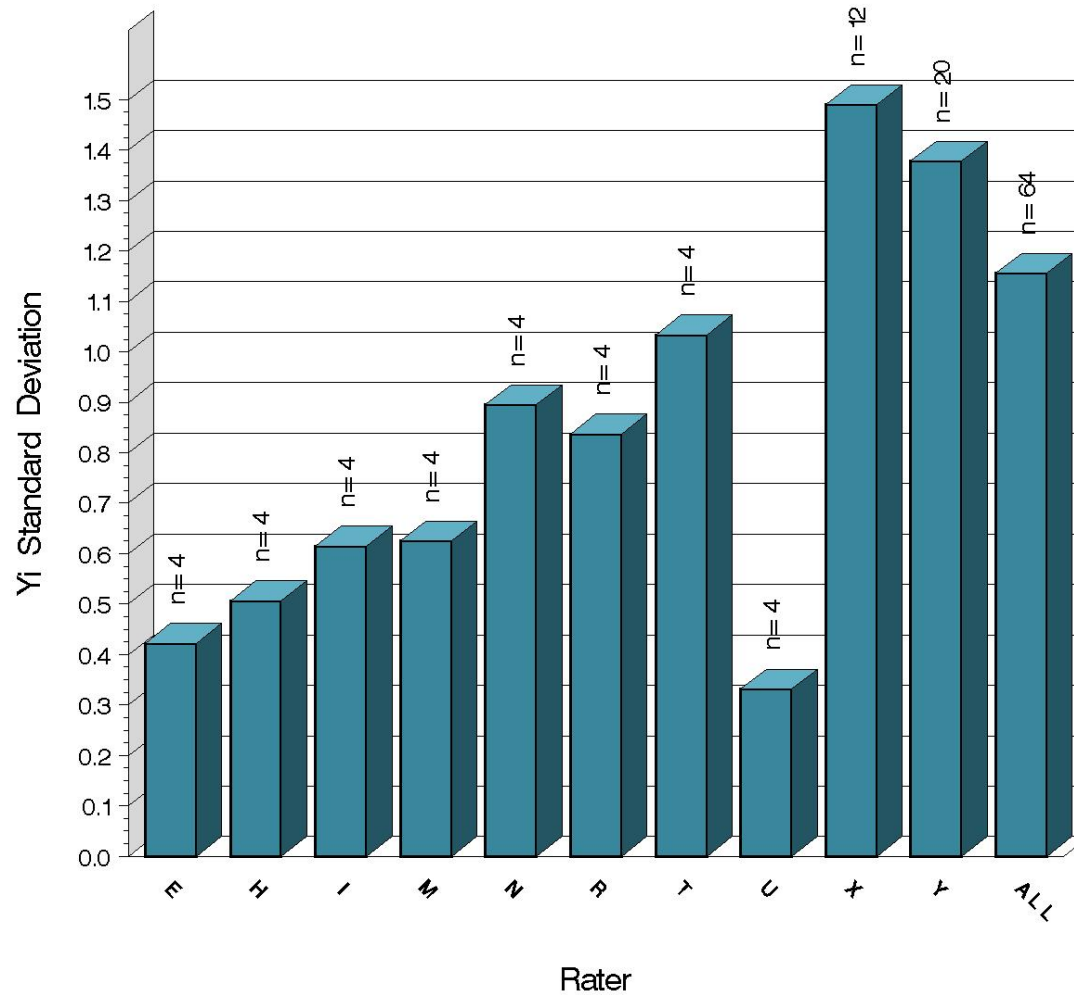
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# L-37 Rater Calibration

