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**Statistical Analysis of Test Data  
for APM Rod Issue (U)**

by

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## 1.0 Executive Summary

The uncertainty associated with the use of the K-Reactor axial power monitors (APMs) to measure roof-top-ratios is investigated in this report. Internal heating test data acquired under both DC-flow conditions and AC-flow conditions have been analyzed. These tests were conducted to simulate gamma heating at the lower power levels planned for reactor operation. The objective of this statistical analysis is to investigate the relationship between the observed and true roof-top-ratio (RTR) values and associated uncertainties at power levels within this lower operational range. Conditional on a given, known power level, a prediction interval for the true RTR value corresponding to a new, observed RTR is given. This is done for a range of power levels. Estimates of total system uncertainty are also determined by combining the analog-to-digital converter uncertainty with the results from the test data.

## 2.0 Introduction

A concern was raised regarding the axial power monitor (APM) rods as they are used to measure the roof-top-ratio (RTR) for the K-Reactor. RTR is a measure of relative power between the top and the bottom of the core. The objective is to investigate the relationship between the observed and true roof-top-ratio (RTR) values and associated uncertainties at power levels within the planned operational range for the reactor. The approach is based on a statistical analysis of test data acquired as part of the overall resolution of these APM concerns.

The APMs are self-calibrating gamma thermometers that were manufactured by the Delta-M Corporation. There are nine APM rods in the reactor. Each rod contains seven sensors along their axial dimension. The RTR value as observed by the reactor operator is the ratio of the response of Sensor #2 to the response of Sensor #6 as determined by the Control Computer.

Since the rods were initially designed and procured when operating levels for the SRS reactors were around 2400 MW, additional performance studies of the rods in the planned reactor operating range (720 MW) were initiated. Tests were conducted using internal heaters to simulate reactor gamma heating. The data from these tests were recorded using the APM data acquisition system (DAS). Additional data used for corroborating results were collected using the Control Computer.

A statistical analysis of these data, recorded over the lower power levels, forms the basis for the investigation of the RTR uncertainties. Prediction equations for observed RTR values are developed by applying the method of least squares regression to the test data. The uncertainties associated with these predictions are estimated. These results are then used to determine prediction intervals for the true RTR values corresponding to new, observed RTRs for power levels within the range of interest.

The total system uncertainty is estimated by modifying the results from the statistical analysis of the test data to include the analog-to-digital converter (ADC) uncertainty.

### 3.0 Test Data

A number of tests were conducted to provide data for the analysis of RTR uncertainties. All of these tests involved internal heater experiments conducted for the nine APM rods in the K-Reactor. Data were collected under two different flow conditions. Initially, tests were conducted under flow conditions with all 6 DC pumps operating. Data from all nine APM rods were acquired using the APM DAS and some data for APM positions 5 through 9 were also acquired using the Control Computer. In addition, some tests were repeated. A second series of tests were conducted under flow conditions with all AC pumps operating. For these tests, data from all nine APM rods were acquired using the APM DAS.

This report provides the analysis for both the DC and AC flow test data acquired using the APM DAS as presented in appendices 1-5 for the DC tests and 6-10 for the AC tests. Only the power level ( $X$ , measured in watts/gram), the sensor 2 response ( $Y_2$ , given in mV), and the sensor 6 response ( $Y_6$ , given in mV) are provided. The data from these appendices for  $X$  greater than zero were used in this analysis. Test data collected with the Control Computer and some replicate data acquired with the APM DAS were used as corroborating information.

### 4.0 Statistical Approach

To estimate the uncertainty of the RTR values, the relationship between sensor response and power must be investigated. Displays 1-2 provide charts of the responses of sensors 2 and 6 versus the watts/gram power level for each of the 9 APM rods under DC-flow conditions. Note that there is an anomaly in the behavior of APM 6 for power values above 1.2 watts/gram. Display 3 demonstrates a consistency in this behavior for APM 6 across the other, corroborating DC-flow test data. Displays 4-7 provide charts similar to displays 1-2 except they cover the AC-flow tests. Displays 4 and 5 cover the range 0 to 2 watts/gram and displays 6 and 7 cover the range 0 to .4 watts/gram. Note that there are no anomalies for APM 6 in the AC-flow data.

