Test Monitoring Center

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

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

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MEMORANDUM: 13-061

DATE: November 14, 2013

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

FROM: Scott Parke

SUBJECT: L-37 Rater Calibration from April 1, 2013 through September 30, 2013

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

SDP/sdp/mem13-061.sdp.doc
cc: Frank Farber
        Jeff Clark
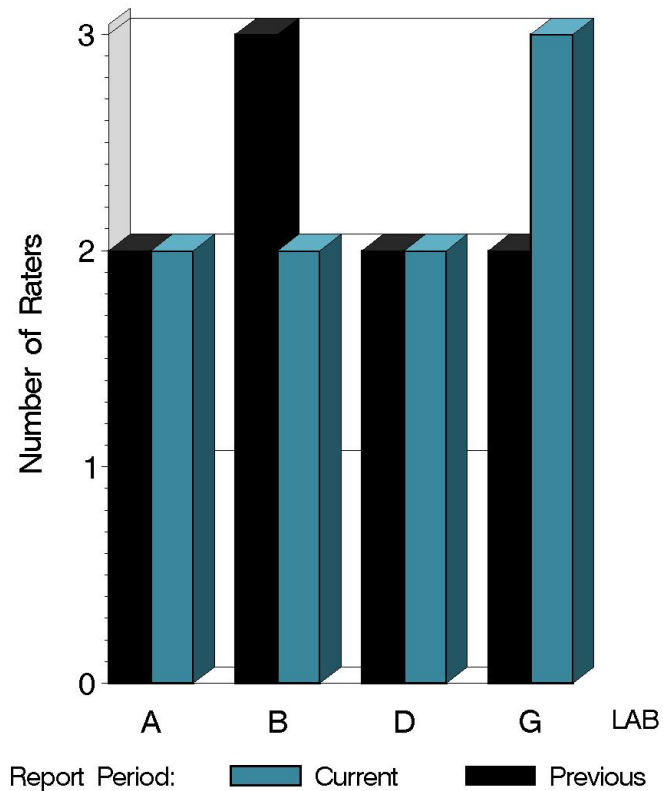   L-37 Surveillance Panel
        ftp://ftp.astmtmc.cmu.edu/docs/gear/l37rc/semiannualreports/l37rc-10-2013.pdf

Distribution: email

L-37 Rater Calibration

	Reporting Data	Calibrated on 9-30-13
Number of Labs	4	4
Number of Raters	9	9

BY—LAB RATER
DISTRIBUTION

Report Period: ▮ Current   ▮ Previous

13:46:36 12NOV2013

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L-37 Rater Calibration

Test Distribution by Validity

		Totals	
		Last Period	This Period
Accepted for calibration	AC	11	11
Rejected (Mild)	OC	1	1
Rejected (Severe)	OC	2	1
Rejected (Multiple)	OC	0	1
Rejected (Precision)	OC	1	0
Workshop data	AG	27	18
Total		42	32

L-37 Rater Calibration

FAILED TESTS
(by Parameter)

Mutiple
1
33.33%

WEAR
1
33.33%
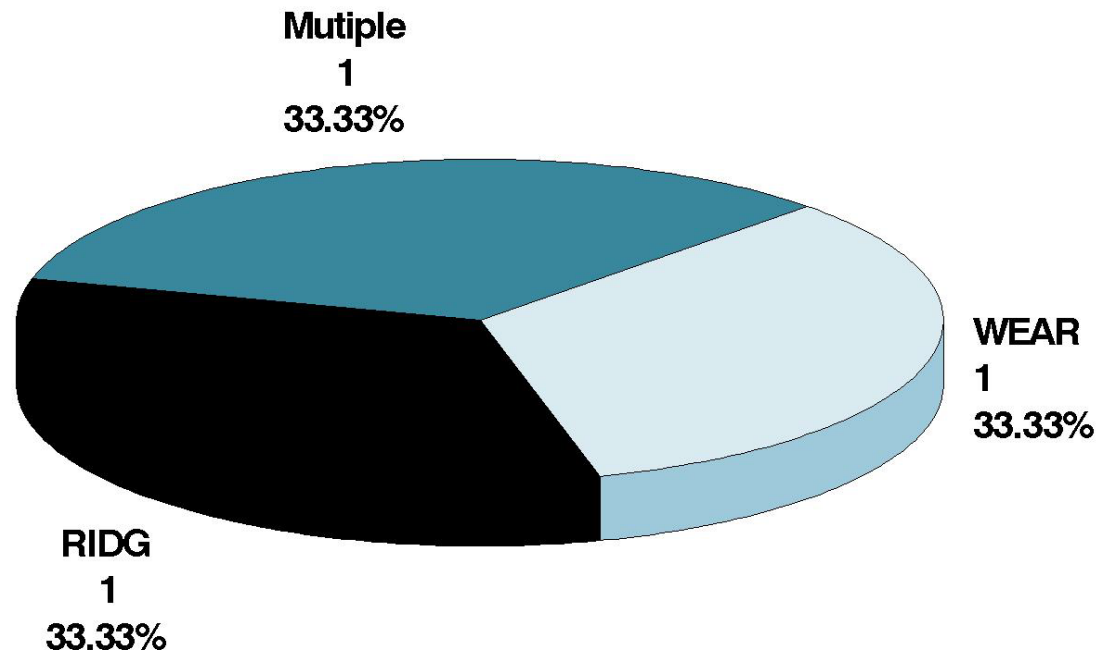
RIDG
1
33.33%

L-37 Rater Calibration

FAILED TESTS
(by Alarm Type)

Yi Severe
2
66.67%

Yi Mild
1
33.33%

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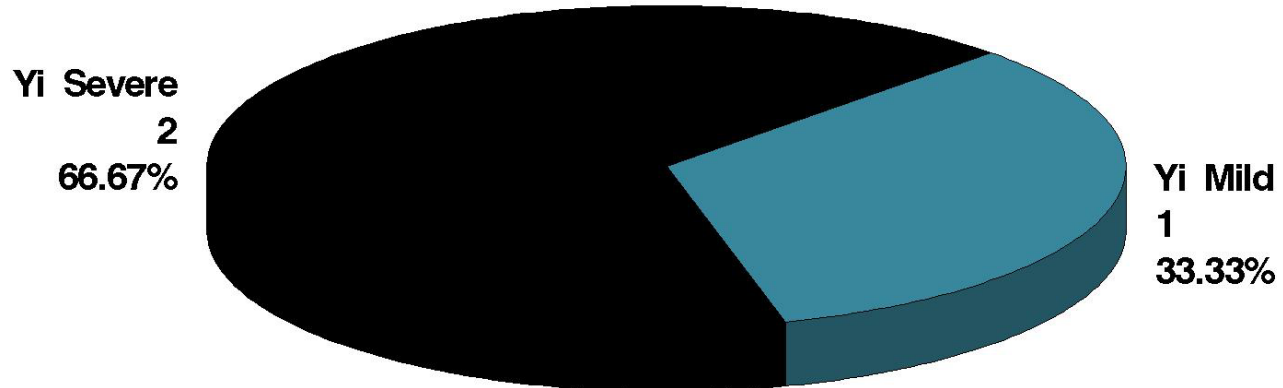
L-37 Rater Calibration

Rater	N	RIDG Avg Yi	RIDG STD*	RIPP Avg Yi	RIPP STD*	SPIT Avg Yi	SPIT STD*	WEAR Avg Yi	WEAR STD*
E	4	0.632	0.487	0.065	0.695	0.241	0.278	-0.533	0.653
H	4	-0.016	0.509	-0.329	1.045	0.304	0.225	0.263	0.655
I	4	-0.746	0.533	-0.103	0.439	-0.098	0.226	-0.740	0.883
M	8	-0.108	1.011	0.038	0.488	-0.226	1.214	-0.418	1.375
N	8	0.375	1.297	0.458	0.748	-0.075	0.296	0.177	0.579
R	4	-0.338	0.393	0.089	0.270	-0.062	0.327	-0.215	1.311
T	4	-0.162	0.379	0.556	0.221	0.198	0.231	-0.042	0.438
U	8	-0.720	0.382	-0.052	0.984	0.143	0.704	0.130	0.899
X	12	-0.585	1.797	0.079	1.562	0.026	0.427	-0.520	0.816
ALL	56	-0.235	1.124	0.100	0.933	0.025	0.585	-0.218	0.908