## RIDGING

Precision as Measured by Yi STD

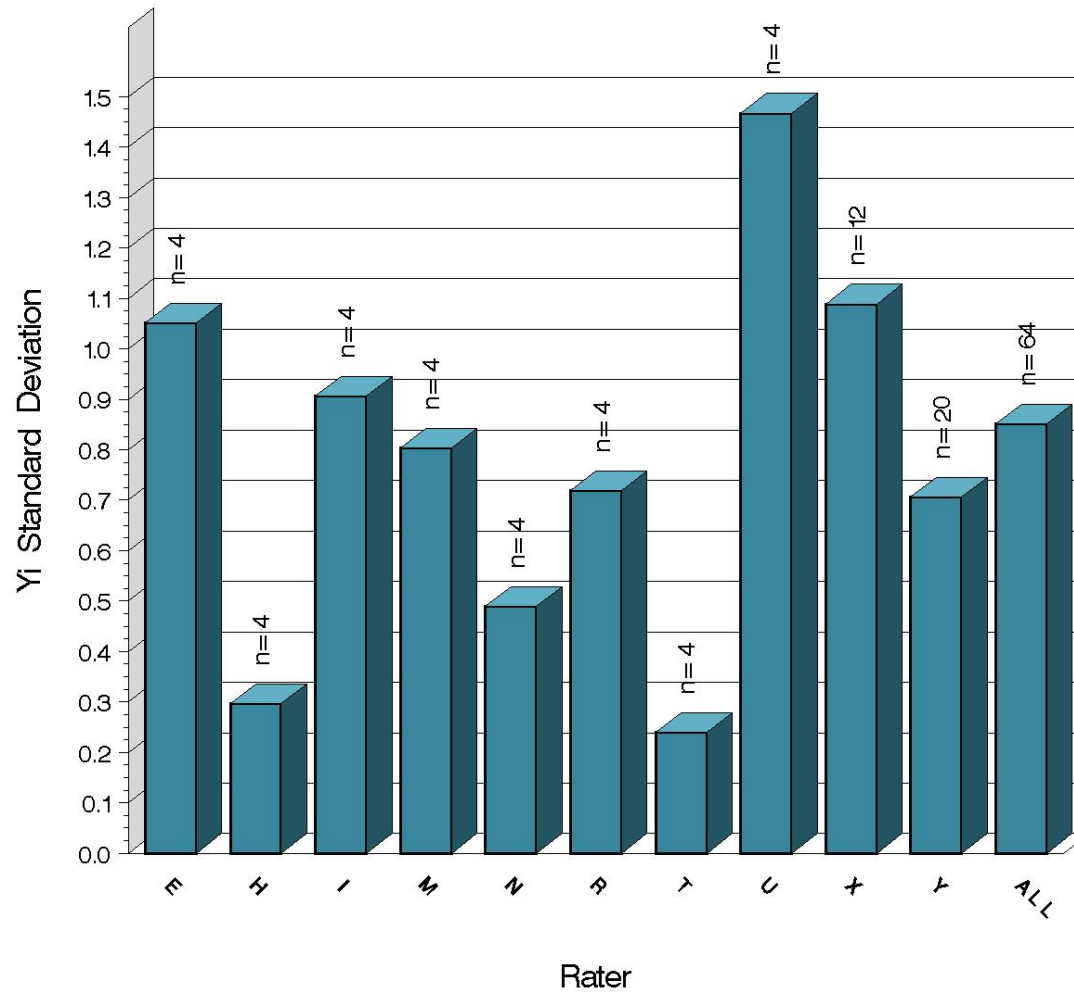


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# L-37 Rater Calibration

## RIPPLING

Precision as Measured by Yi STD

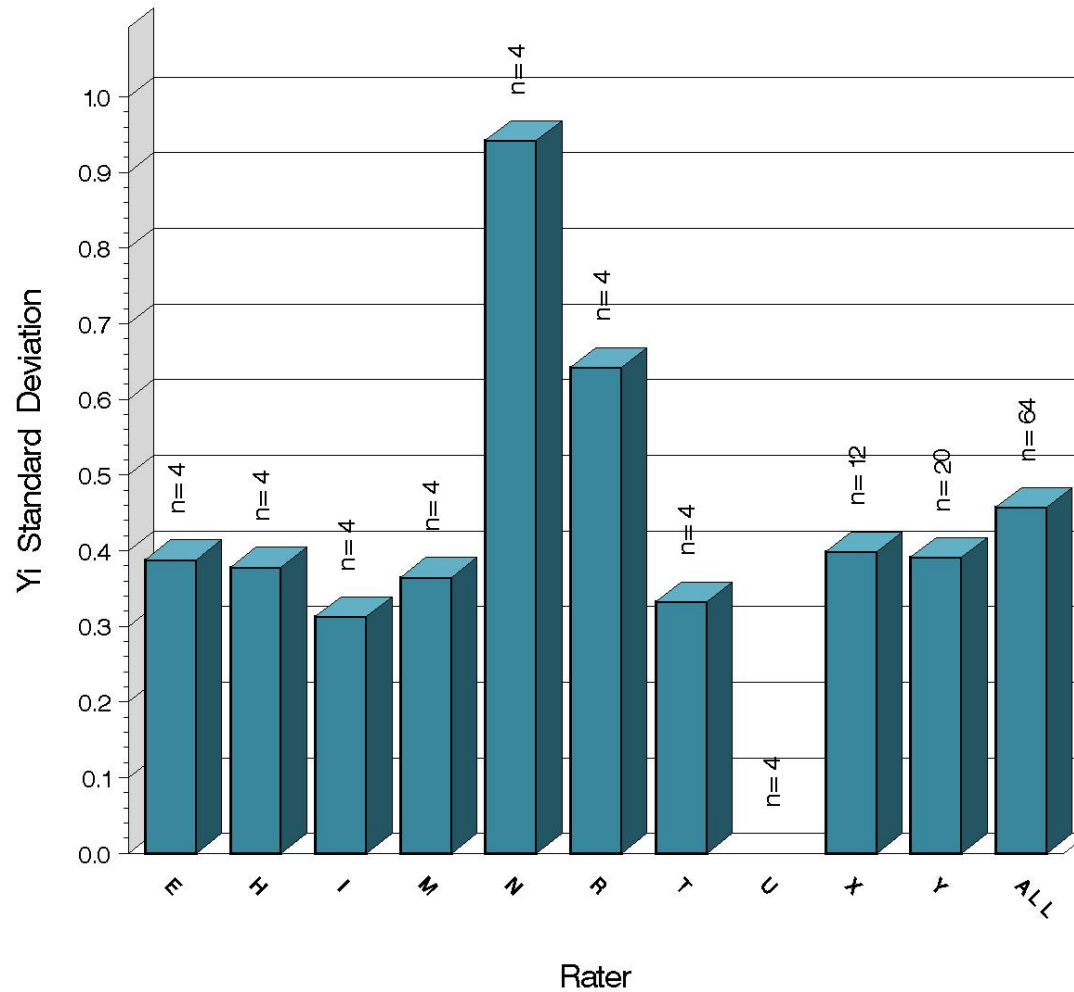


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# L-37 Rater Calibration

## SPITTING

Precision as Measured by Yi STD

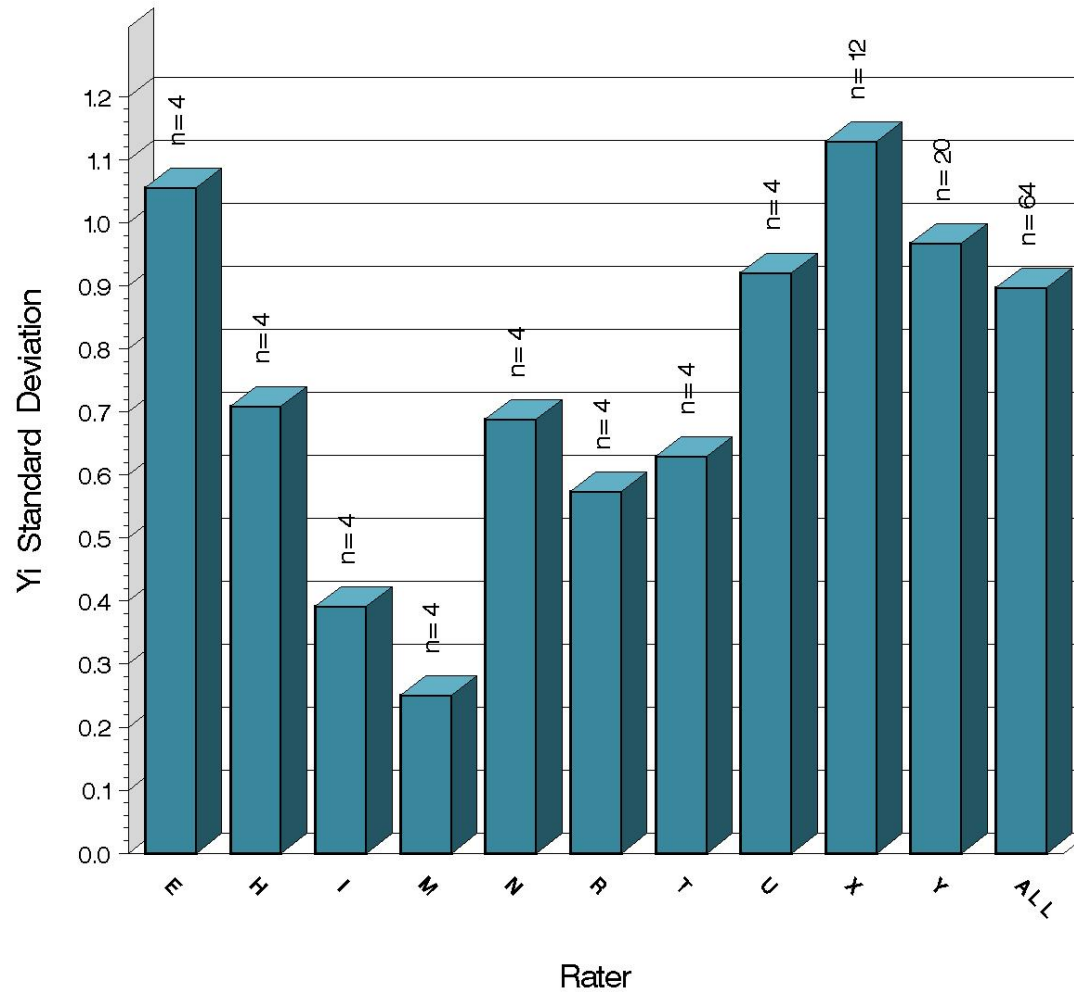


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# L-37 Rater Calibration

## WEAR

Precision as Measured by Yi STD



13:10:44 17NOV2014

# L-37 Rater Calibration

## SUMMARY OF SEVERITY & PRECISION

### Severity

WEAR results were generally mild of target this period. The other parameters all remained within limits.

### Precision

Industry precision for all parameters remained within limits throughout the period.