#### Least Squares Regression

The method of least squares regression was used to investigate the relationship between sensor response in mV to power level in watts/gram. Linear and quadratic models were explored. The results from these investigations as well as information from the manufacturer of the APM rods [1] and engineering considerations led to the selection of a quadratic prediction equation with no intercept term. Such a model was determined for each of the sensors (2 and 6)

for each of the nine APM rods. The estimates of the coefficients of the quadratic equations along with their variances and covariances are provided in Appendix 11 for the DC tests and Appendix 12 for the AC tests.

These models were estimated using SAS-PC Release 6.04, a commercial software package from SAS Institute, Inc., Cary, NC. The code developed using this package is presented in Appendix 13.

The residuals from the quadratic fits for sensors 2 and 6 were investigated for each APM position. A positive correlation exists between the two sets of residuals for each rod. The approach taken here, which is to assume that these errors are uncorrelated, leads to more conservative (larger) estimates of the random error variances in the discussion below.

#### Systematic Error Of Predicted RTR Value

An observed RTR value for an APM rod is determined by the ratio of responses of sensor 2 to sensor 6. Let the true quadratic response curves of the sensors be given by

$$Y_2 = A_2 x + B_2 x^2 + \varepsilon_2 \quad \text{and} \quad Y_6 = A_6 x + B_6 x^2 + \varepsilon_6$$

where  $x$  is the power level in watts/gram applied to that sensor, the  $A$ 's and  $B$ 's are unknown constants, and the  $\varepsilon$ 's are uncorrelated, random variables which are assumed to have zero mean.

Let  $x$  be the power applied to sensor 6 and  $xT$  be the power applied to sensor 2. Then the "true" RTR is given by

$$xT/x = T.$$

The  $A$ 's and  $B$ 's are estimated in the prediction equations determined by the method of least squares described above. If the estimates are represented by lowercase letters, then the predicted value of the observed RTR for given values of  $x$  and  $T$  is

$$r(x, T) = \frac{a_2 T + b_2 xT^2}{a_6 + b_6 x}.$$

There is a systematic error associated with using these equations to predict RTR values. Each time a prediction equation is determined, the errors in the fitted equations are perpetuated as a systematic error in the predictions made with the equation.

An estimate of the variance of these systematic errors can be obtained by the method of error propagation as described in Appendix 14. Let

$$\begin{aligned} v_{a_2} &= \text{VARIANCE}(a_2), \\ v_{a_6} &= \text{VARIANCE}(a_6), \end{aligned}$$

$$\begin{aligned} v_{b_2} &= \text{VARIANCE}(b_2), \\ v_{b_6} &= \text{VARIANCE}(b_6), \end{aligned}$$

$$c_{ab_2} = \text{COVARIANCE}(a_2, b_2), \quad c_{ab_6} = \text{COVARIANCE}(a_6, b_6).$$

Estimates of these values are provided in appendices 11 and 12. The partial derivatives of interest are given by:

$$(\partial r / \partial a_2) = T / (a_6 + b_6 x), \quad (\partial r / \partial b_2) = x T^2 / (a_6 + b_6 x),$$

$$(\partial r / \partial a_6) = - (a_2 T + b_2 x T^2) / (a_6 + b_6 x)^2,$$

$$(\partial r / \partial b_6) = - x (a_2 T + b_2 x T^2) / (a_6 + b_6 x)^2.$$

Then, the variance of the systematic error of the predicted, observed RTR value reduces to