* 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
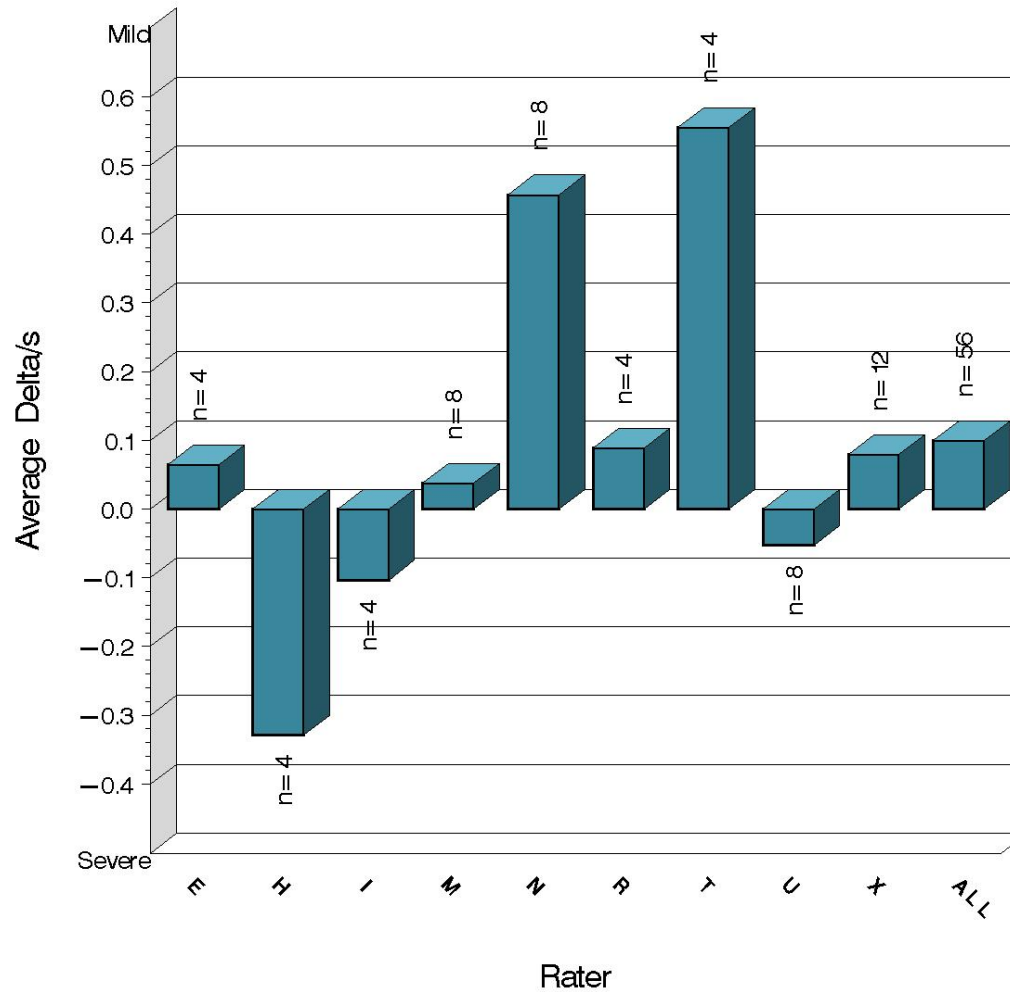### Severity as Measured by Delta/s

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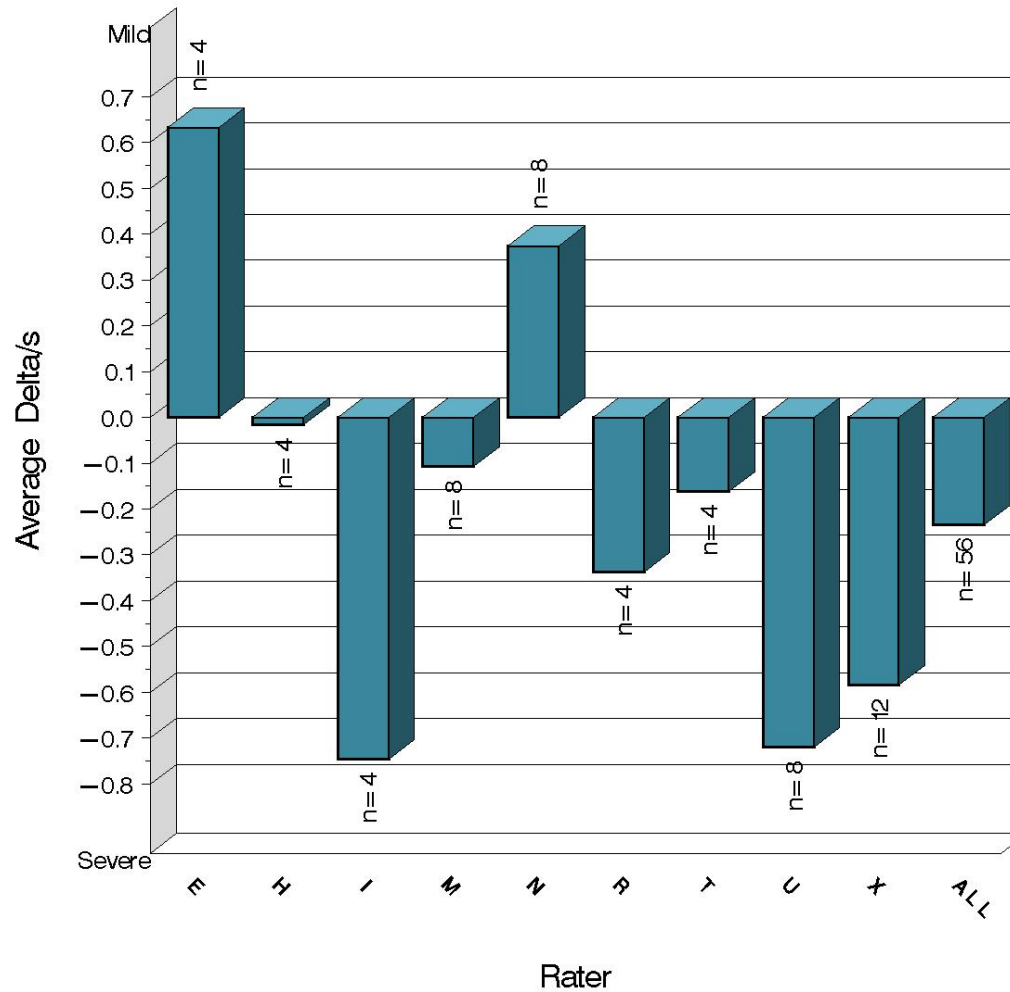
L-37 Rater Calibration

RIPPLING
Severity as Measured by Delta/s

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L-37 Rater Calibration

WEAR
Severity as Measured by Delta/s

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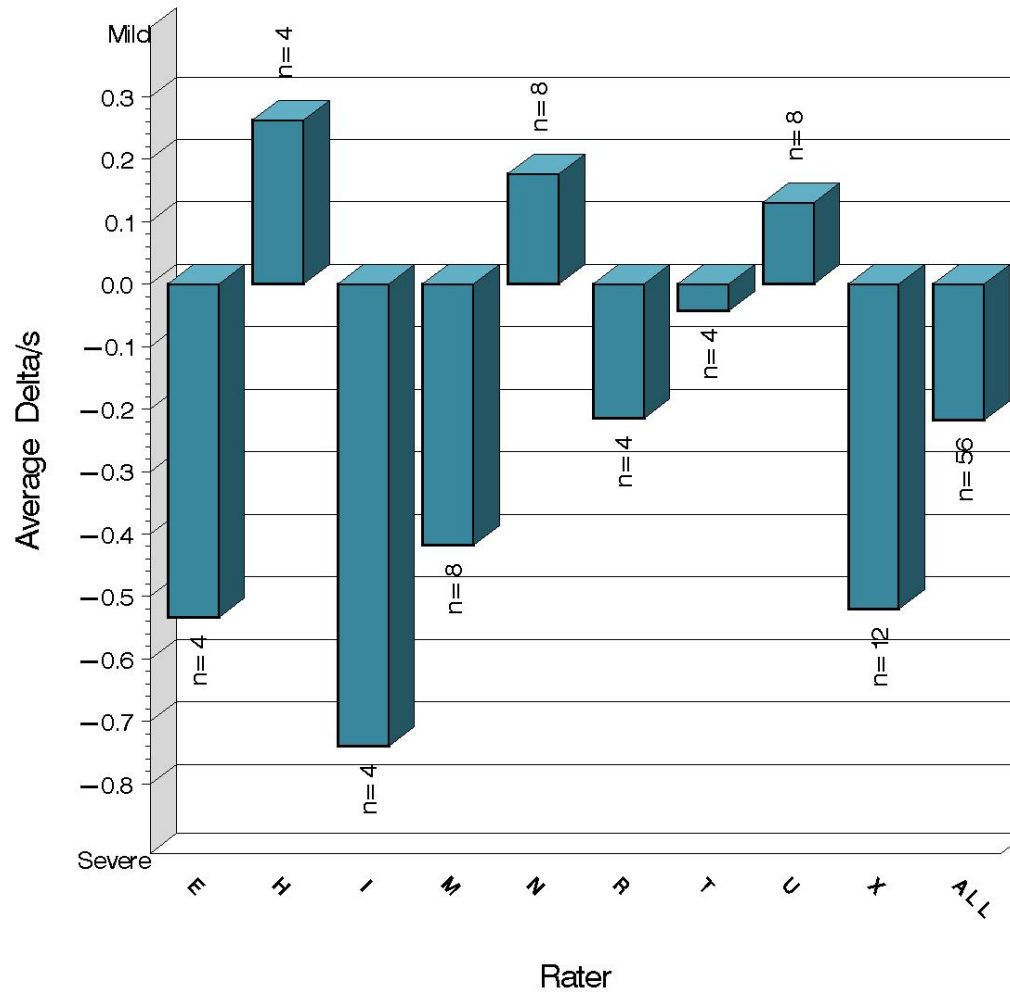
L-37 Rater Calibration