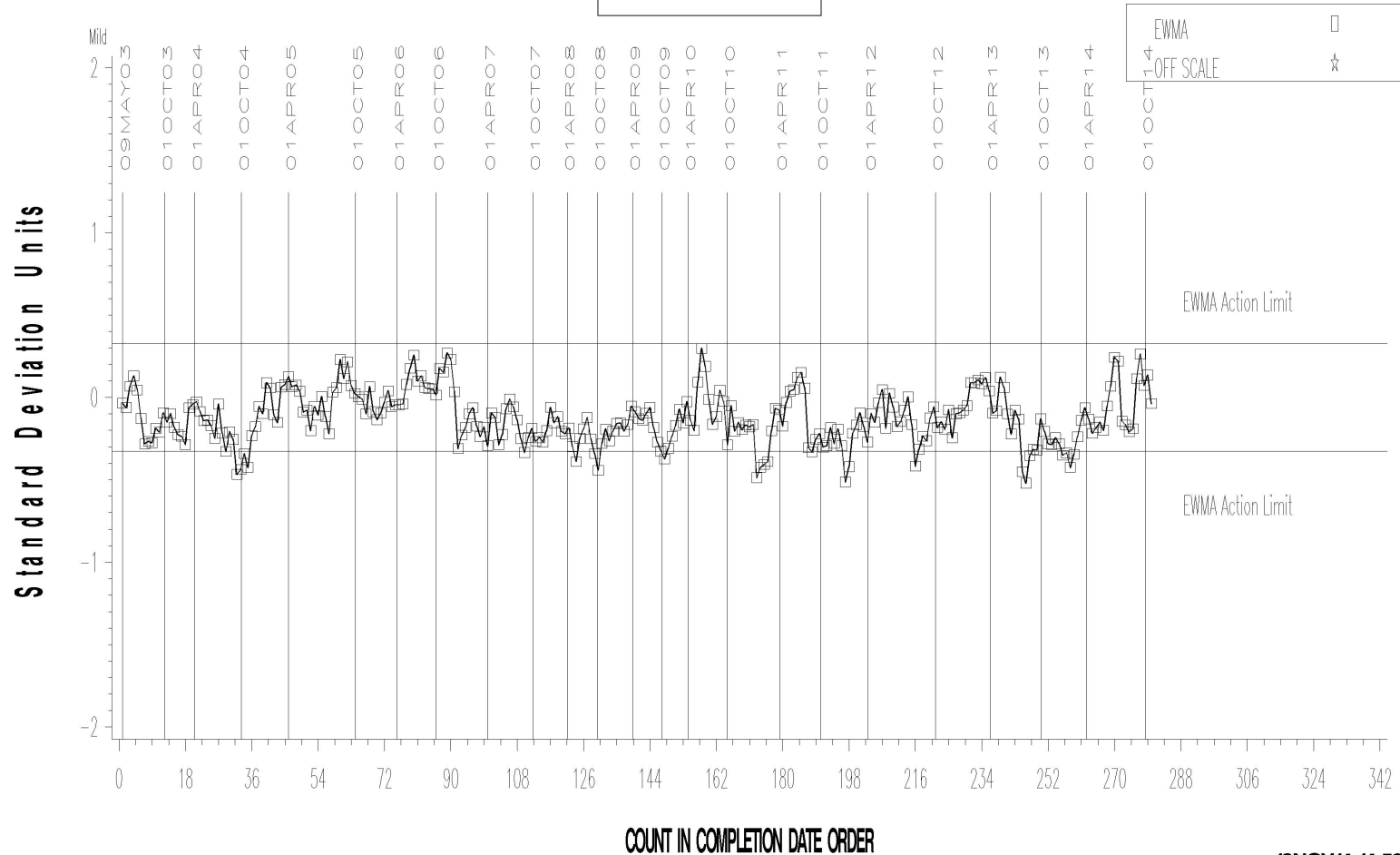
Industry control charts follow.