Systematic Error Variance =

$$\frac{T^2 v_{a_2} + T^4 x^2 v_{b_2} + 2 T^3 x c_{ab_2}}{(a_6 + b_6 x)^2}$$

$$+ \frac{(a_2 T + b_2 x T^2)^2 (v_{a_6} + x^2 v_{b_6} + 2 x c_{ab_6})}{(a_6 + b_6 x)^4}.$$

#### Random Error Of Predicted RTR Value

Next, the random error component of the uncertainty of the observed RTR value is estimated. The random error of each sensor response can be estimated from the scatter around the quadratic prediction equation for each sensor. The responses of sensors 2 and 6 conditional on a known power level have standard deviations as computed from the determination of the quadratic prediction equations for each sensor. These values are provided in appendices 11 and 12. The estimated standard deviations of the random errors for sensors 2 and 6 are labelled as SIG\_RND2 and SIG\_RND6, respectively.

The observed RTR can be written as

$$r(\epsilon_2, \epsilon_6) = r = \frac{A_2 x T + B_2 (x T)^2 + \epsilon_2}{A_6 x + B_6 x^2 + \epsilon_6} = \frac{(y_2 + \epsilon_2)}{(y_6 + \epsilon_6)}$$

where  $(\text{SIG\_RND2})^2 = \text{Variance}(\epsilon_2)$ ,  $(\text{SIG\_RND6})^2 = \text{Variance}(\epsilon_6)$ ,

$$y_2 = A_2 x T + B_2 (x T)^2, \quad y_6 = A_6 x + B_6 x^2.$$

The variance of the random error for  $r$  is determined by error propagation as outlined in Appendix 14 using the following partial derivatives (note that  $\varepsilon_2$  and  $\varepsilon_6$  are uncorrelated):

$$(\partial r / \partial \varepsilon_2) = 1 / (A_6 x + B_6 x^2) = 1 / y_6,$$

$$(\partial r / \partial \varepsilon_6) = - (A_2 x T + B_2 (x T)^2) / (A_6 x + B_6 x^2)^2 = - y_2 / (y_6)^2.$$

This approach leads to

$$\text{Random Error Variance} = (1/y_6)^2 [ (\text{SIG\_RND2})^2 + (y_2/y_6)^2 (\text{SIG\_RND6})^2 ].$$

#### Total Uncertainty Of Predicted RTR Value

The total uncertainty (variance) of the observed RTR value is estimated by the sum of the systematic error (variance) and the random error (variance):

$$(1) \quad \text{Total Error Variance} = \text{Systematic Error Variance} + \text{Random Error Variance}.$$

For each APM rod, when the values of  $x$  and  $T$  are given, the prediction equations for the responses of sensors 2 and 6 allow the expected, observed RTR to be estimated. Tables 1-9 provide estimates of observed RTR values, denoted by  $P$ , for the APM rods for the DC tests. The uncertainty for these RTR values from (1) may be expressed as a percent relative standard deviation which is denoted in the tables as PCT\_TO:

$$(2) \quad \text{PCT\_TO} = 100 \frac{\sqrt{\text{Total Error Variance}}}{P}.$$

The results for the AC tests are given in tables 10-18. The other columns presented as part of these tables will be discussed below.

#### 5.0 Inverse Prediction Problem

The relationship between the observed RTR values and true RTR values, given the power level  $x$ , is investigated in this section. In operation, an RTR value, based on the responses of sensors 2 and 6, is observed by the operator. Denote this value by  $r_o$ . The operator does not know the  $x$  or  $T$  values corresponding to this observed  $r_o$ . Given that  $x=x_o$ , an estimate of  $T$ ,  $T_o$ , corresponding to  $r_o$  can be determined by inverting the prediction equation for  $r$ . A prediction interval for  $T$  can be determined based on the uncertainties for the new, observed RTR value,  $r_o$ , given  $x_o$ . The uncertainties (systematic error and random error) can be combined in an additive approach instead of the