RIDGING

Precision as Measured by Yi STD

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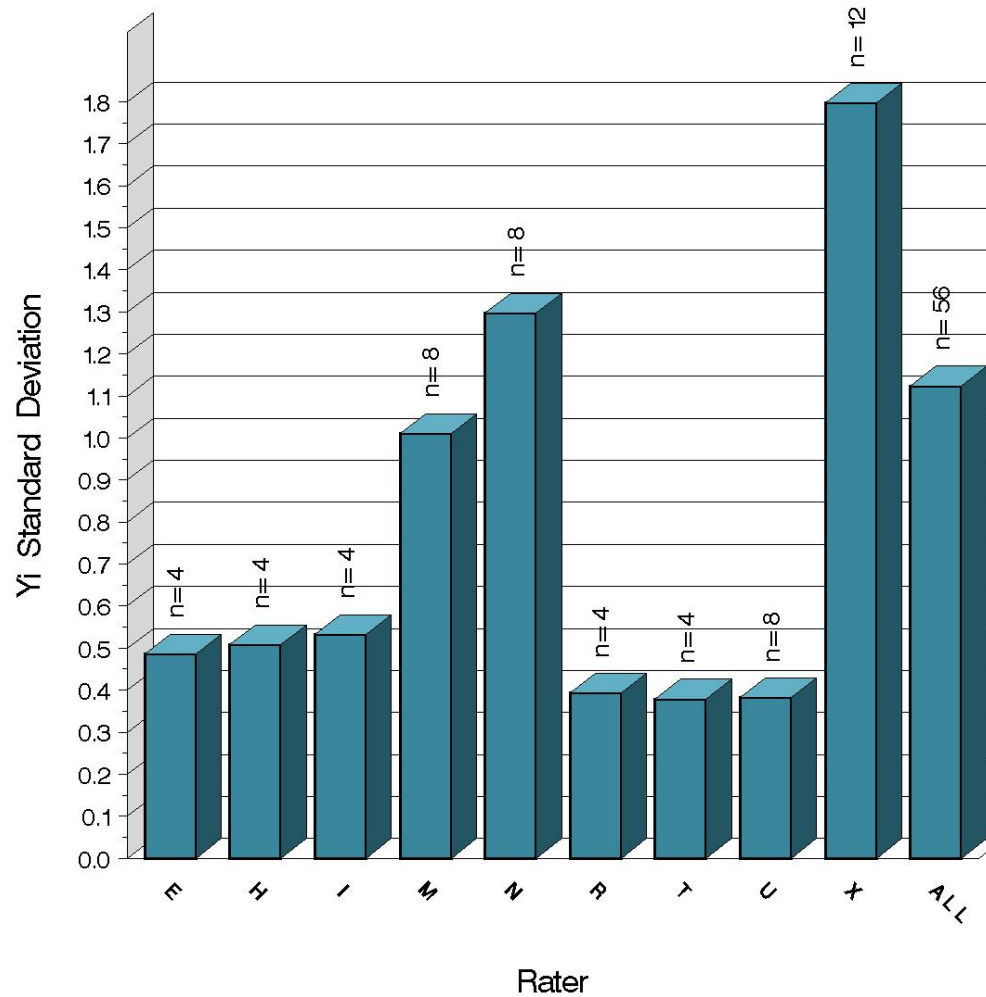
L-37 Rater Calibration

RIPPLING

Precision as Measured by Yi STD

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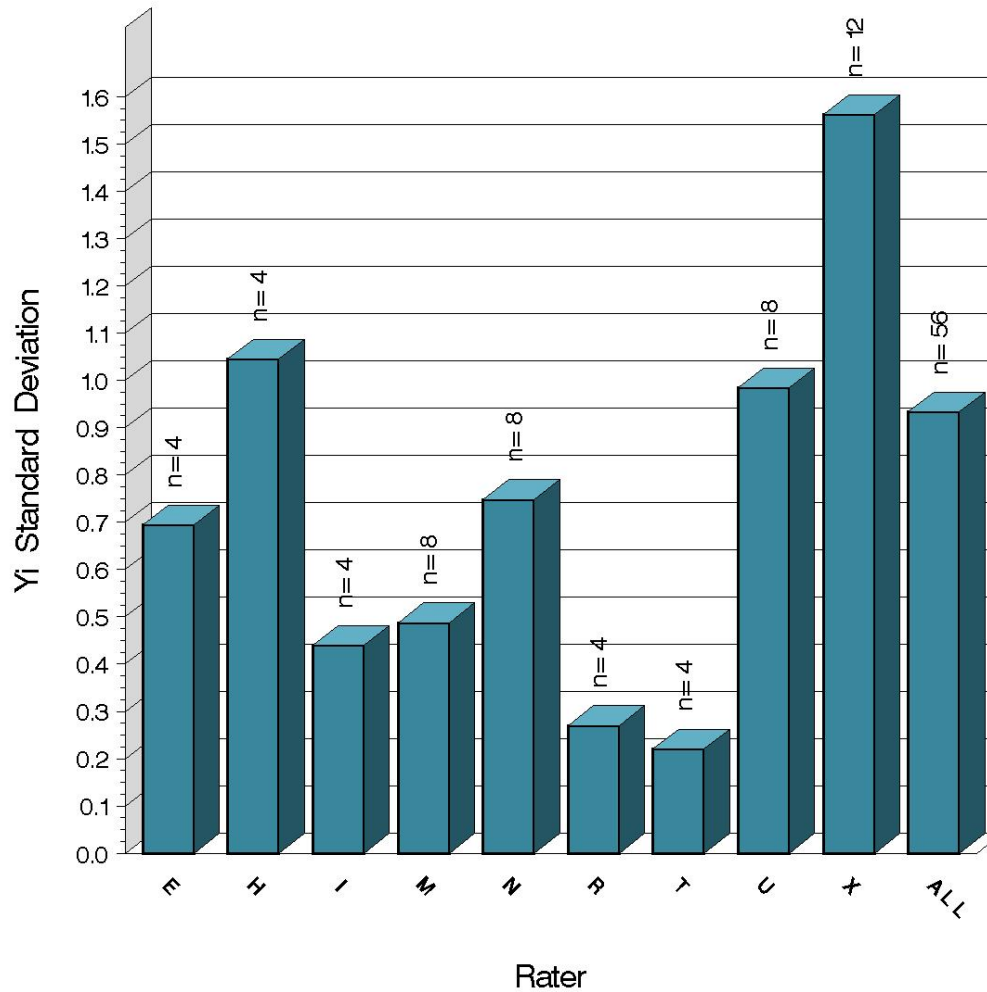
L-37 Rater Calibration

SPITTING

Precision as Measured by Yi STD

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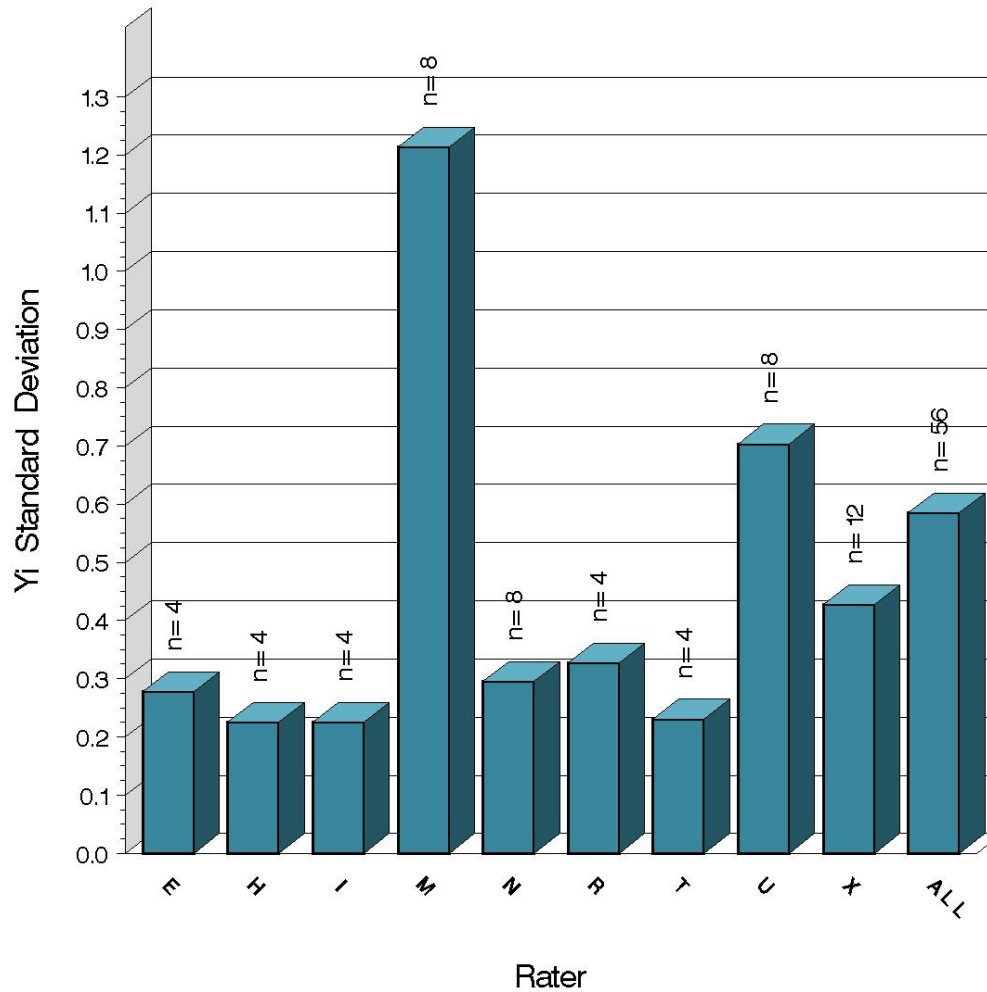
L-37 Rater Calibration

