



Test Monitoring Center

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

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

MEMORANDUM: 09-009

DATE: April 7, 2009

TO: Brian Koehler, Chairman, High Temperature Cyclic Durability Test Surveillance Panel

FROM: Donald Lind

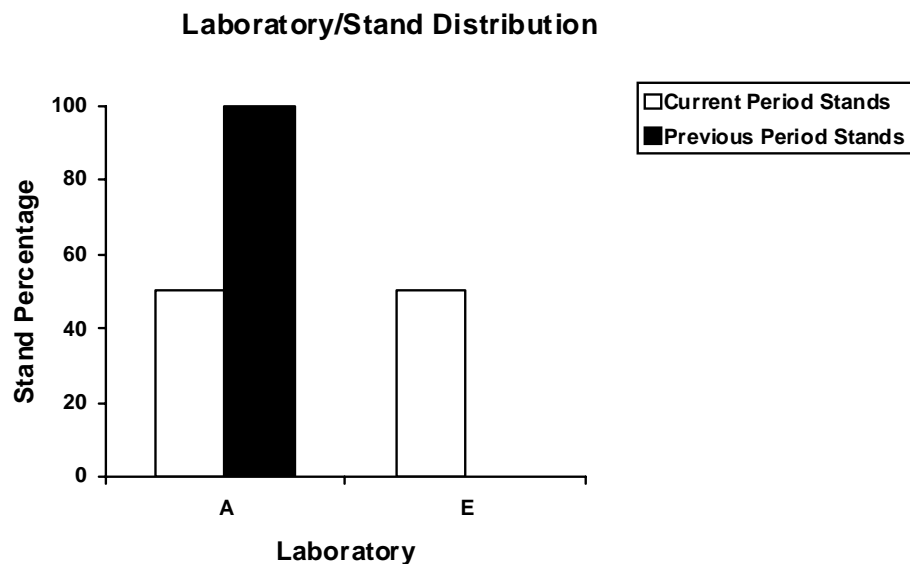
SUBJECT: High Temperature Cyclic Durability Reference Test Status from October 1, 2008 through March 31, 2009

The following is a summary of High Temperature Cyclic Durability reference oil tests that were reported to the Test Monitoring Center during the period October 1, 2008 through March 31, 2009.

Lab/Stand Distribution

| | Reporting Data | Calibrated as of 3/31/09 |
|--------------|----------------|--------------------------|
| Laboratories | 2 | 1 |
| Stands | 2 | 1 |

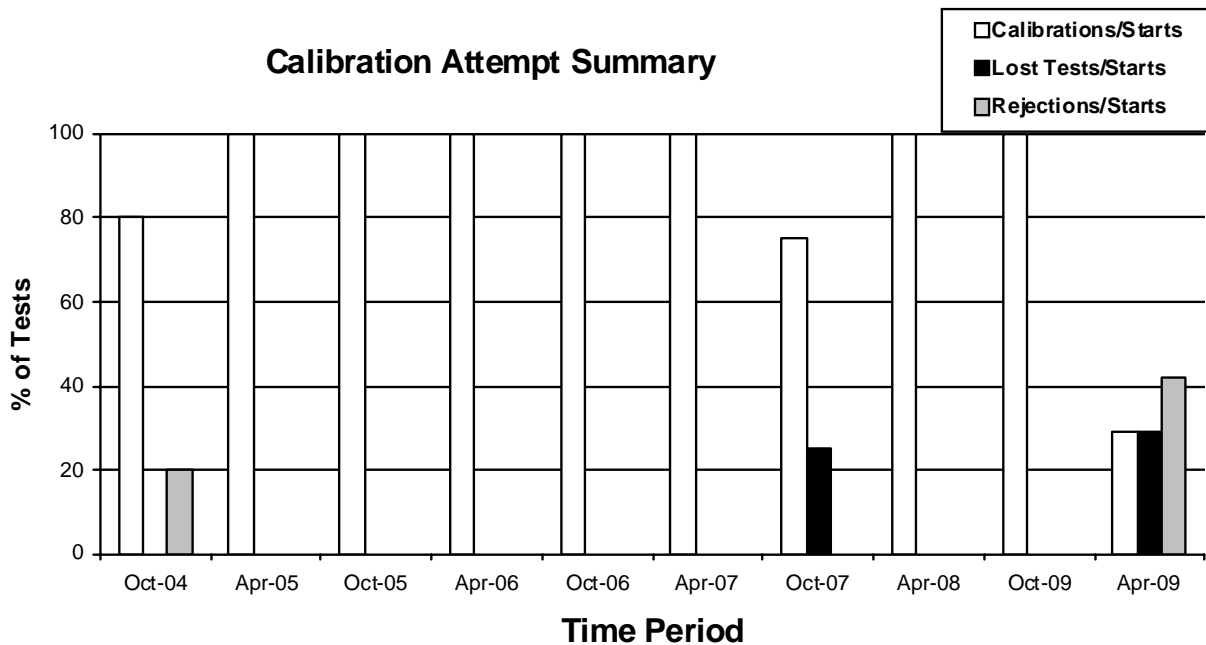
The following chart shows the laboratory/stand distribution:



The following summarizes the status of the reference oil tests reported to the TMC:

| | TMC Validity Codes | No. of Tests |
|---|--------------------|--------------|
| Operationally and Statistically Acceptable | AC | 2 |
| Statistically Unacceptable | OC | 3 |
| Operationally Invalid, Laboratory Determination | LC | 2 |
| Total | | 7 |

Calibrations per start, lost tests per start and rejections per start rates are summarized below:



The calibration per start rate has decreased when compared to the previous period. The lost test per start and rejected test per start rates have increased when compared to the previous report period.

Severity and Precision

Figure 1 is the industry control chart. Figure 2 is the industry control chart of the last 20 test results. There were five EWMA severity alarms and no precisions alarms triggered this report period. The severity alarms were triggered by three test results of -3.0 or greater from lab E as shown in Figure 3. The average Δ/s for this report period is -2.09 severe.

Information Letters

There was one information letter issued during this report period. Information Letter 09-01, Sequence Number 14 was issued on February 24, 2009. Items changed with this information letter are documented in the HTCT timeline (Table 1).

TMC Lab Visits

There was one lab visit conducted this report period with no discrepancies to report.

Reference Oil

The following is a listing of reference oils with the expected number of tests remaining at the Test Monitoring Center and at the testing laboratories. HTCT reference oils are shipped in quantities of 11 gallons per test.

| Oil | Volume at TMC (Gallons) | Number of Tests Remaining at TMC | Number of Tests Remaining at Labs | Total Number of Tests Remaining |
|-------|----------------------------|-------------------------------------|--------------------------------------|------------------------------------|
| 150-2 | 57 | 5 | 3 | 8 |
| 155 | ** | ** | 4 | ** |

** 282 Gallons (Multiple test area usage)

DML/dml

Attachments

c: High Temperature Cyclic Durability Test Surveillance Panel

Frank M. Farber

<ftp://ftp.astmtmc.cmu.edu/docs/gear/htct/semiannualreports/htct-04-2009.pdf>

Distribution: Email

Listing of Tables and Figures Included as Part of This Report to the High Temperature Cyclic Durability Test Surveillance Panel

Table 1 is the High Temperature Cyclic Durability Test Industry Timeline.

Figure 1 is the Industry control chart for Cycles to Unsynchronized Shifts.

Figure 2 is the Industry control chart of the last 20 results for Cycles to Unsynchronized Shifts.

Figure 3 is the Industry control chart of the last 20 results for Cycles to Unsynchronized Shifts excluding the three severe test results from lab E.