# L-37 Rater Calibration

L-37 RATER CALIBRATION INDUSTRY OPERATIONALLY VALID DATA

## RIDGING

LTMS Severity Analysis



Severe

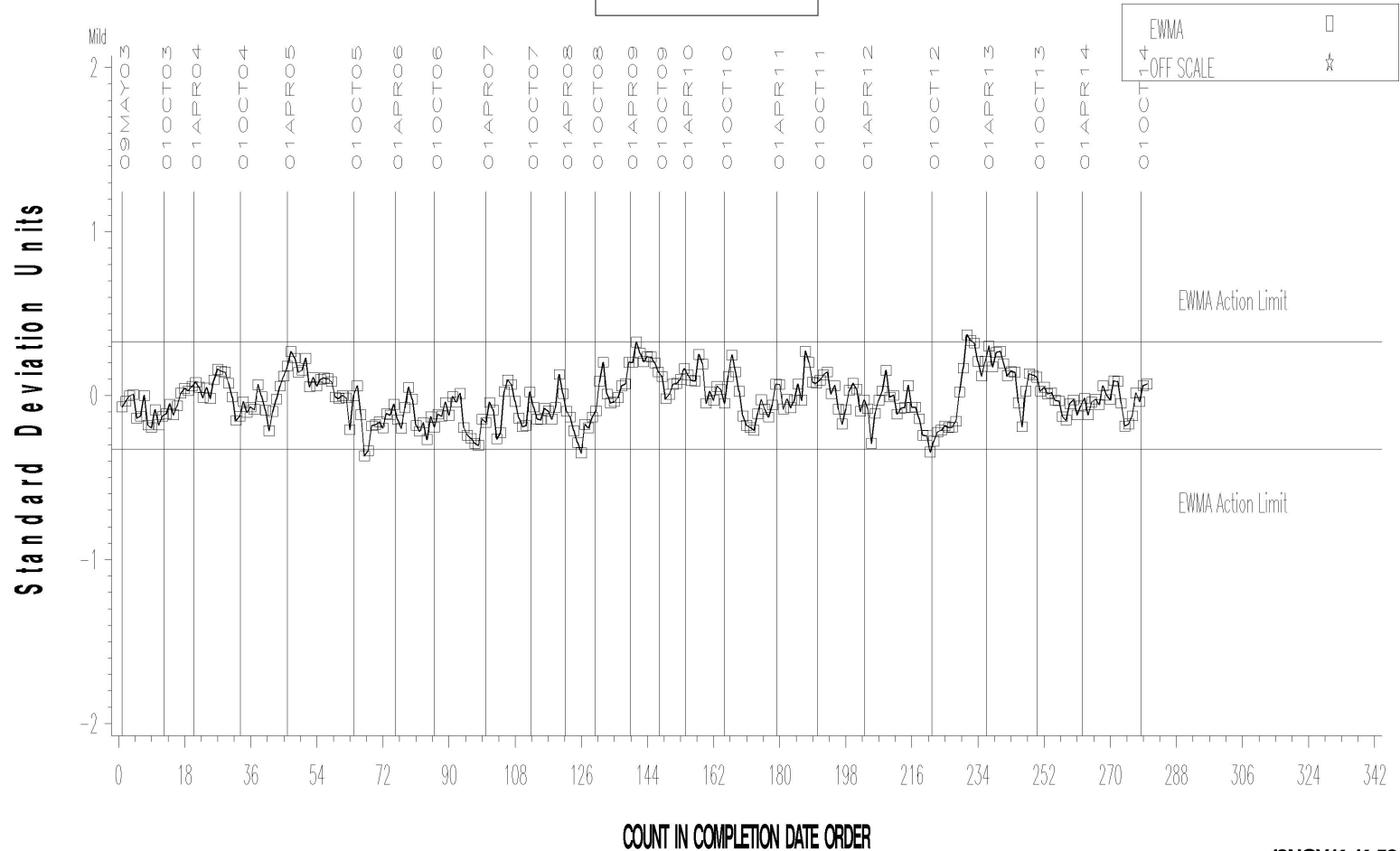
18NOV14:14:59

# L-37 Rater Calibration

L-37 RATER CALIBRATION INDUSTRY OPERATIONALLY VALID DATA

## RIPPLING

### LTMS Severity Analysis



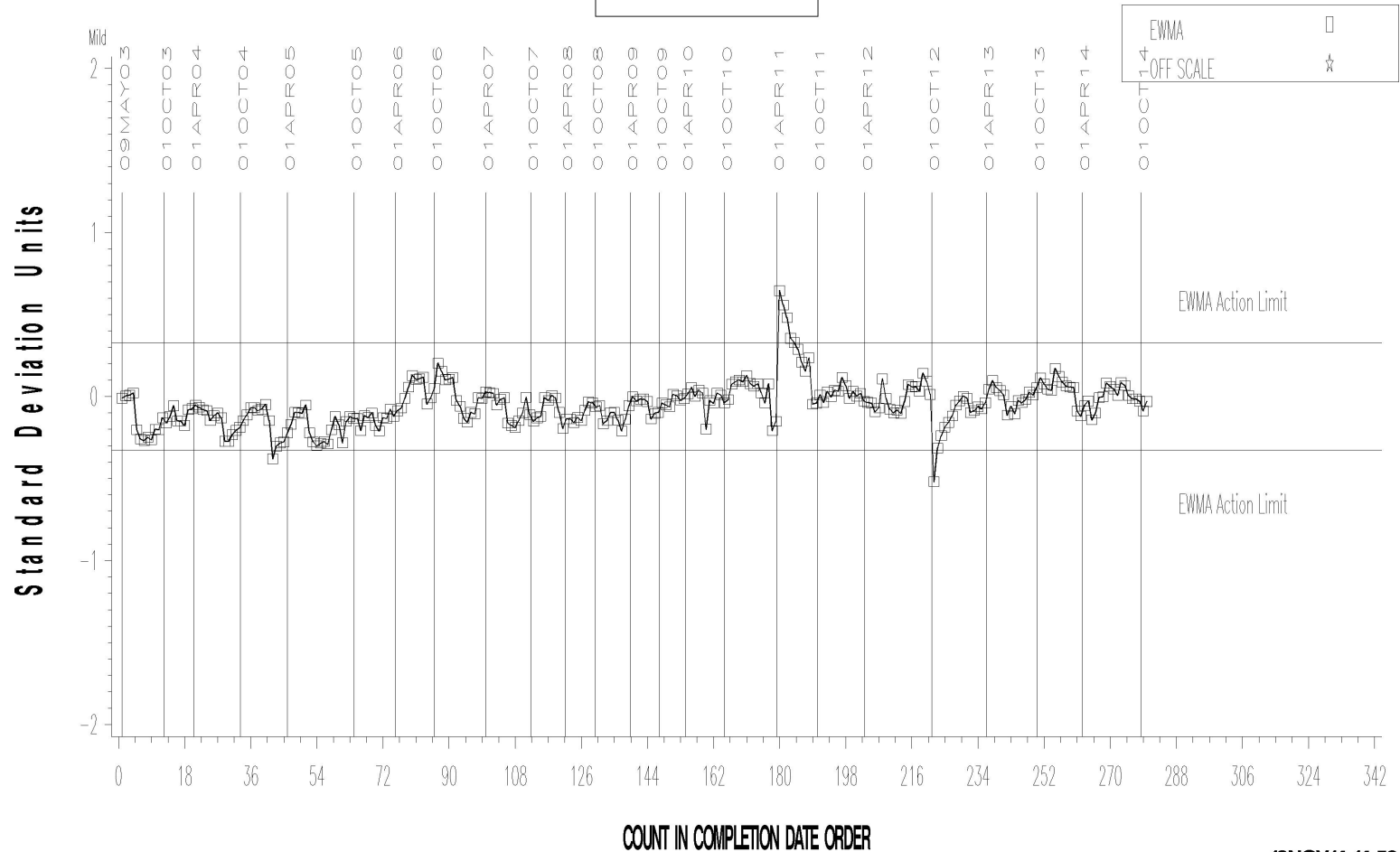
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L-37 RATER CALIBRATION INDUSTRY OPERATIONALLY VALID DATA