WEAR
Precision as Measured by Yi STD

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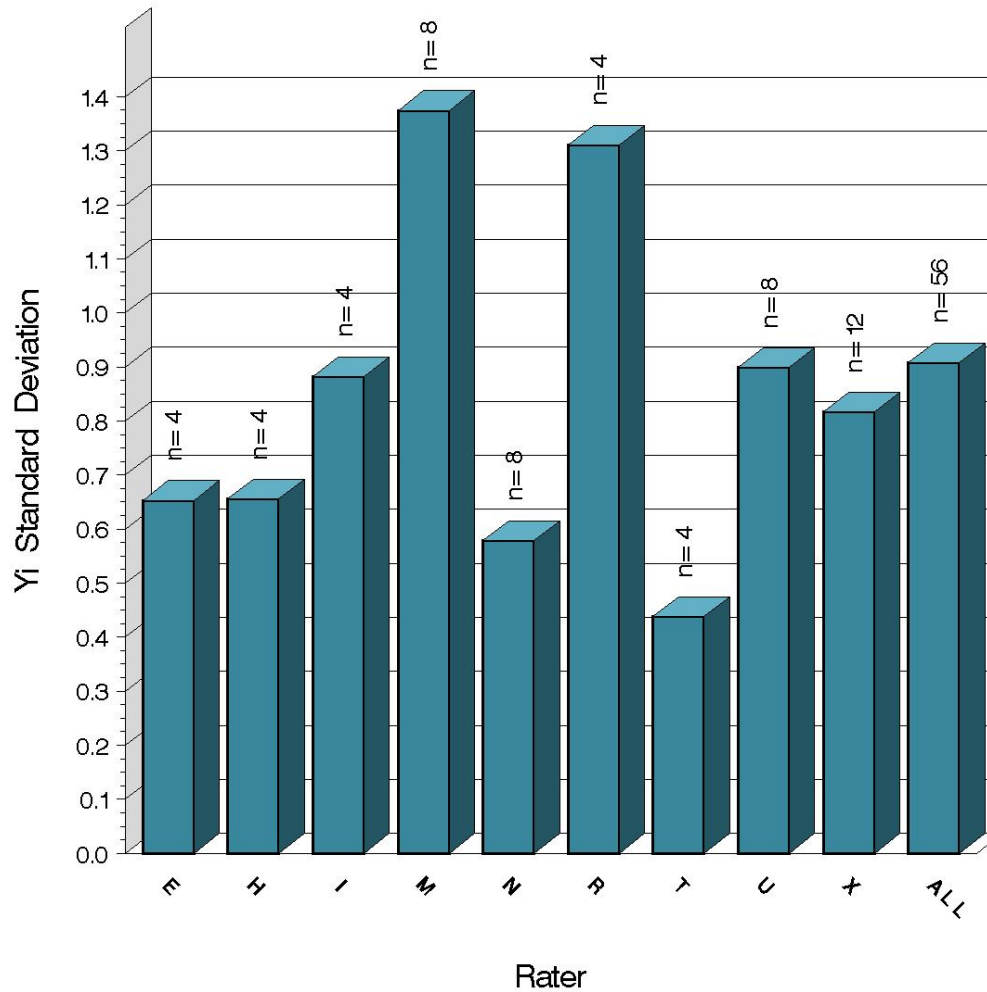
L-37 Rater Calibration

SUMMARY OF SEVERITY & PRECISION

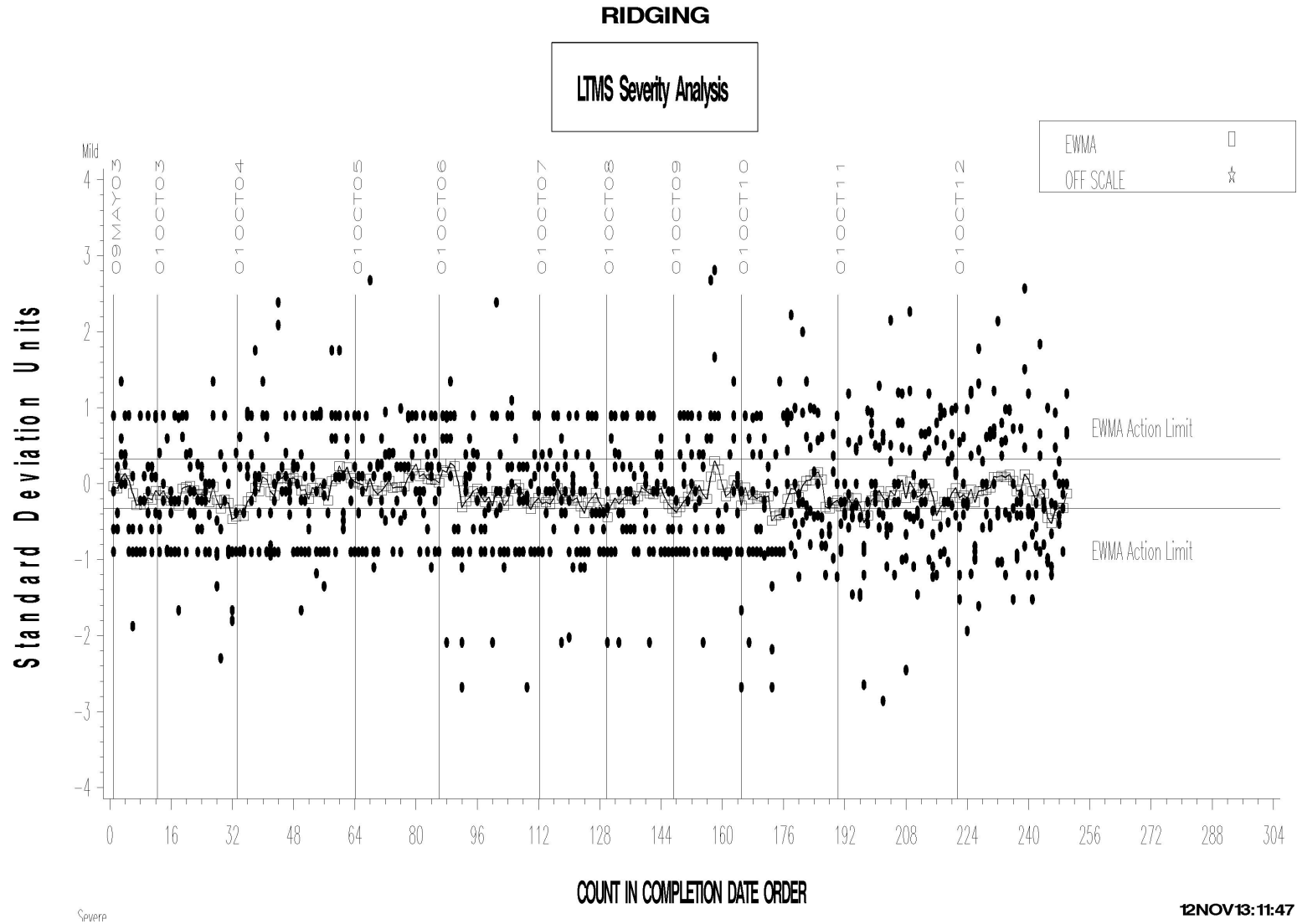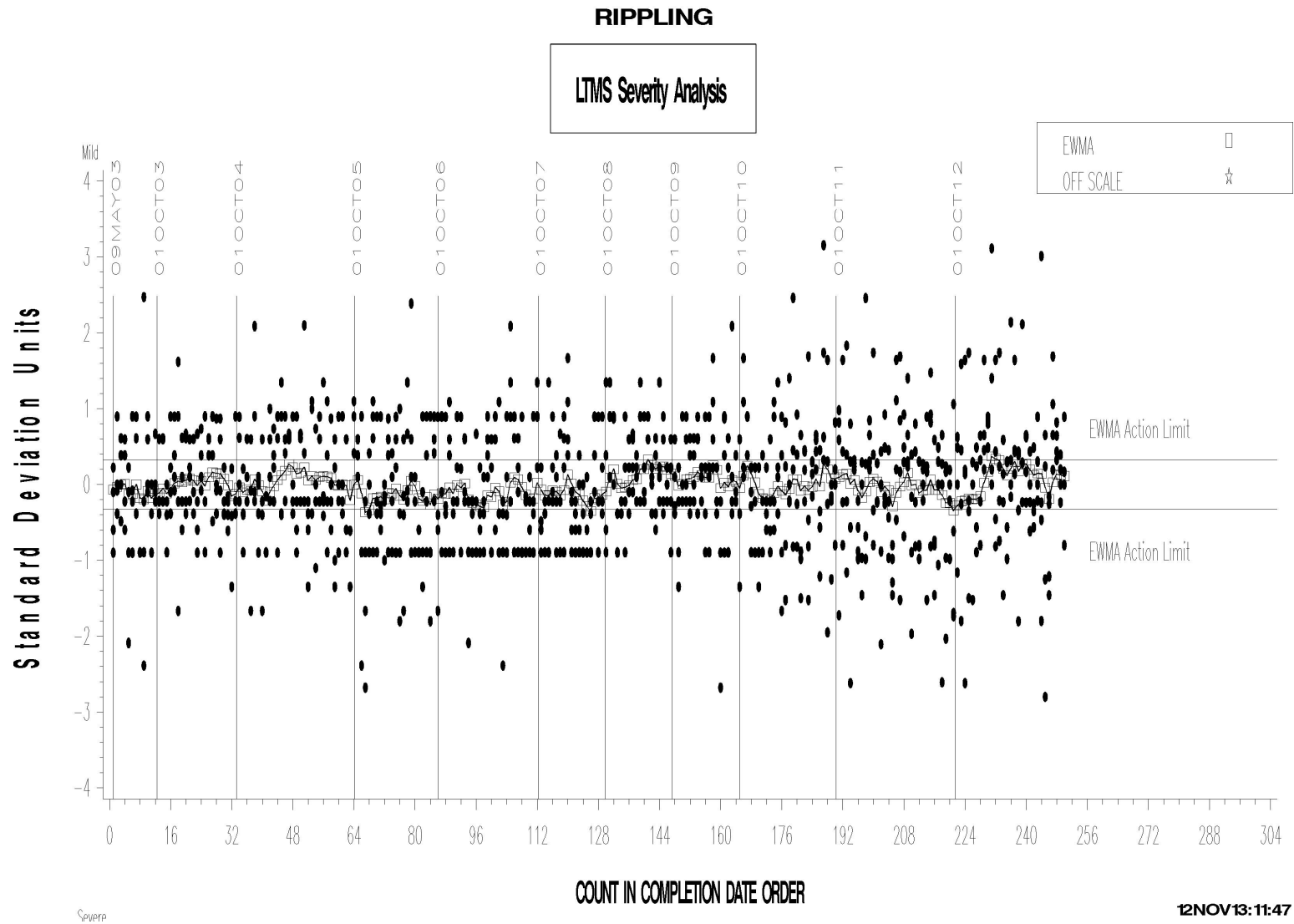| Severity |
|---|
| Two severe RIDG results this period drove the industry chart over the action alarm limit. The several tests since then have returned to target. RIPP, SPIT, and WEAR were generally on target. |
| **Precision** |
| The March 2011 target update generally reduced the target standard deviations. This accounts for the increase in variability shown in testing seen since then. Despite this, industry precision for all parameters remains good. |