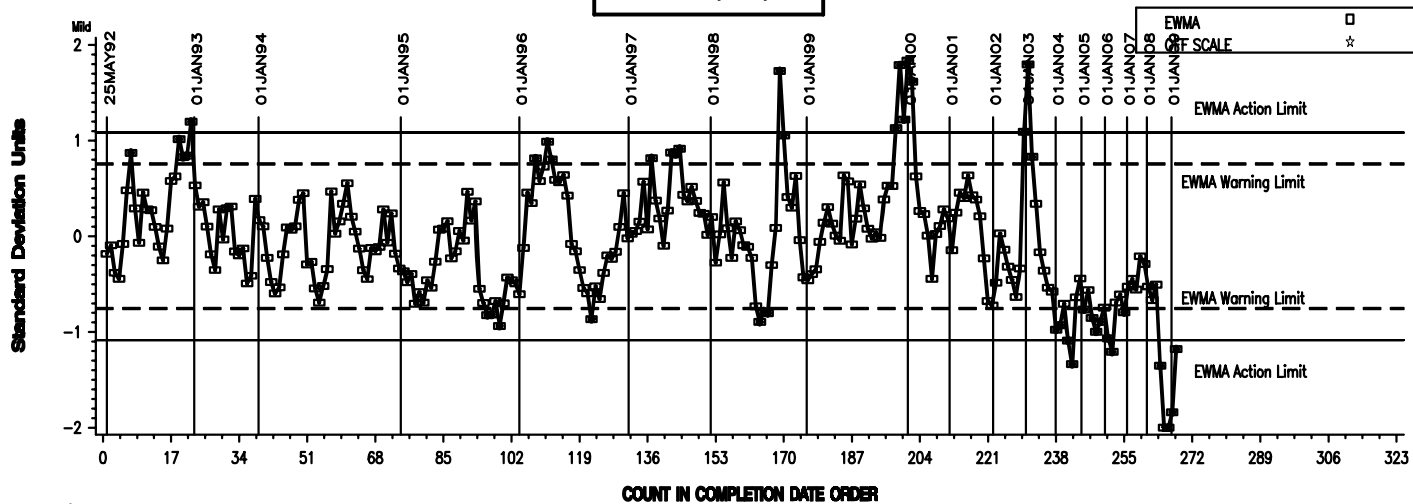
Table 1

| High Temperature Cyclic Durability Industry Timeline | | |
|---|---|------------|
| Effective Date | Topic | IL# |
| 19960701 | Surveillance Panel Approved Acceptance Bands and Targets | |
| 19970324 | Forms and Data Dictionary Changes, Version 19970128 | 97-1 |
| 19961210 | Change to Allow Replacement of Main Box Shift Rail Cover With Aluminum Plate | 97-1 |
| 19970918 | Replacement of Appendix X1 With Annex A5 (Editorial Changes) | 97-2 |
| 19971110 | Revision to Coast Down Time Measurement | 97-3 |
| 19980209 | Revisions to Shift Time Definition and Inclusion of Shift Time Plot | 98-1 |
| 19980215 | First Test on New Synchronizer Assembly (Part Number 320KB459) | |
| 19980626 | Defined Acceptable Hardware Configurations. Revised Report Forms and Data Dictionary to Document Hardware Configuration Utilized. | 98-2 |
| 19990413 | Clarified the Calibration Period, Allows Non-reference Oil Tests to Start Up to and Including the Last Day of the Calibration Period. | 99-1 |
| 19990625 | Redefined Acceptable Hardware Configurations. | 99-2 |
| 20000613 | Required the Use of Wellman Single Batch Friction Plates for Tests Starting On or After 6/13/00 | 00-1 |
| 20020920 | Failing Reference Oil Run Requirement | 02-1 |
| 20020920 | Test Hardware Correction and Revisions | 02-1 |
| 20030916 | Report Forms and Data Dictionary | 03-1 |
| 20040101 | Cleaning Solvent Specification | 03-1 |
| 20041203 | One Quart Test Oil EOT Save Requirement Dropped | 04-1 |
| 20050221 | Revised Solvent Specification | 05-1 |
| 20050504 | Surveillance Panel Use of Donated Reference Oil Test Programs | 05-2 |
| 20050504 | Guidelines for Shortening or Lengthening Reference Oil Calibration Periods | 05-2 |
| 20050504 | Updated Test Precision | 05-2 |
| 20050504 | Rounding Test Results Using ASTM E 29 | 05-2 |
| 20050504 | Piston, High Low Range Shift Outside Diameter Specification | 05-2 |
| 20050504 | Test Sponsor Company Name Change | 05-2 |
| 20090327 | Revision to Percent Deviation Calculation | 09-1 |
| | | |
| | | |