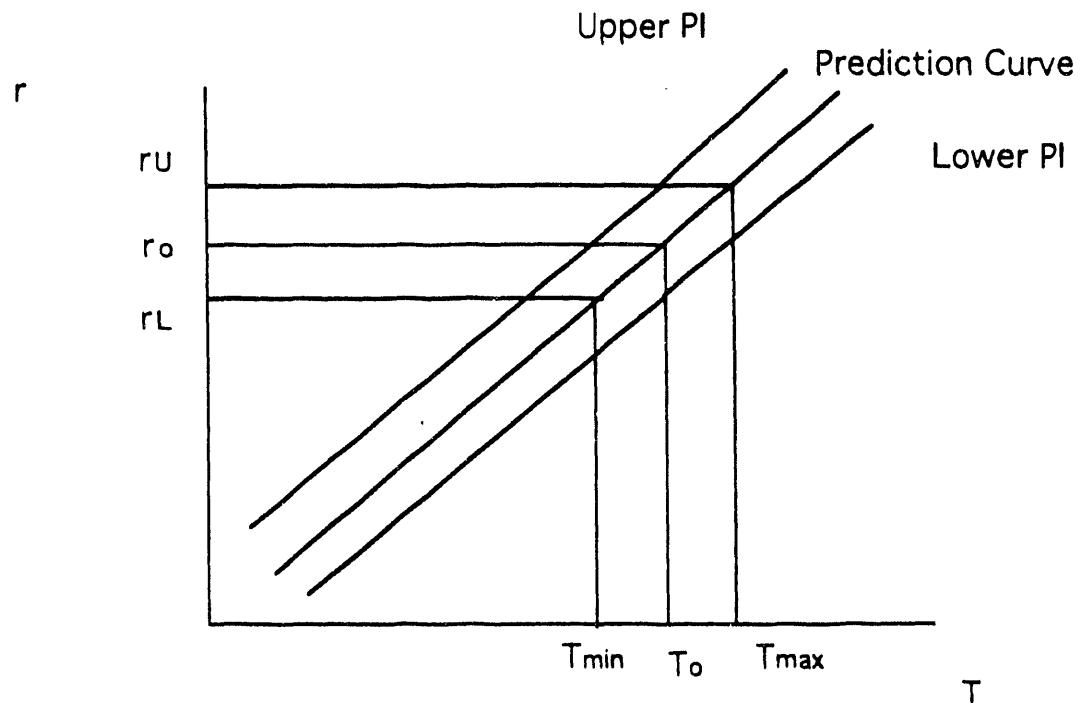
quadrature approach of equation (1) to provide a conservative, 95% prediction interval for  $r_o$ , ( $r_L$ ,  $r_U$ ). This method is used in [4] and gives:

$$(3) \quad r_U = r_o + 2 [ \text{Systematic Error Standard Deviation} \\ + \text{Random Error Standard Deviation} ] ,$$

$$r_L = r_o - 2 [ \text{Systematic Error Standard Deviation} \\ + \text{Random Error Standard Deviation} ] .$$

These prediction limits can be used to determine a prediction interval for the value of  $T$ , the true RTR, corresponding to  $r_o$  given  $x_o$ . Consider the following graphic representation of the prediction curve and prediction intervals.

#### Relationship Between $r$ (Observed RTR) and $T$ (True RTR) Given $x_o$



When the observed RTR value is within its bounds, ( $r_L$ ,  $r_U$ ), on the vertical axis, then the corresponding true RTR value will be within the limits ( $T_{min}$ ,  $T_{max}$ ) for a given value of the power level,  $x_o$ . The equations for  $T_{min}$  and  $T_{max}$  are given by:

$$(4) \quad T_{max} = T_o + \frac{(r_U - r_o)}{r'(x_o, T_o)}, \quad T_{min} = T_o - \frac{(r_o - r_L)}{r'(x_o, T_o)}$$

where  $r'(x_o, T_o)$  represents the derivative with respect to  $T$  of the prediction function evaluated at  $x_o$  and  $T_o$ :

$$r(x, T) = \frac{a_2 T + b_2 x T^2}{a_6 + b_6 x}.$$

Applying this approach to the test data, the  $T_{\min}$  and  $T_{\max}$  values have been computed. They are presented in tables 1-9 for the DC tests and tables 10-18 for the AC tests. Recall that P is used in these tables to represent the observed RTR value,  $r_o$ .