## SPITTING

LTMS Severity Analysis



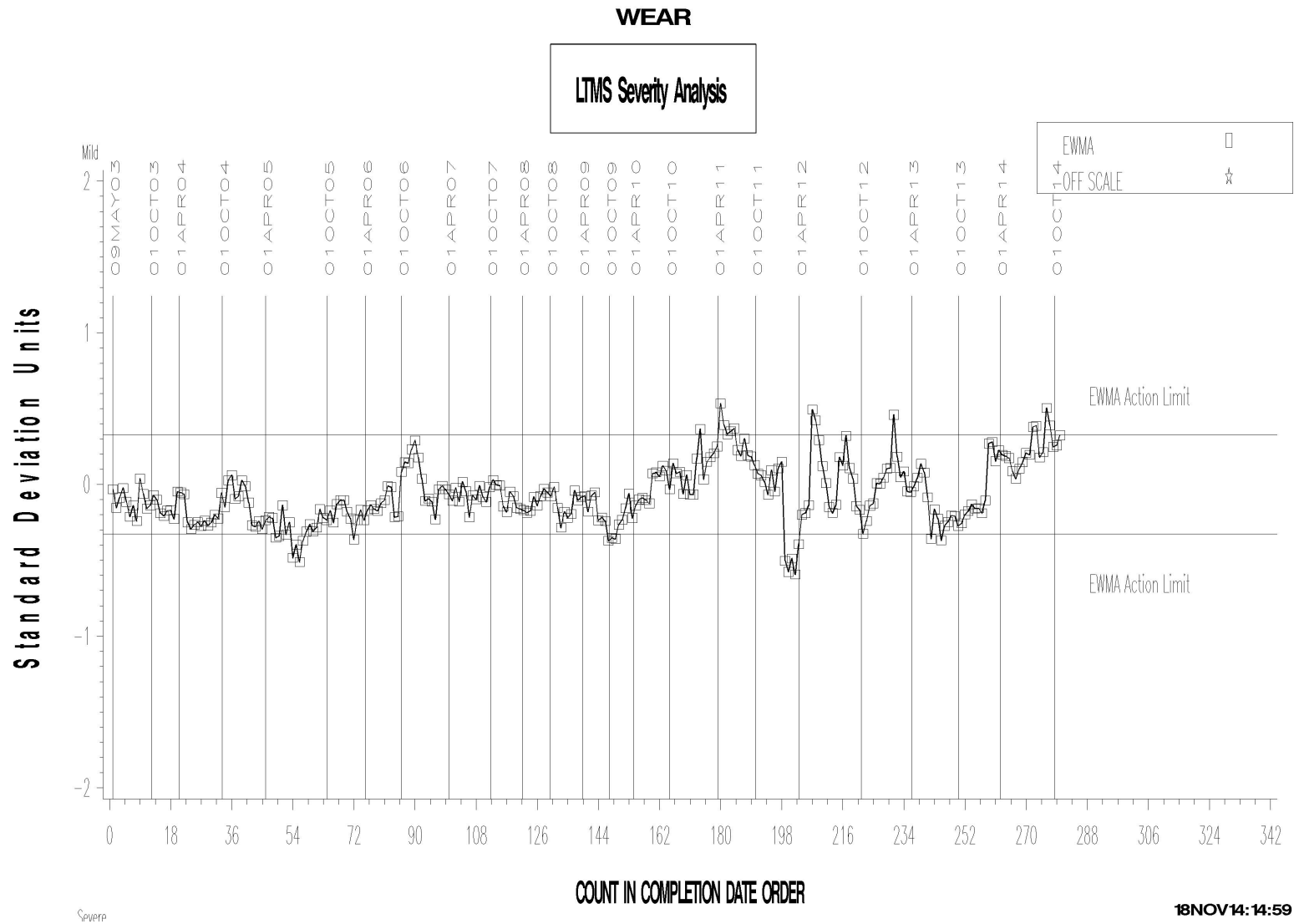
Severe

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# L-37 Rater Calibration

L-37 RATER CALIBRATION INDUSTRY OPERATIONALLY VALID DATA

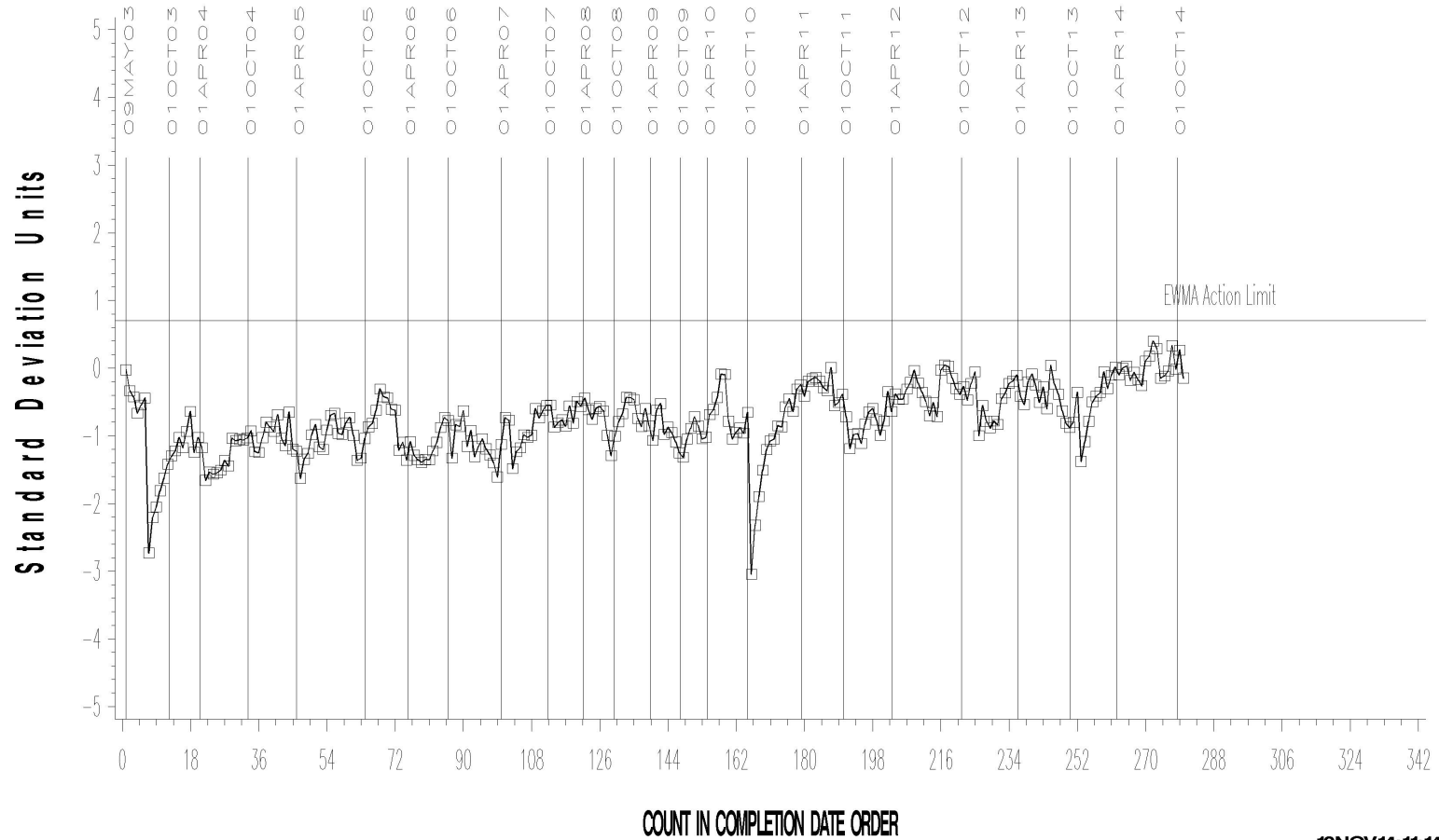


# L-37 Rater Calibration

L-37 RATER CALIBRATION INDUSTRY OPERATIONALLY VALID DATA

RIDGING

LTMS Precision Analysis



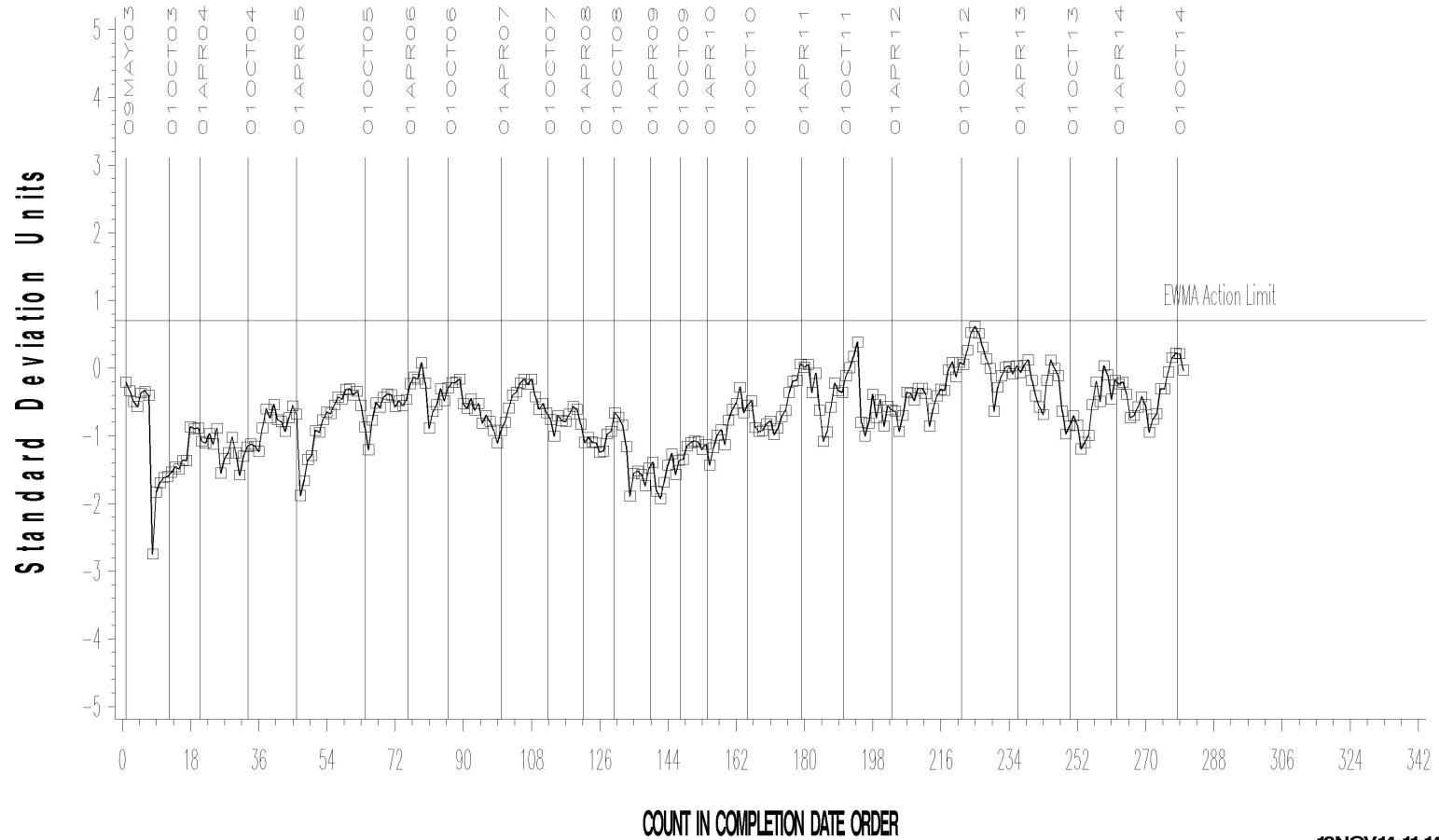