Industry control charts follow.

L-37 Rater Calibration

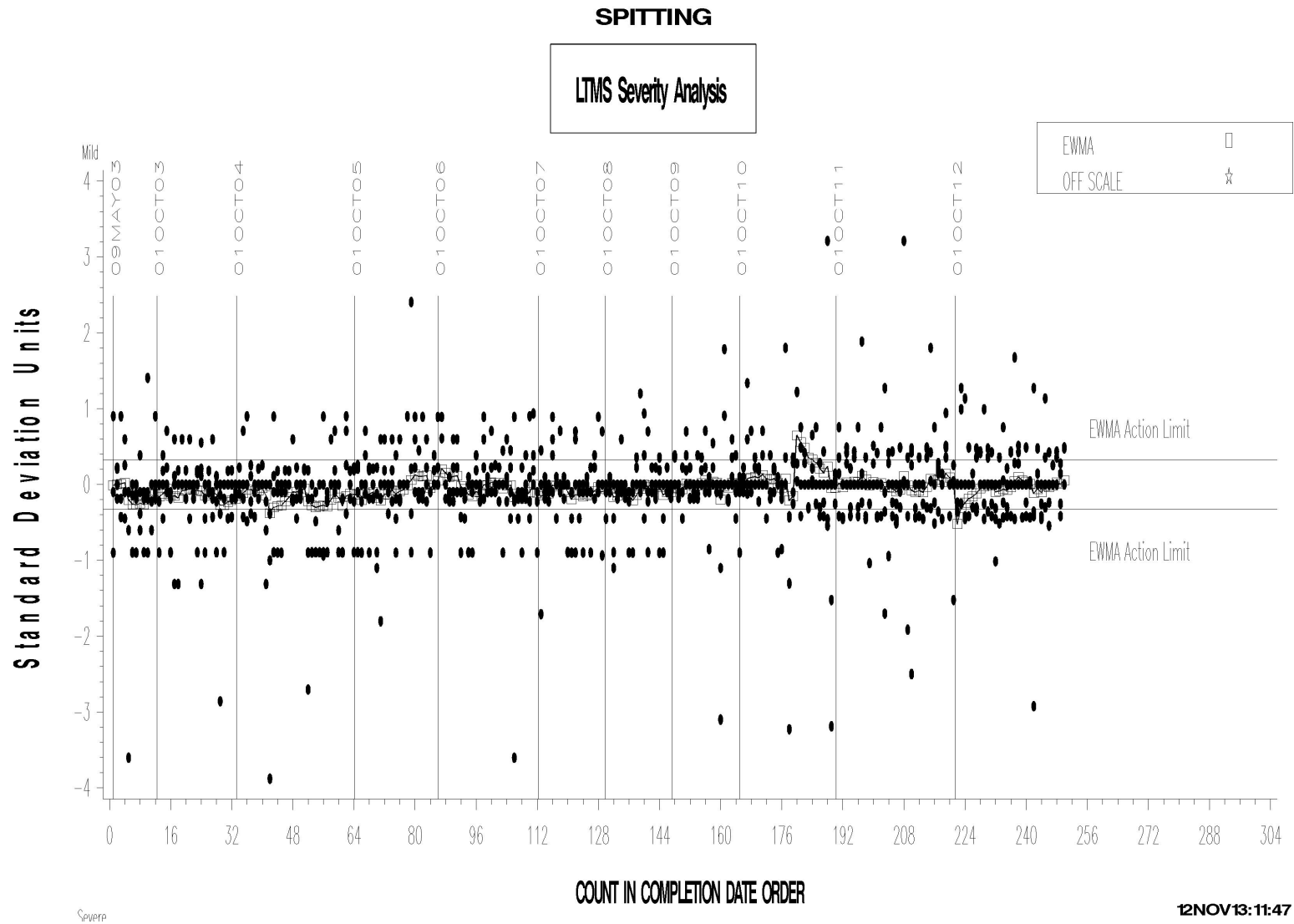**L—37 RATER CALIBRATION INDUSTRY OPERATIONALLY VALID DATA**

RIDGING

LTMS Severity Analysis

COUNT IN COMPLETION DATE ORDER

12NOV13:11:47

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L-37 Rater Calibration

L—37 RATER CALIBRATION INDUSTRY OPERATIONALLY VALID DATA

RIPPLING

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L-37 Rater Calibration

L—37 RATER CALIBRATION INDUSTRY OPERATIONALLY VALID DATA

SPITTING

LTMS Severity Analysis

L-37 Rater Calibration
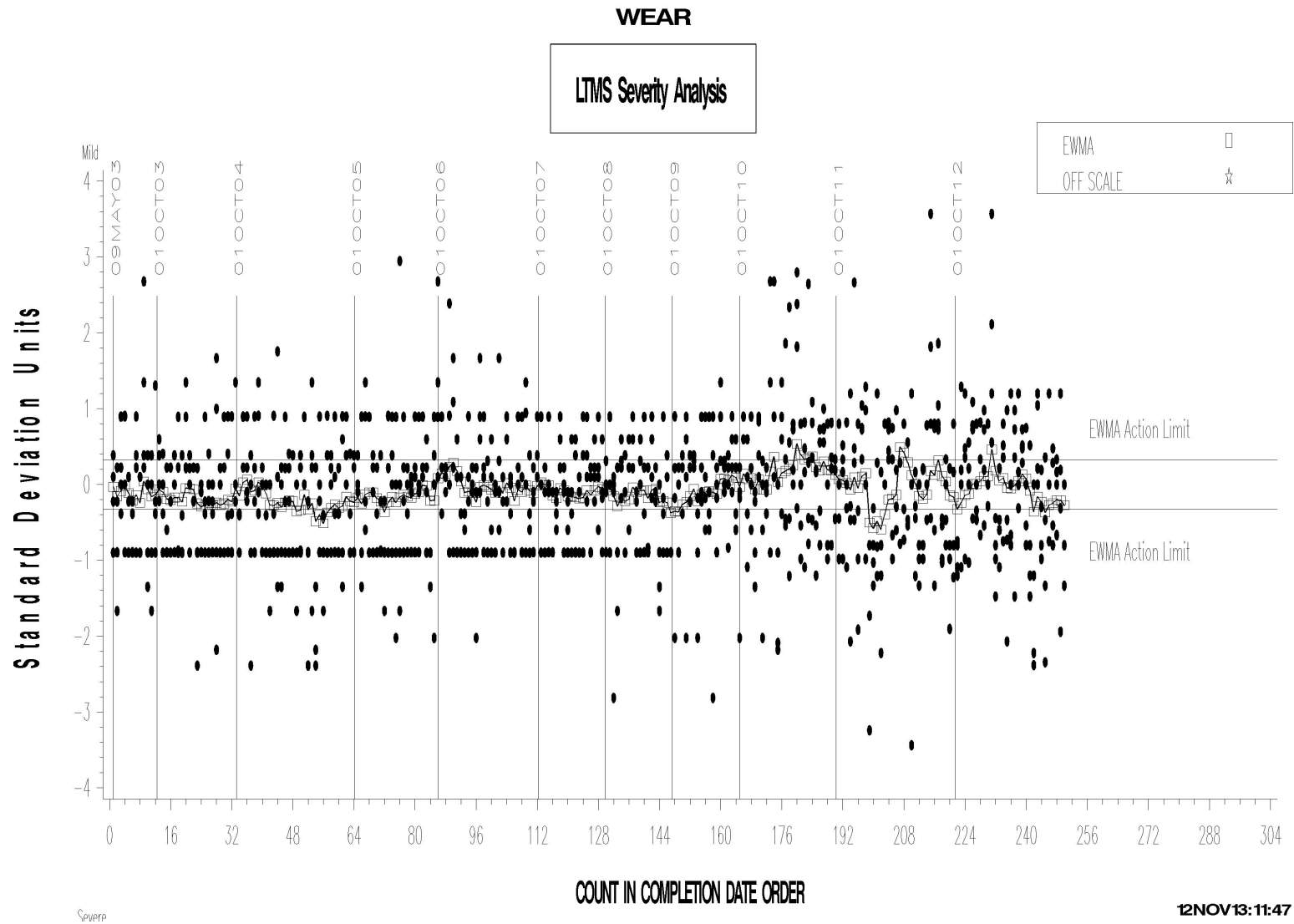
L-37 Rater Calibration