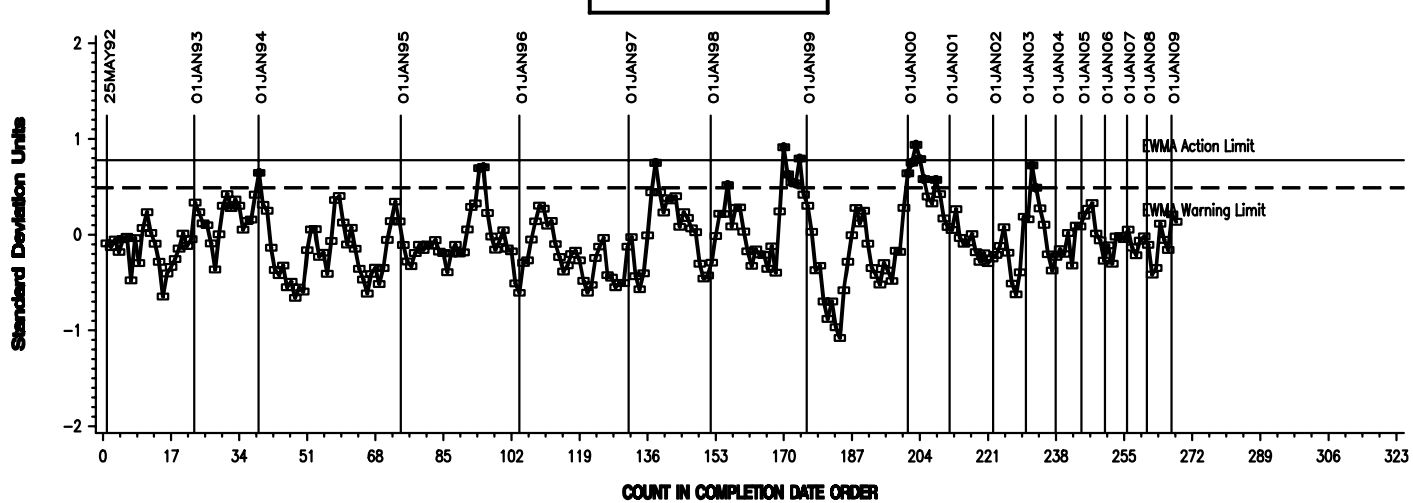
HTCT INDUSTRY OPERATIONALLY VALID DATA

END OF TEST CYCLES