## 6.0 Total System Uncertainty

A system uncertainty analysis was performed by the Instrumentation Systems and Setpoints Group following the methodology used in the commercial nuclear industry for investigating potential sources of uncertainties. The details of this analysis are presented in reference [2]. In summary, the test data and the statistical methodology developed here were evaluated and considered to be an adequate representation of the sensor uncertainties excluding the analog-to-digital converter (ADC). Each time a sensor is read by the Control Computer, the ADC channel is used. The ADC channel uncertainty is applied independently to each sensor. To propagate this error to the RTR value, the following model can be used:

$$r = \frac{A_2 x T + B_2 (x T)^2 + \varepsilon_2 + \eta_2}{A_6 x + B_6 x^2 + \varepsilon_6 + \eta_6} = \frac{(y_2 + \varepsilon_2 + \eta_2)}{(y_6 + \varepsilon_6 + \eta_6)}$$

where  $\varepsilon_2$  represents the random error for sensor 2,  
 $\eta_2$  represents the ADC error for sensor 2,  
 $\varepsilon_6$  represents the random error for sensor 6, and  
 $\eta_6$  represents the ADC error for sensor 6.

From [2], the  $\eta$ 's are assumed to be independent, random variables with zero means. For sensor response within  $\pm 10$  mV, the maximum ADC error contribution is  $10 \mu V$  (assume that this is a 3-sigma limit). Thus, the standard deviation of the ADC errors can be estimated as

$$(10 \mu V) / 3 = 3.33 \mu V = .0034 \text{ mV}$$

Once again the method of Appendix 14 can be used to propagate the error. The partial derivatives involved are as follows (note that  $\varepsilon_2$ ,  $\varepsilon_6$ ,  $\eta_2$  and  $\eta_6$  are pairwise uncorrelated):

$$(\partial r / \partial \varepsilon_2) = 1/(A_6 x + B_6 x^2) = 1/y_6, \quad (\partial r / \partial \eta_2) = 1/(A_6 x + B_6 x^2) = 1/y_6,$$

$$(\partial r / \partial \varepsilon_6) = - (A_2 x T + B_2 (x T)^2) / (A_6 x + B_6 x^2)^2 = - y_2 / (y_6)^2,$$

$$(\partial r / \partial n_6) = - (A_2 x T + B_2 (x T)^2) / (A_6 x + B_6 x^2)^2 = - y_2 / (y_6)^2$$

The technique of error propagation applied to this model leads to the following estimate for the variance of the total system random error

Random Error Variance<sub>N</sub> =

$$(1/y_6)^2 [ (\text{SIG\_RND2})^2 + (.0034)^2 + (y_2/y_6)^2 [ (\text{SIG\_RND6})^2 + (.0034)^2 ] ] .$$

There is no change in the systematic error due to the ADC since the converter was not a component of the APM DAS used to record the test data. Thus, the total system error variance is

$$(5) \quad \text{Total Error Variance}_N = \text{Systematic Error Variance} + \text{Random Error Variance}_N .$$

New values for the percent relative standard deviation as given by (2) were computed using (5). New values for T<sub>min</sub> and T<sub>max</sub> were computed as in (4) using additive method for combining systematic and random errors as in (3). These values are included in tables 1-9 for the DC tests and tables 10-18 for the AC tests. They carry the "\_N" suffix to distinguish them from the previous estimates.

## 7.0 Conclusions

For values of the power level, the x's, between 0.05 and 0.4 watts/gram, tables 1-18 estimate the relationship between predicted, observed RTR values, the P's, and "true" RTR values, the T's, based on the test data. Uncertainties associated with this relationship are also determined including a prediction interval for T based on a new, observed P at a given value of x.