18NOV14: 11: 14

# L-37 Rater Calibration

L-37 RATER CALIBRATION INDUSTRY OPERATIONALLY VALID DATA

RIPPLING

LTMS Precision Analysis



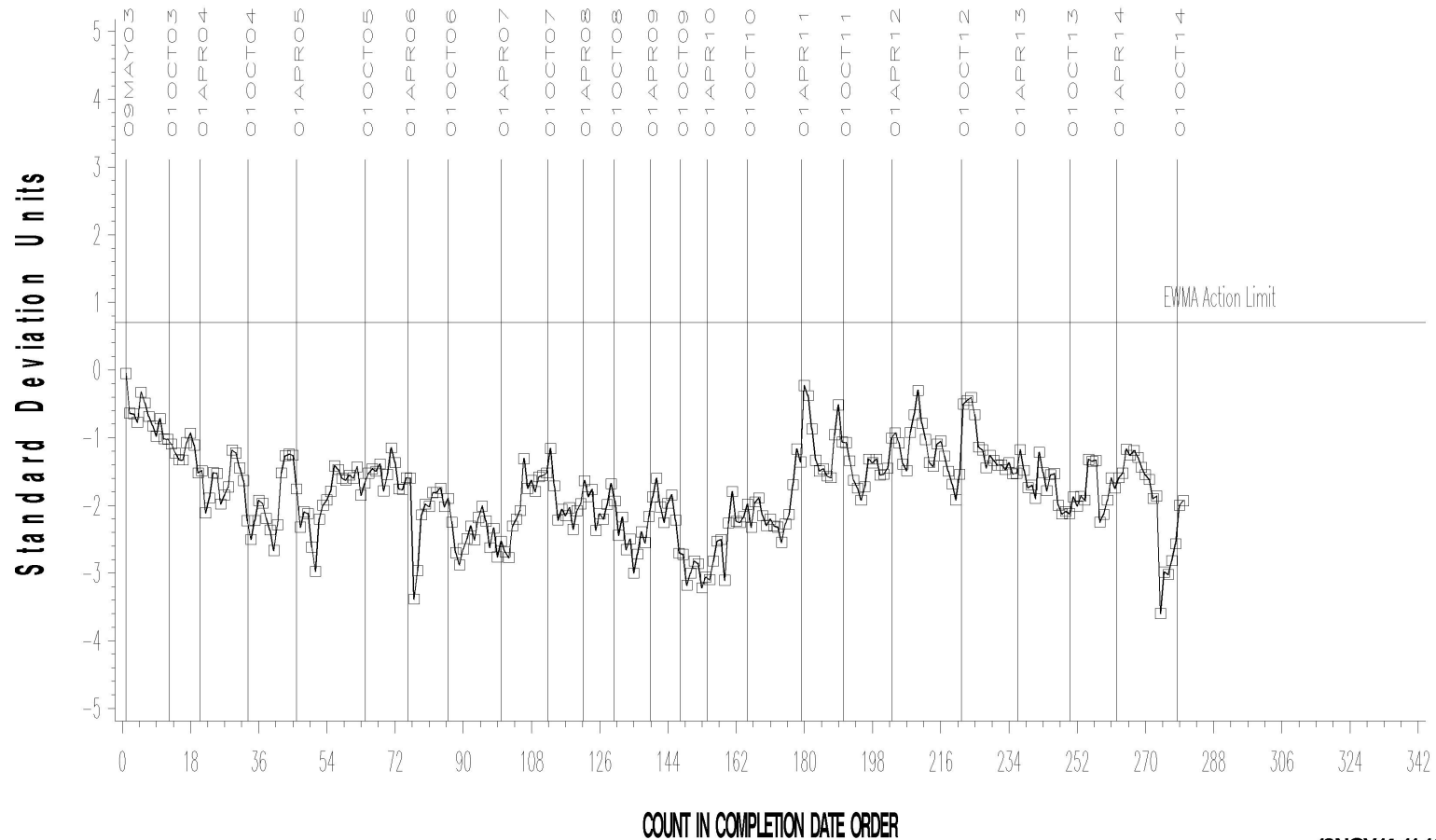
18NOV14: 11: 14

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L-37 RATER CALIBRATION INDUSTRY OPERATIONALLY VALID DATA

SPITTING

LTMS Precision Analysis



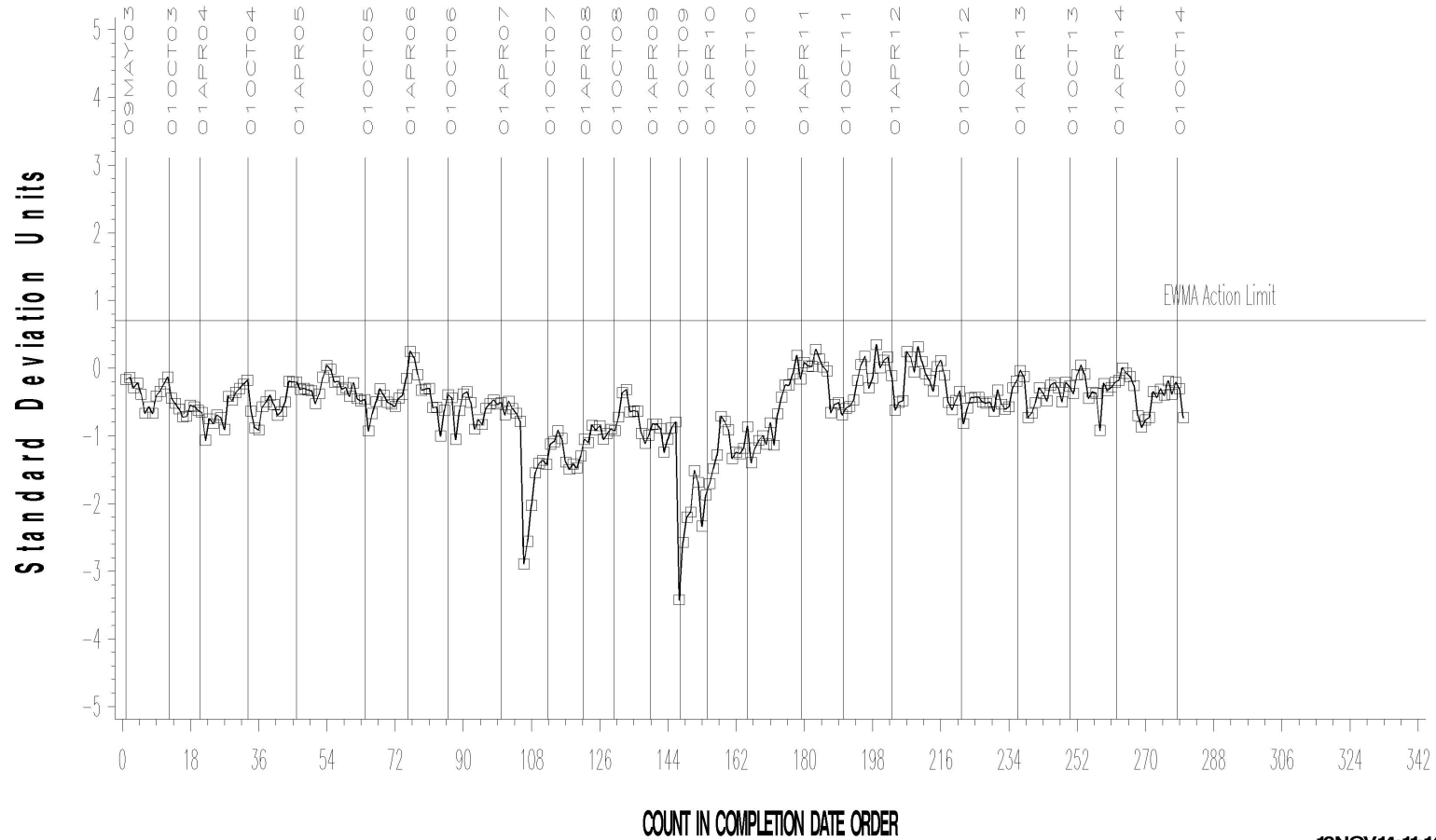