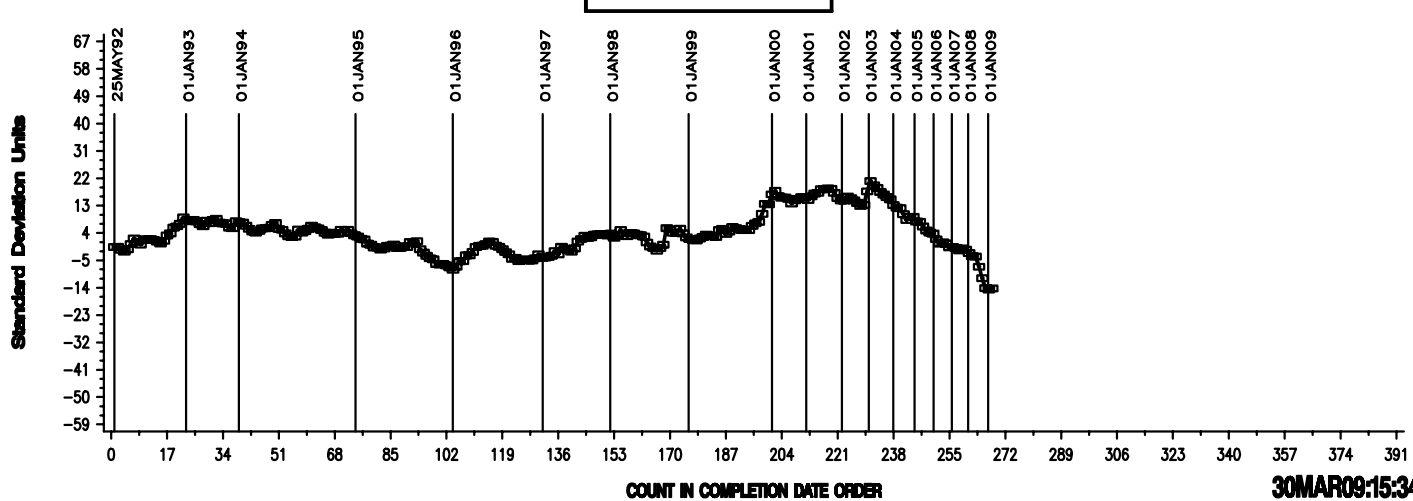
LTMS Severity Analysis



LTMS Precision Analysis



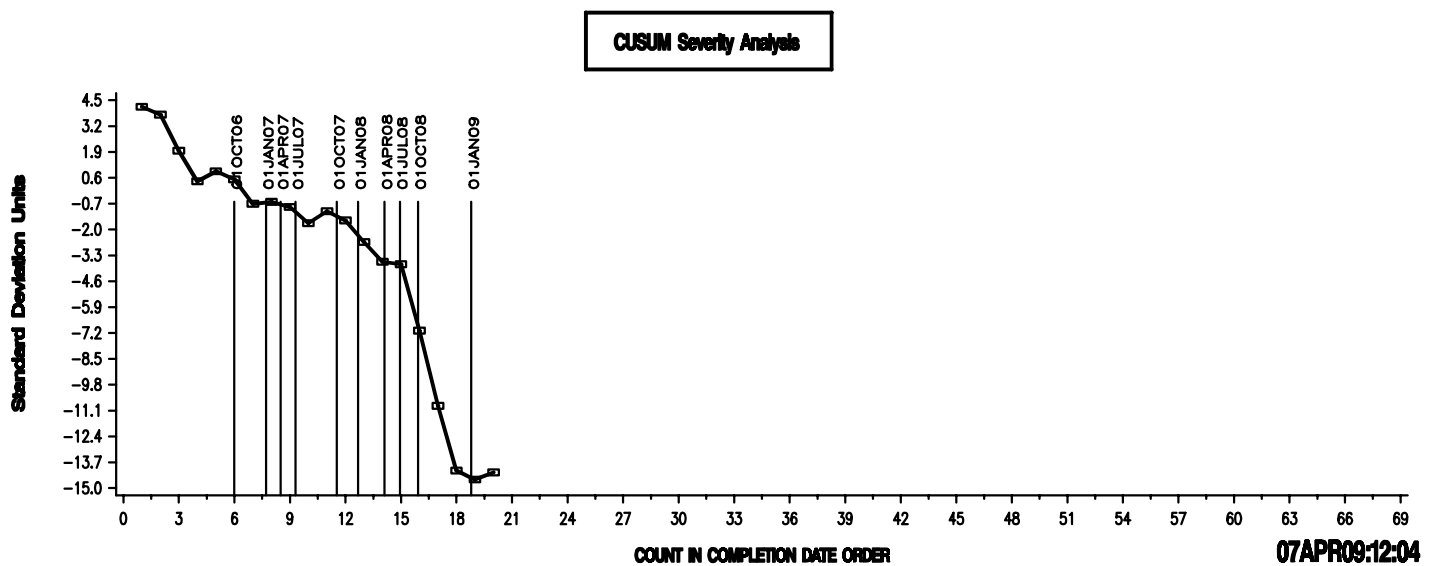
