



# Test Monitoring Center


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412-365-1000

MEMORANDUM: 09-44

DATE: October 15, 2009

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

FROM: Donald Lind 

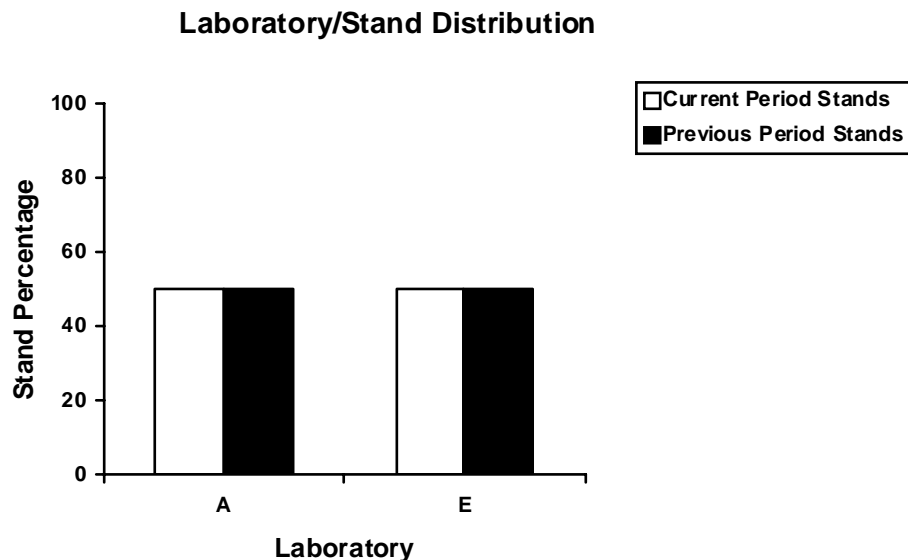
SUBJECT: High Temperature Cyclic Durability Reference Test Status from April 1, 2009 through September 30, 2009

The following is a summary of High Temperature Cyclic Durability reference oil tests that were reported to the Test Monitoring Center during the period April 1, 2009 through September 30, 2009.

## Lab/Stand Distribution

	Reporting Data	Calibrated as of 9/30/09
Laboratories	2	1
Stands	2	1

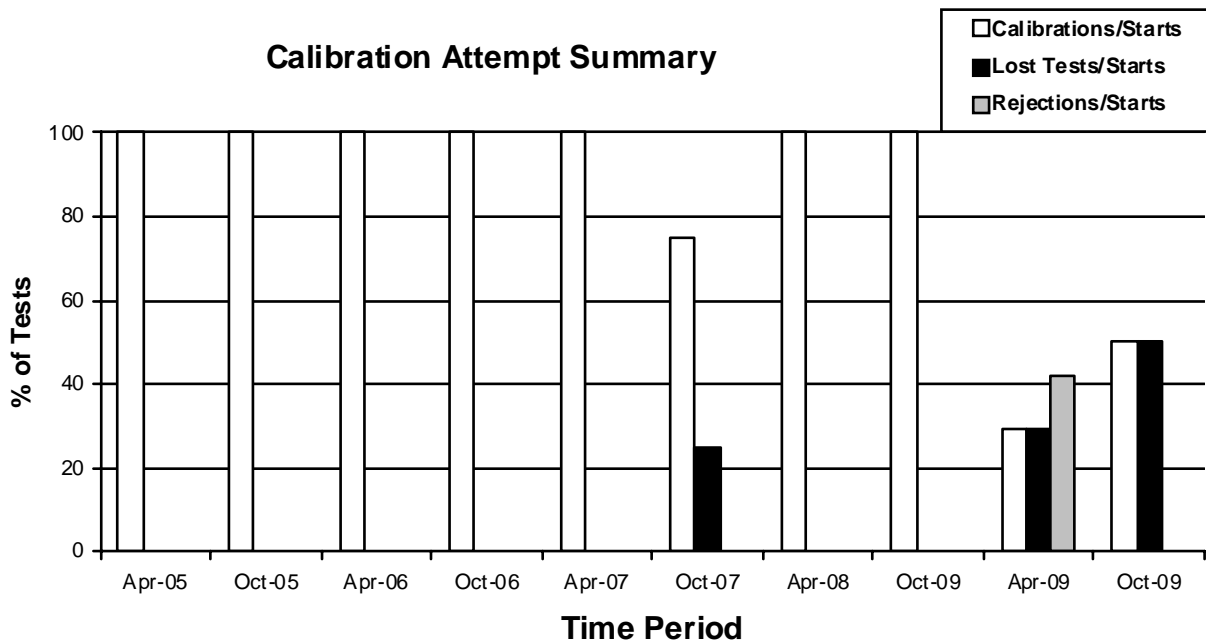
The following chart shows the laboratory/stand distribution:



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	1
Statistically Unacceptable	OC	0
Operationally Invalid, Laboratory Determination	LC	0
Aborted Calibration Test	XC	1
Non-blind Tests (Stand Evaluation)	NN	3
Total		5

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



The calibration per start and lost test per start rates have increased when compared to the previous period. The rejected test per start rate has decreased 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 was one EWMA severity alarm and no precisions alarms triggered this report period. The severity alarm was a continuation of the effects of three test results of -3.0 or greater from lab E. The average  $\Delta/s$  for this report period is -1.28 severe.

Information Letters

There was one information letter issued during this report period. Information Letter 09-02, Sequence Number 15 was issued on May 19, 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
154	176	16	4	20
155	**	**	3	**

\*\* 226 Gallons (Multiple test area usage)

DML/dml

Attachments

c: High Temperature Cyclic Durability Test Surveillance Panel  
F. M. Farber  
<ftp://ftp.astmtmc.cmu.edu/docs/gear/htct/semiannualreports/htct-10-2009.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.

Table 1

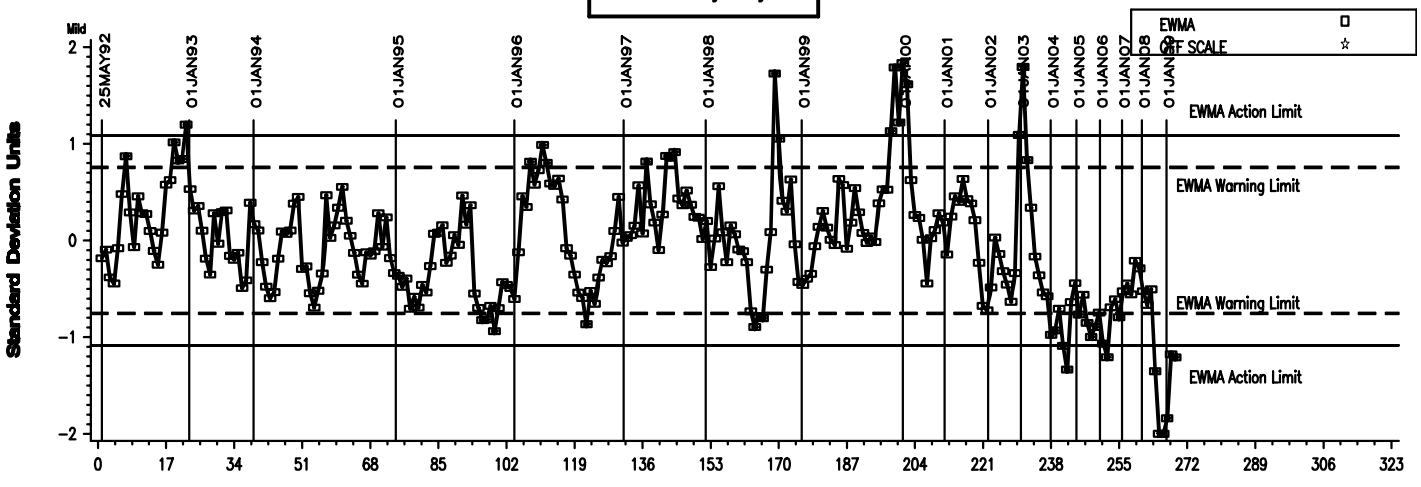
<b>High Temperature Cyclic Durability Industry Timeline</b>		
<b>Effective Date</b>	<b>Topic</b>	<b>IL#</b>
19960701	Surveillance Panel Approved Acceptance Bands and Targets	
19970324	Forms and Data Dictionary Changes, Version 19970128	97-1
19961210	Change to Allow Replacement of Main Box Shift Rail 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
20090519	Shift Time RPM Correction	09-2