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# L-37 Rater Calibration

L-37 RATER CALIBRATION INDUSTRY OPERATIONALLY VALID DATA

WEAR

LTMS Precision Analysis



18NOV14: 11: 14

# L-37 Rater Calibration

L-37 RATER CALIBRATION INDUSTRY OPERATIONALLY VALID DATA

RIDGING

CUSUM Severity Analysis



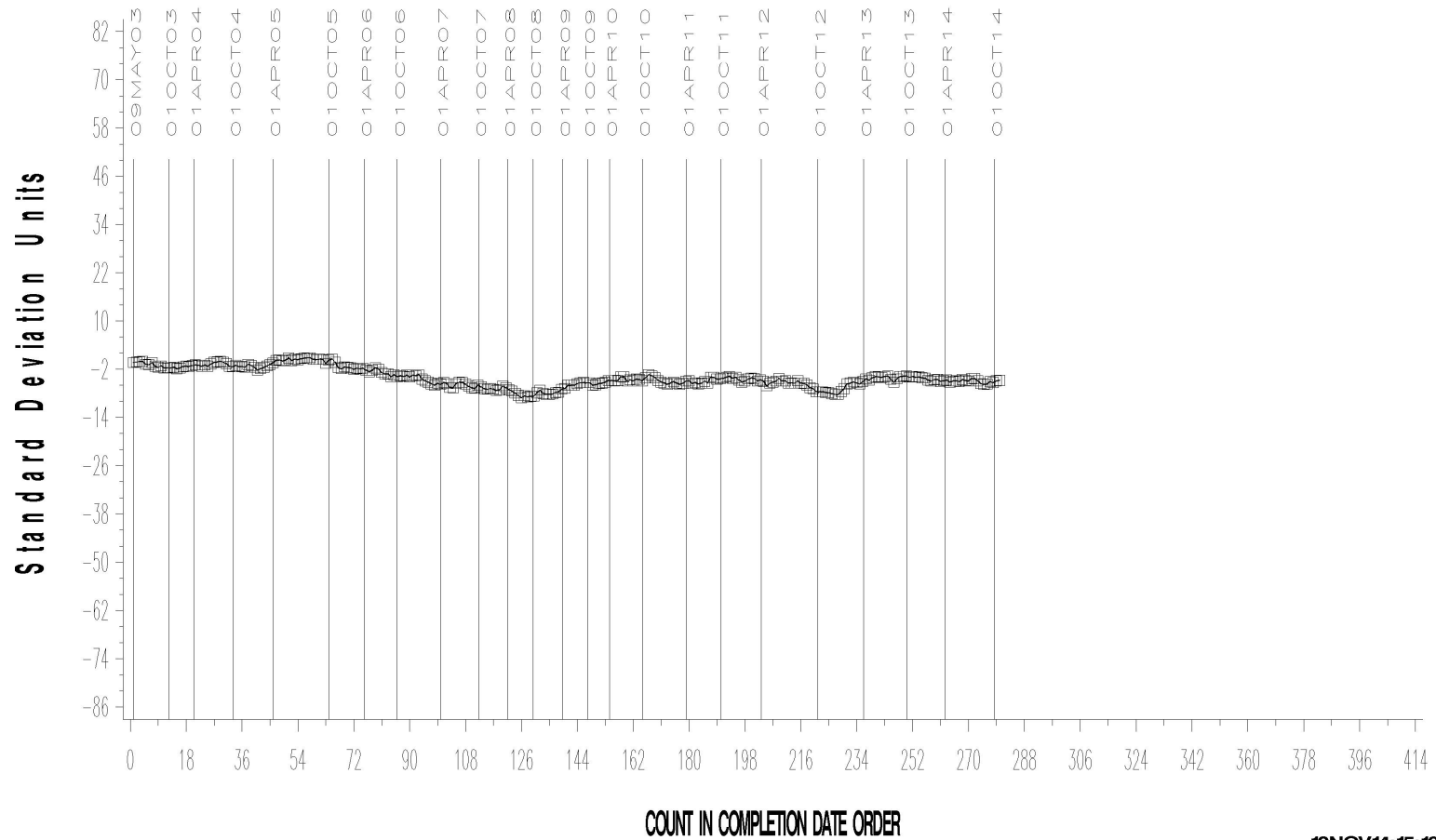
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# L-37 Rater Calibration