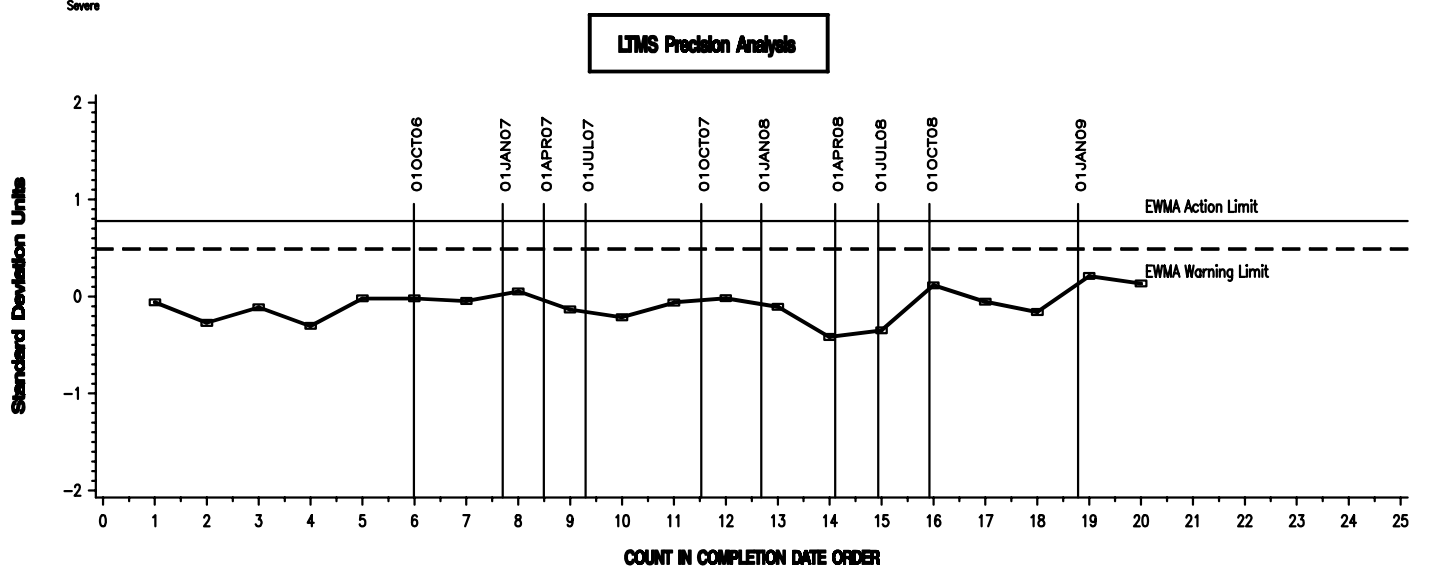
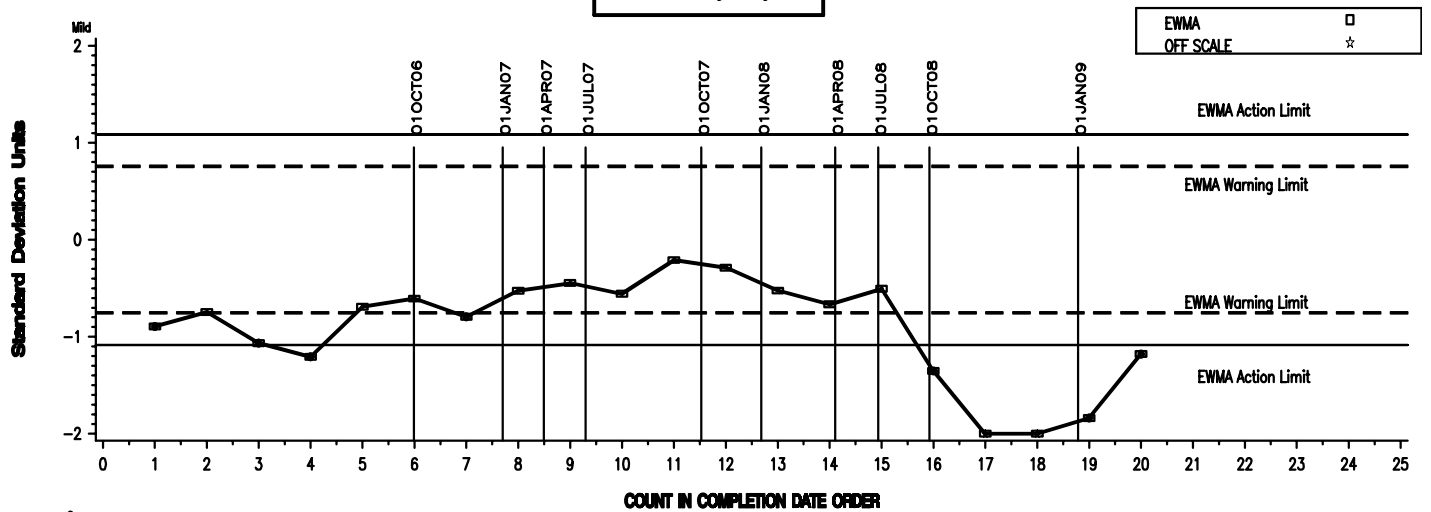
CUSUM Severity Analysis