L—37 RATER CALIBRATION INDUSTRY OPERATIONALLY VALID DATA

RIDGING

LTMS Precision Analysis
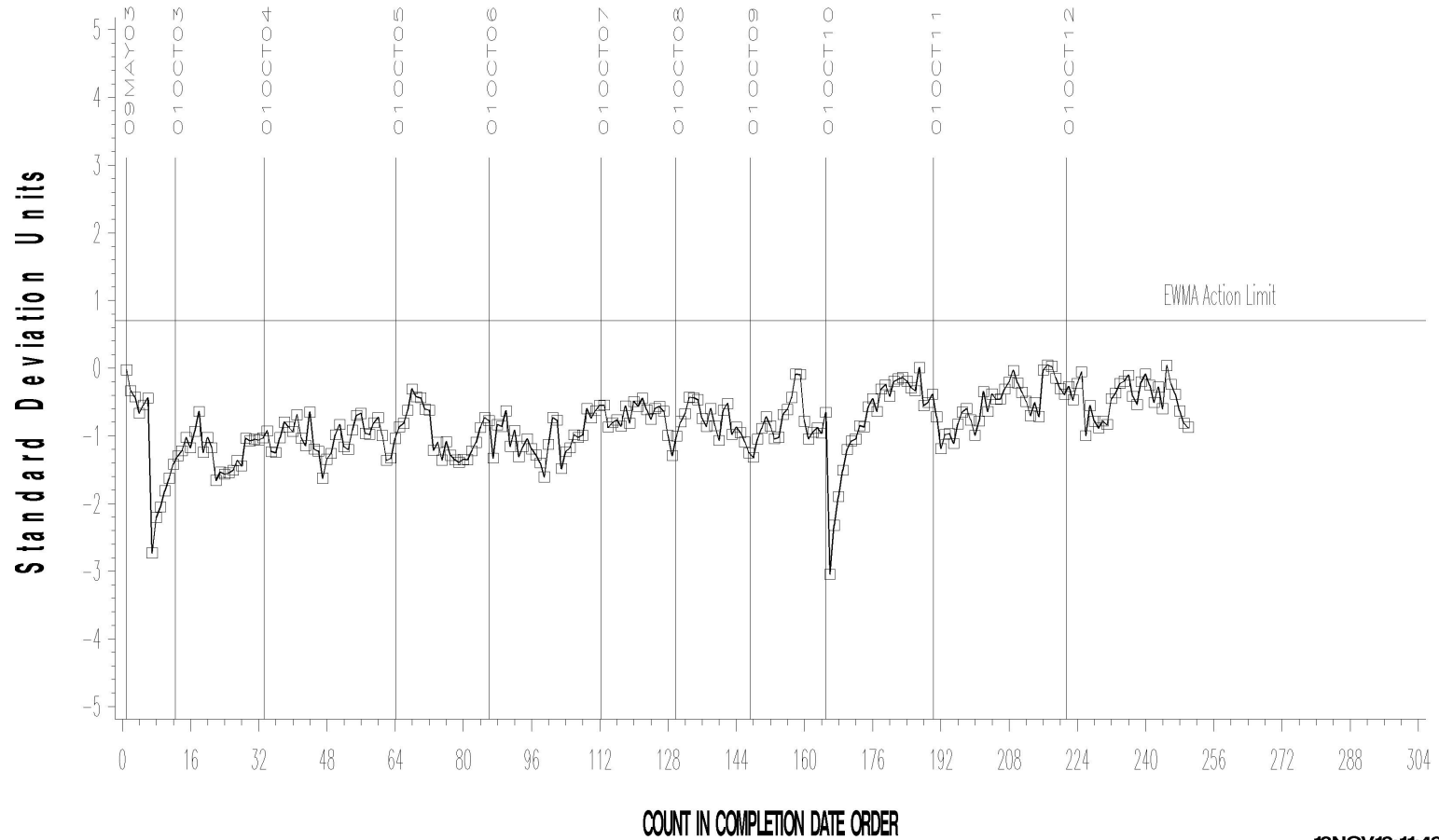
COUNT IN COMPLETION DATE ORDER

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L—37 RATER CALIBRATION INDUSTRY OPERATIONALLY VALID DATA

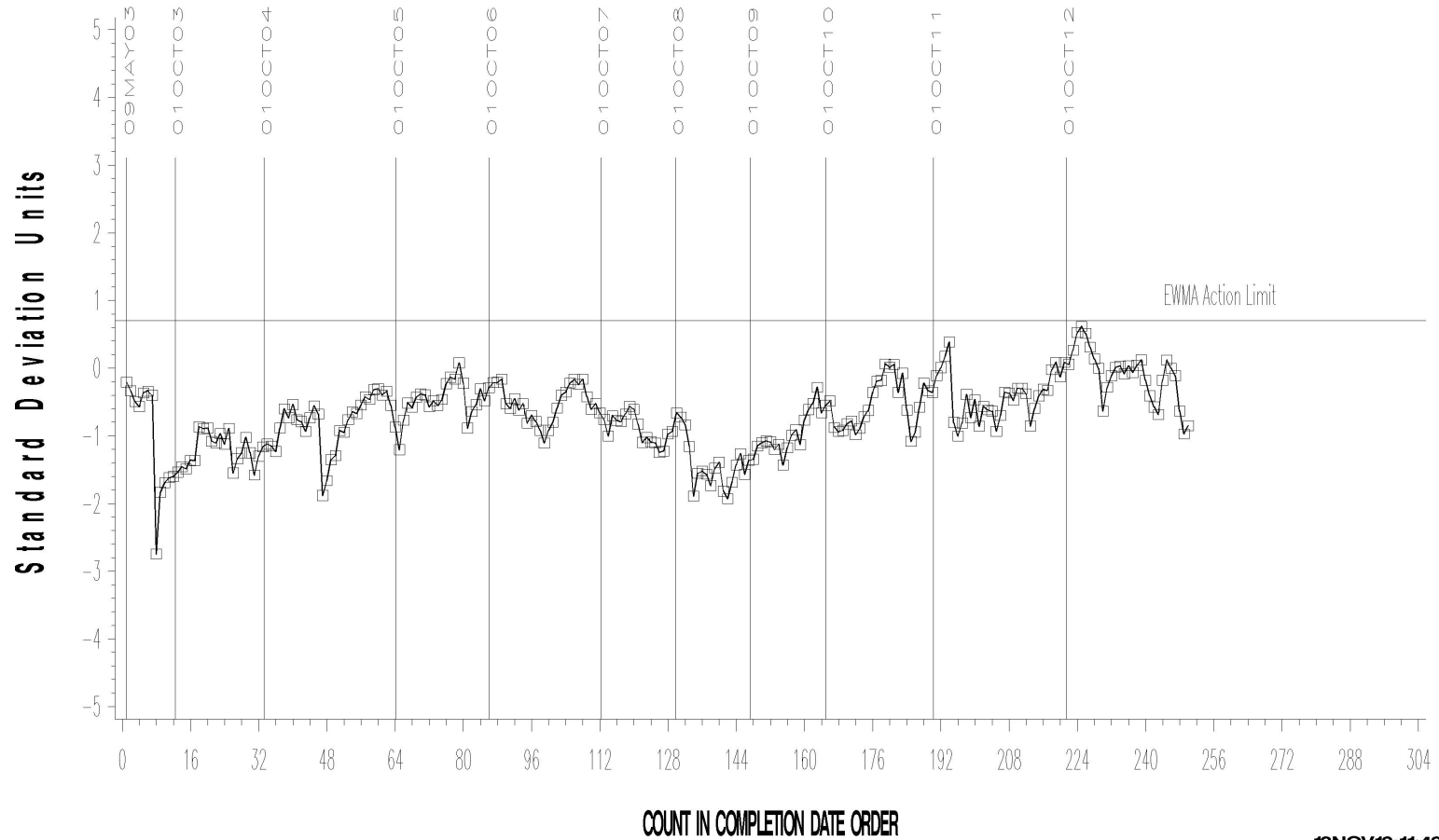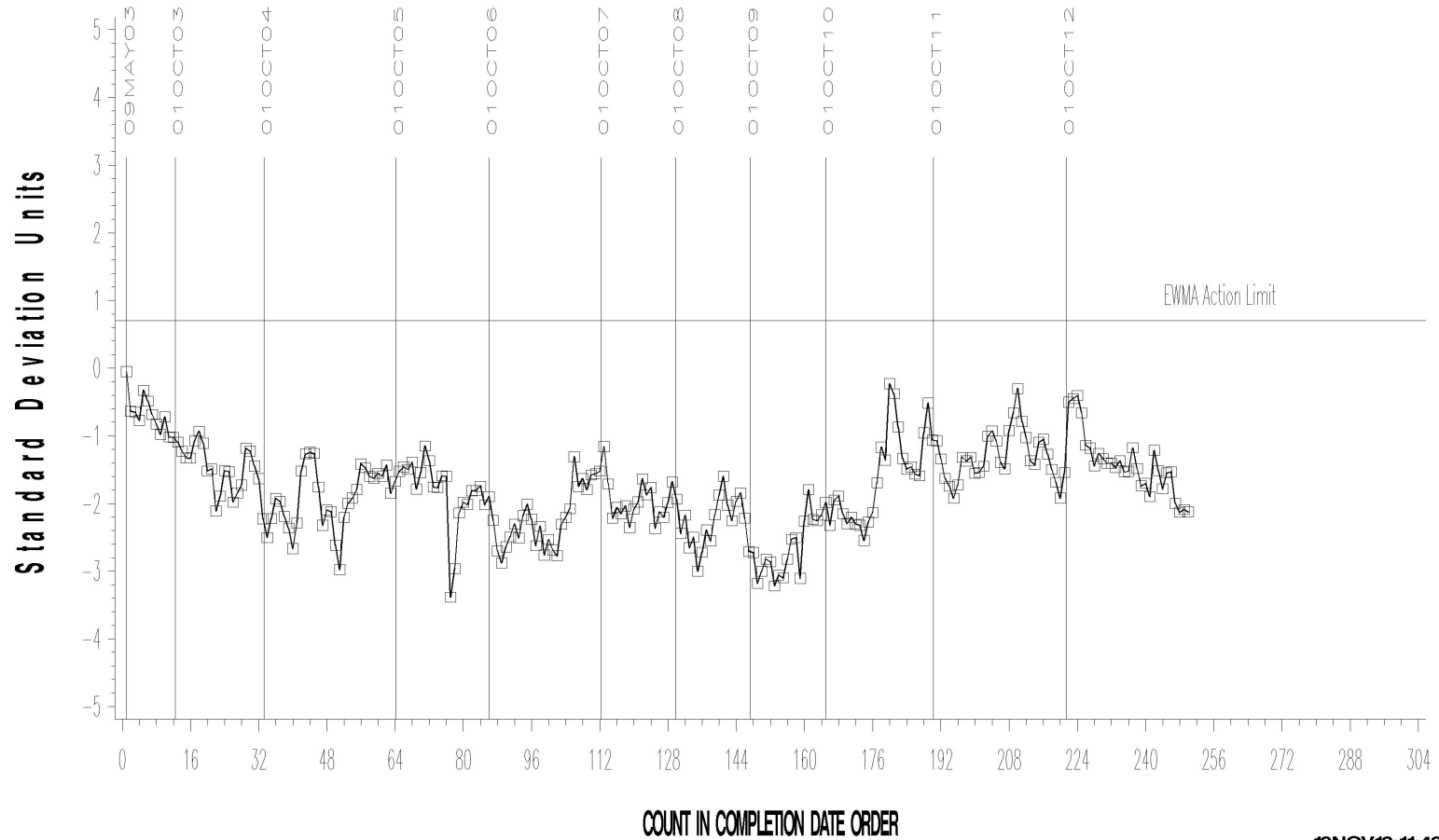### RIPPLING