L-37 RATER CALIBRATION INDUSTRY OPERATIONALLY VALID DATA

## RIPPLING

CUSUM Severity Analysis



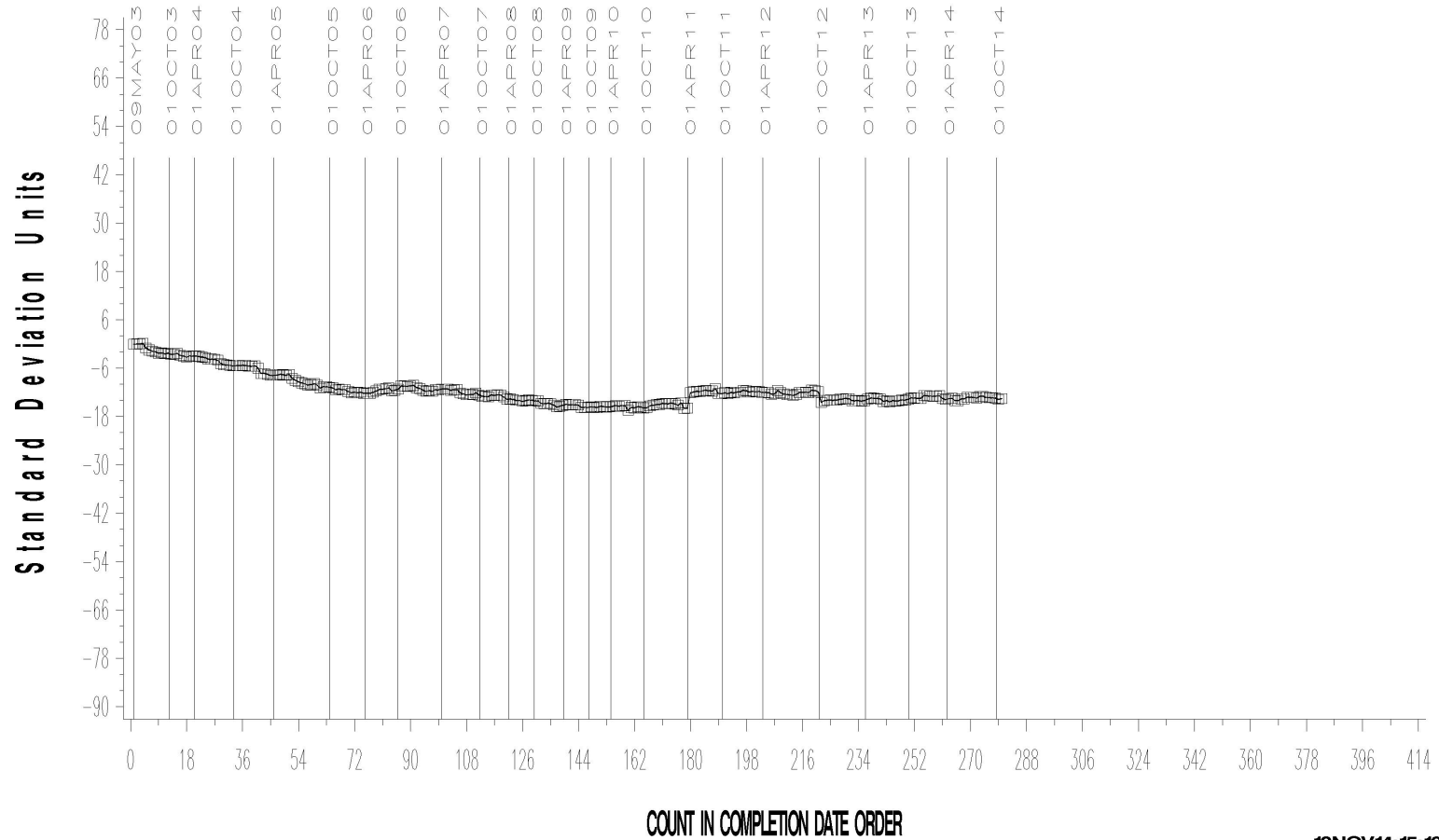
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# L-37 Rater Calibration

L-37 RATER CALIBRATION INDUSTRY OPERATIONALLY VALID DATA

SPITTING

CUSUM Severity Analysis



18NOV14:15:10

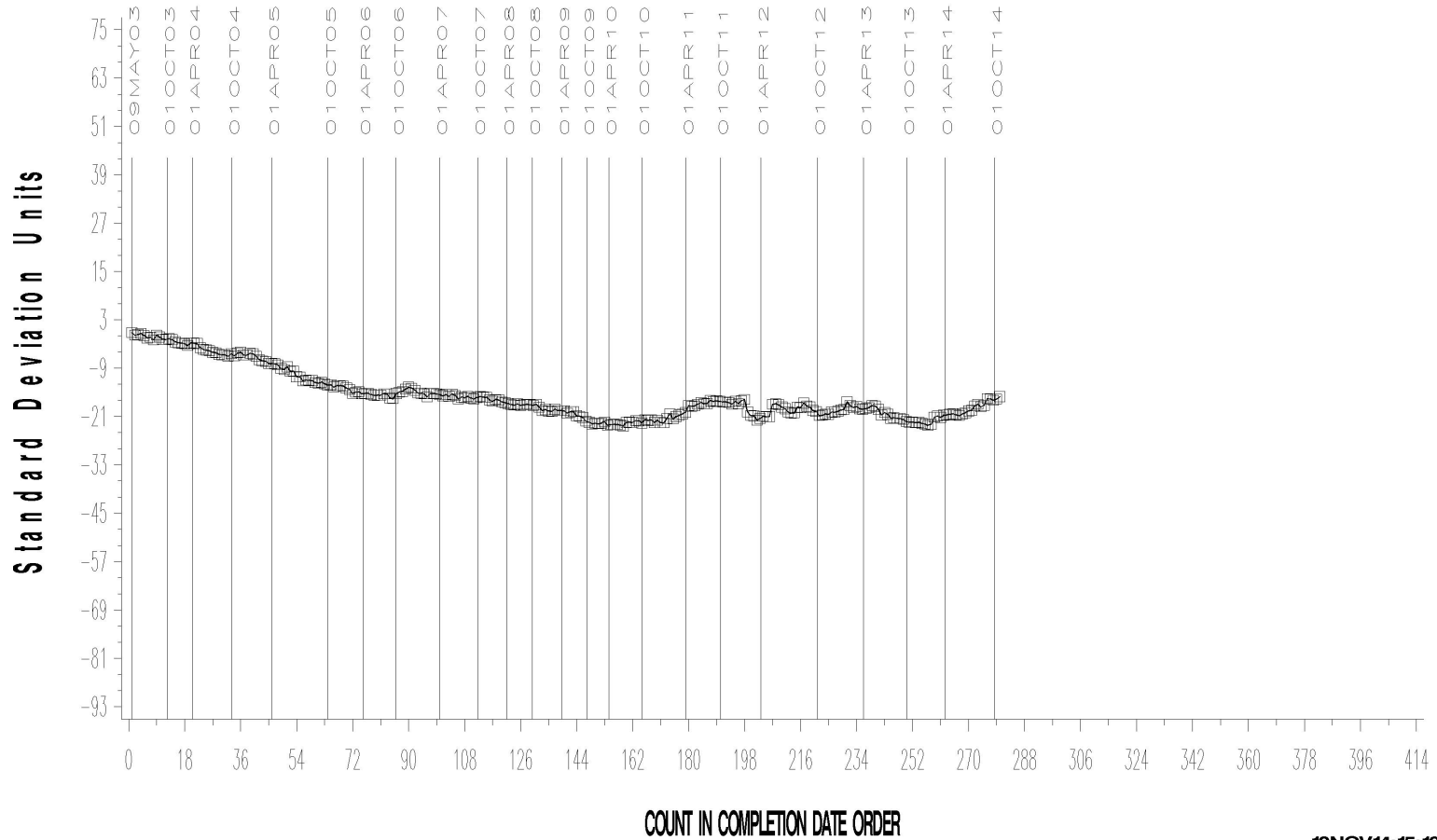


# L-37 Rater Calibration

L-37 RATER CALIBRATION INDUSTRY OPERATIONALLY VALID DATA

WEAR

CUSUM Severity Analysis



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