Figure 1

# HTCT INDUSTRY OPERATIONALLY VALID DATA

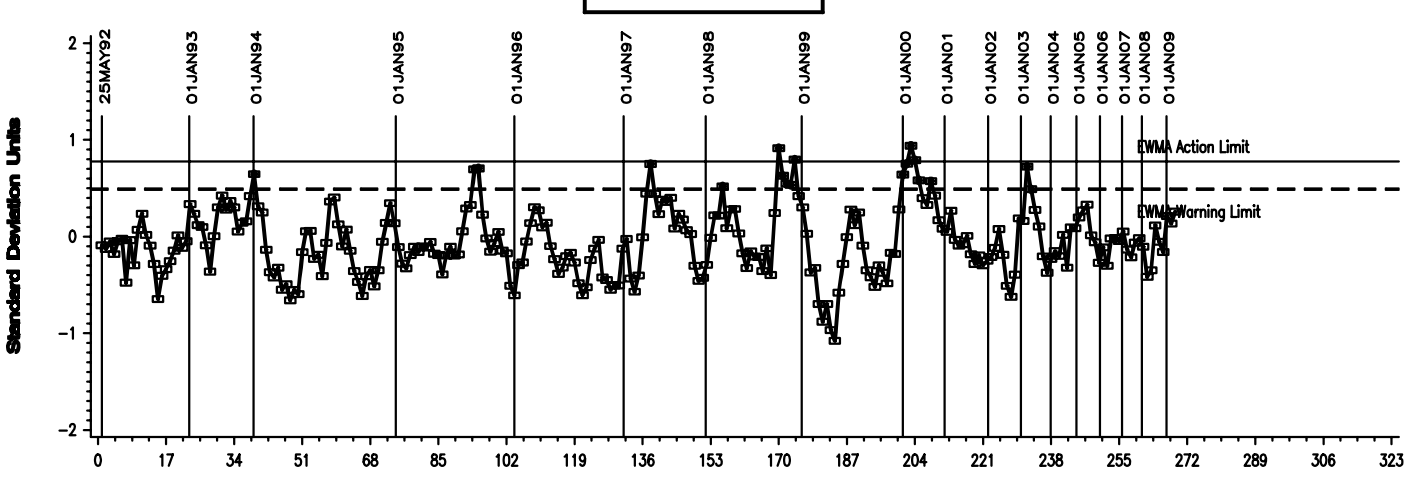
## END OF TEST CYCLES

### LTMS Severity Analysis



### COUNT IN COMPLETION DATE ORDER

### LTMS Precision Analysis



### COUNT IN COMPLETION