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L-37 Rater Calibration

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
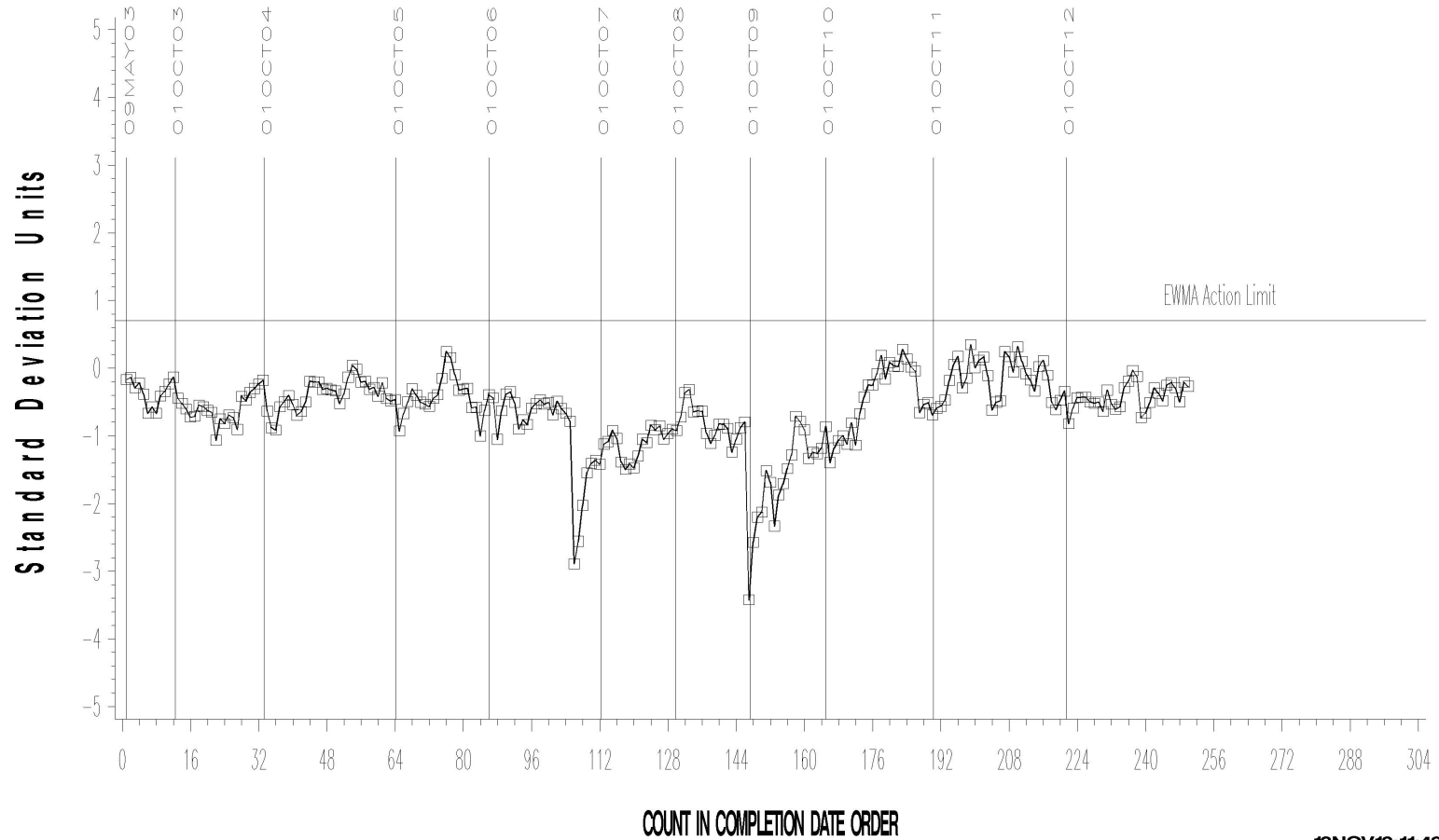
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L-37 Rater Calibration