HTCT INDUSTRY OPERATIONALLY VALID DATA

Last 20 Test Results

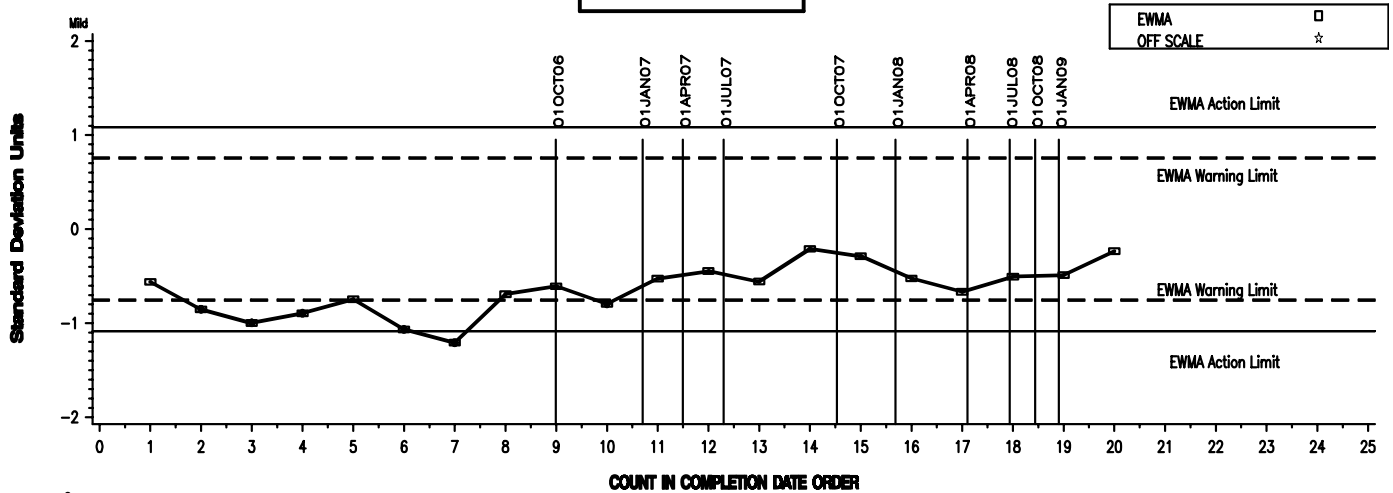
END OF TEST CYCLES
LTMS Severity Analysis



HTCT INDUSTRY OPERATIONALLY VALID DATA

Excluding Last Three Severe Test Results From Lab E

END OF TEST CYCLES LTMS Severity Analysis



LTMS Precision Analysis



CUSUM Severity Analysis