DATE ORDER

### CUSUM Severity Analysis

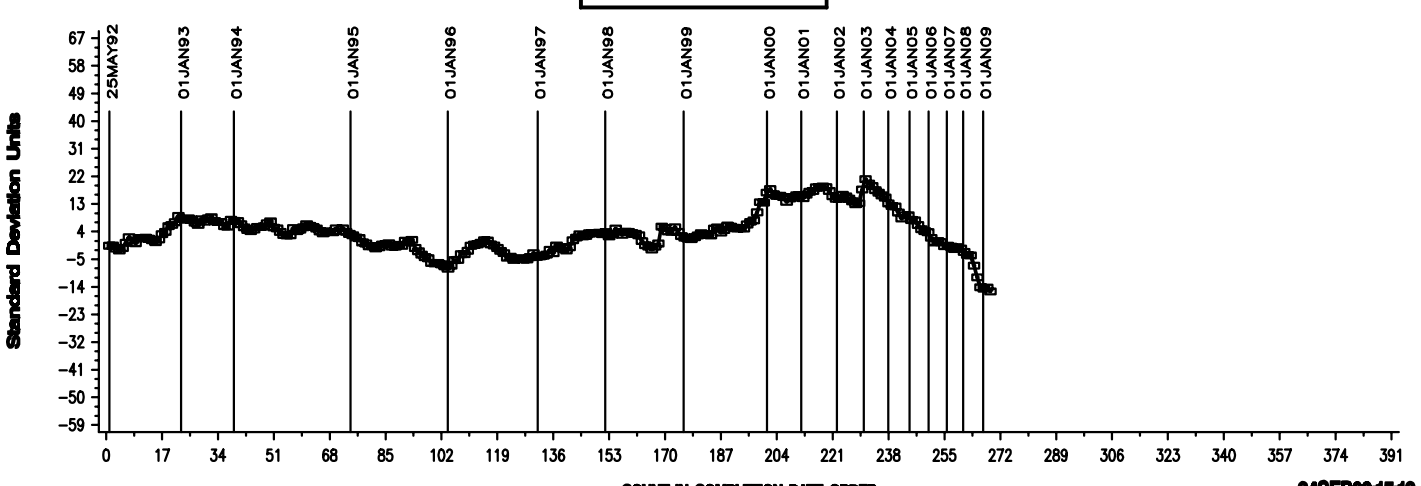


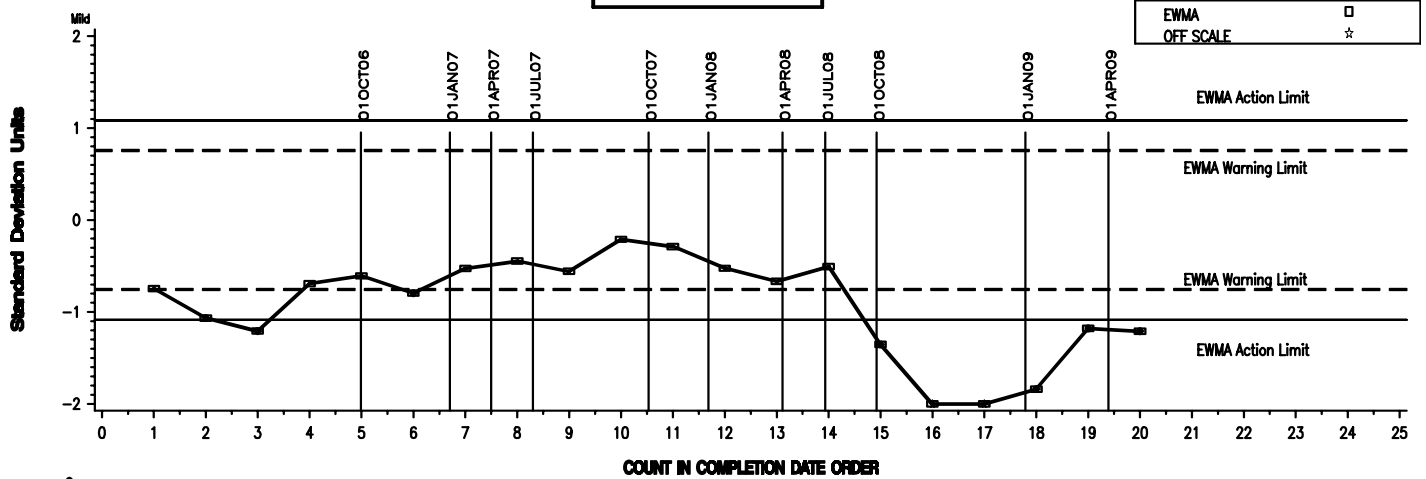
Figure 2

# HTCT INDUSTRY OPERATIONALLY VALID DATA

Last 20 Test Results

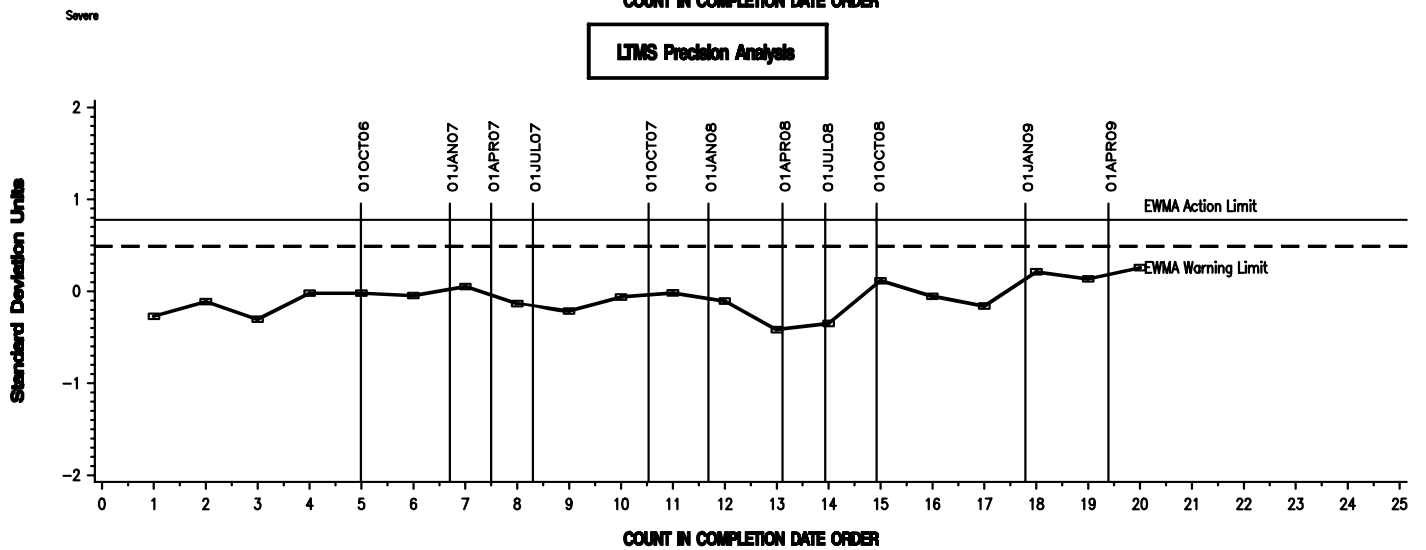