L—37 RATER CALIBRATION INDUSTRY OPERATIONALLY VALID DATA

RIDGING

| CUSUM Severity Analysis |

COUNT IN COMPLETION DATE ORDER

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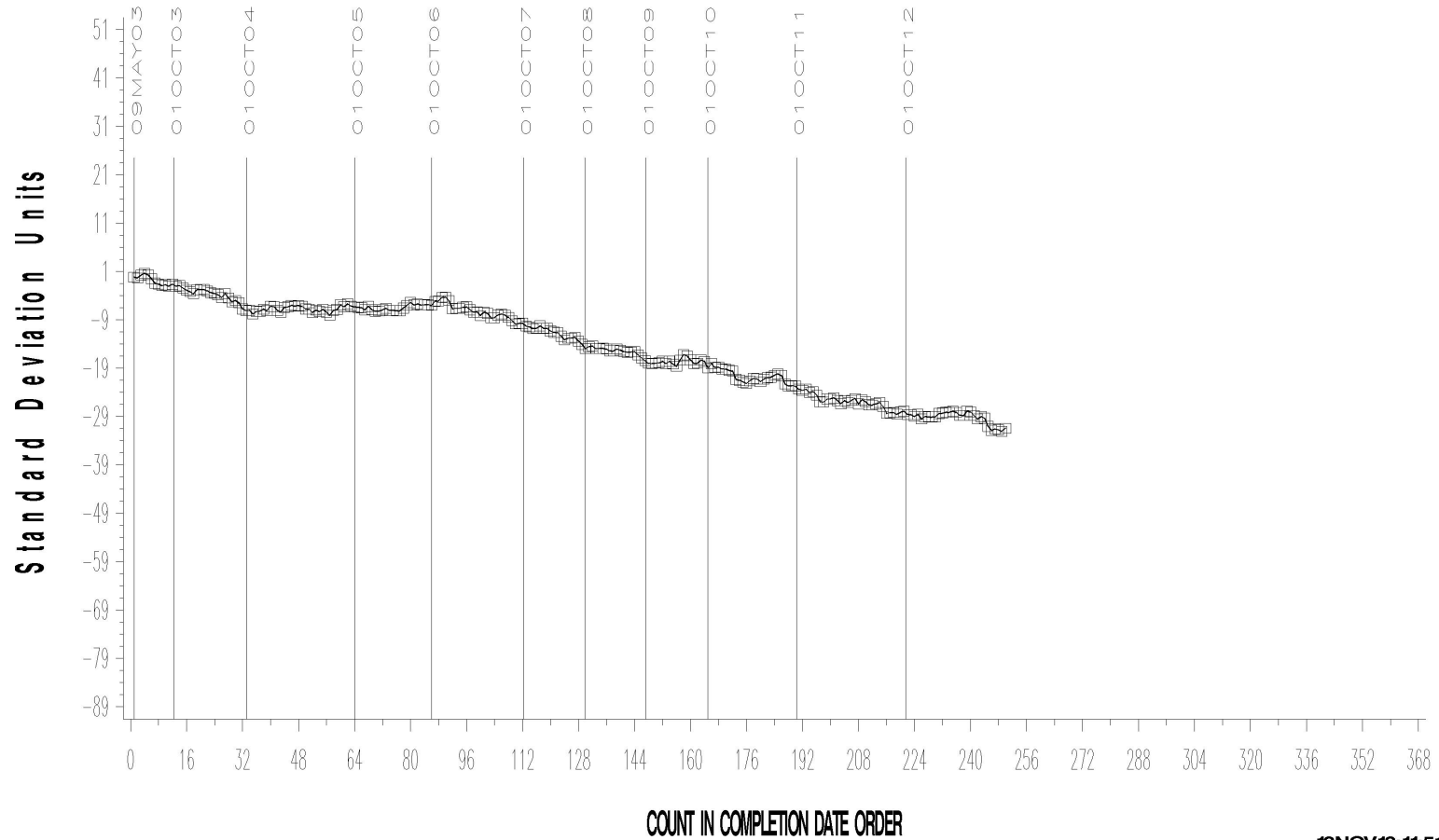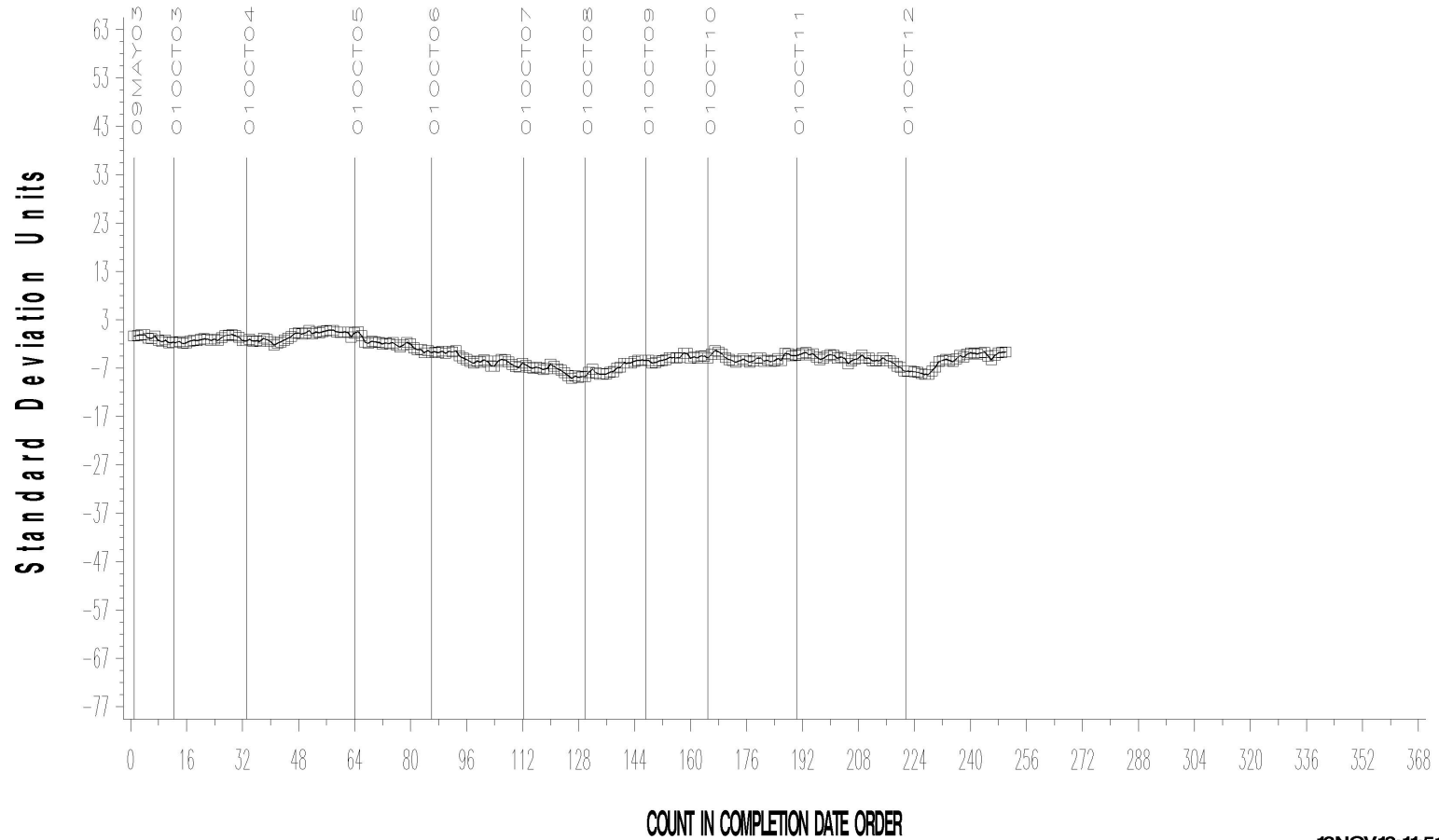
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L-37 Rater Calibration

L—37 RATER CALIBRATION INDUSTRY OPERATIONALLY VALID DATA

RIPPLING

CUSUM Severity Analysis

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L—37 RATER CALIBRATION INDUSTRY OPERATIONALLY VALID DATA

SPITTING

CUSUM Severity Analysis

COUNT IN COMPLETION DATE ORDER
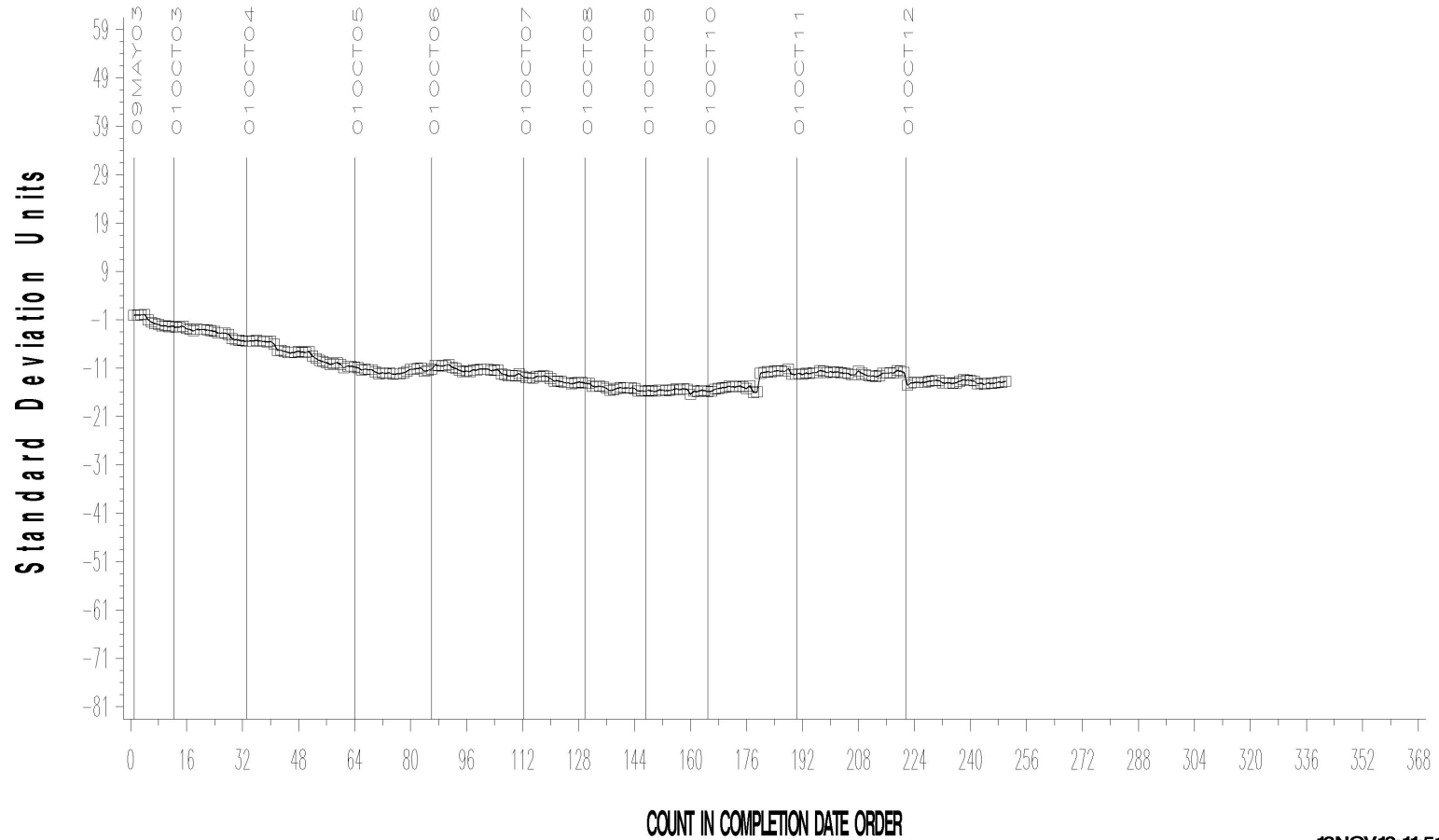
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L-37 Rater Calibration

L—37 RATER CALIBRATION INDUSTRY OPERATIONALLY VALID DATA

WEAR

CUSUM Severity Analysis

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