END OF TEST CYCLES

LTMS Severity Analysis



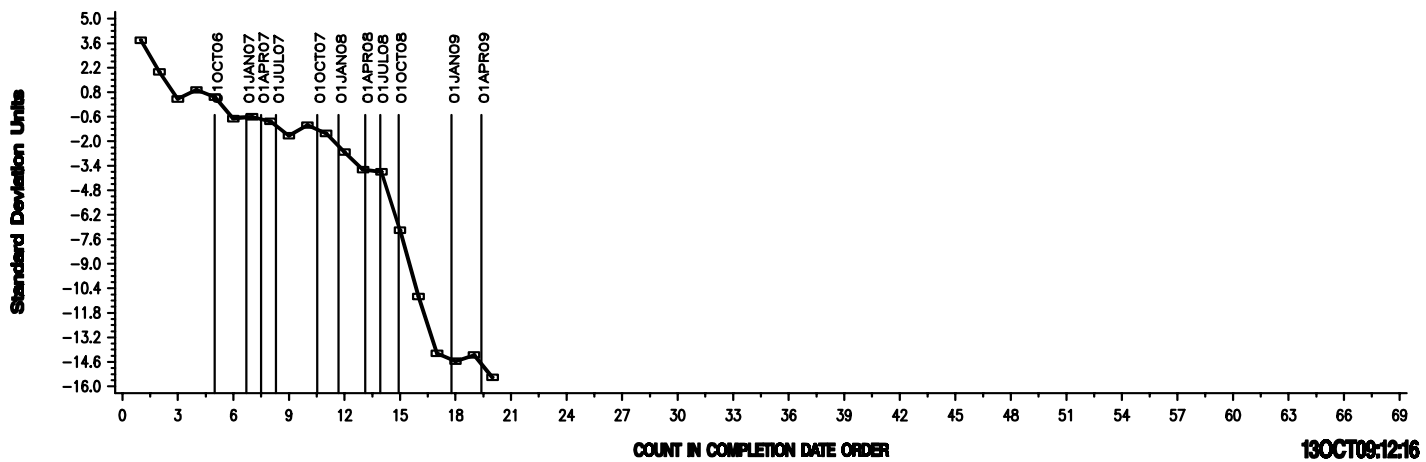
COUNT IN COMPLETION DATE ORDER

LTMS Precision Analysis



COUNT IN COMPLETION DATE ORDER

CUSUM Severity Analysis



COUNT IN COMPLETION DATE ORDER