## 8.0 References

- [1] Bayne, C. K., et al., "Operational Prediction Equations for APM Gamma Thermometer Rods: Volume I. Inverse Calibration Equations", Delta-M Corporation, March, 1990.
- [2] Calc-Note: SRTC-ISS-92-9001, "Instrumentation/Setpoint Uncertainty Evaluation of the Axial Power Monitor," Task Number: SRL-RSC-91-8004.
- [3] Jaech, John L. **Statistical Methods in Nuclear Material Control**, TID-26298, Technical Information Center, Office of Information Service, U.S. Atomic Energy Commission, December, 1973.
- [4] ANSI N15.19-1989. "American National Standard for Nuclear Materials Control - Volume Calibration Techniques," American National Standards Institute, New York, 1989.

## 9.0 Displays

**DISPLAY 1 : DC - APM 1 THROUGH APM 4**

PLOT OF SENSOR 2 AND 6 ( mV ) VS WATTS/GRAM

**DISPLAY 2 : DC - APM 5 THROUGH APM 9**

PLOT OF SENSOR 2 AND 6 ( mV ) VS WATTS/GRAM

**DISPLAY 3 : DC - APM 6 :**

DATA FILE

ROD6123 - ORIGINAL DATA.

ROD6CCRP - CONTROL COMPUTER REPLICATE.

ROD6REP - REPLICATE ORIGINAL DATA.

ROD6SPP - CONTROL COMPUTER DATA.

PLOT OF SENSOR 2 AND 6 ( mV ) VS WATTS/GRAM

**DISPLAY 4 : AC - APM 1 THROUGH APM 6**

PLOT OF SENSOR 2 AND 6 ( mV ) VS WATTS/GRAM

WATTS/GRAM = 0 TO 2

**DISPLAY 5 : AC - APM 7 THROUGH APM 9**

PLOT OF SENSOR 2 AND 6 ( mV ) VS WATTS/GRAM

WATTS/GRAM = 0 TO 2

**DISPLAY 6 : AC APM 1 THROUGH APM 6**

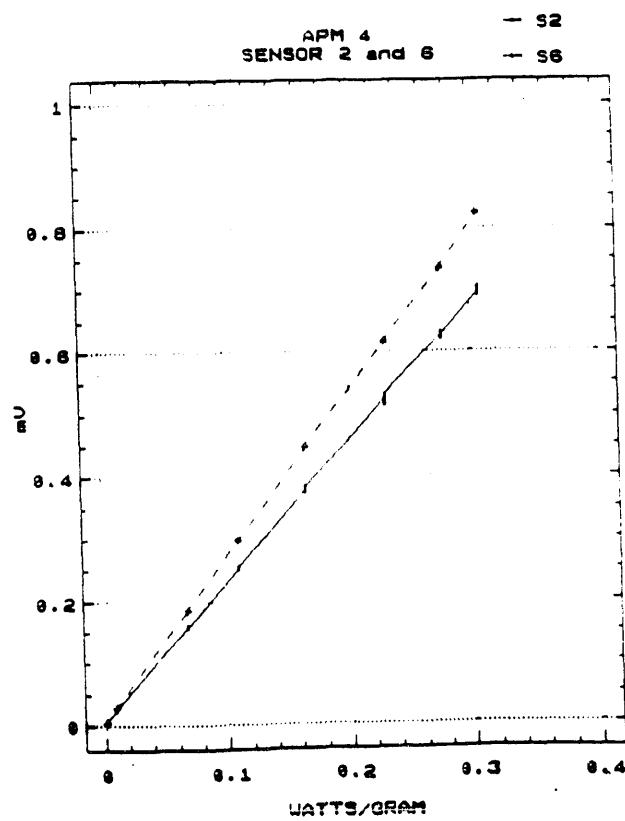
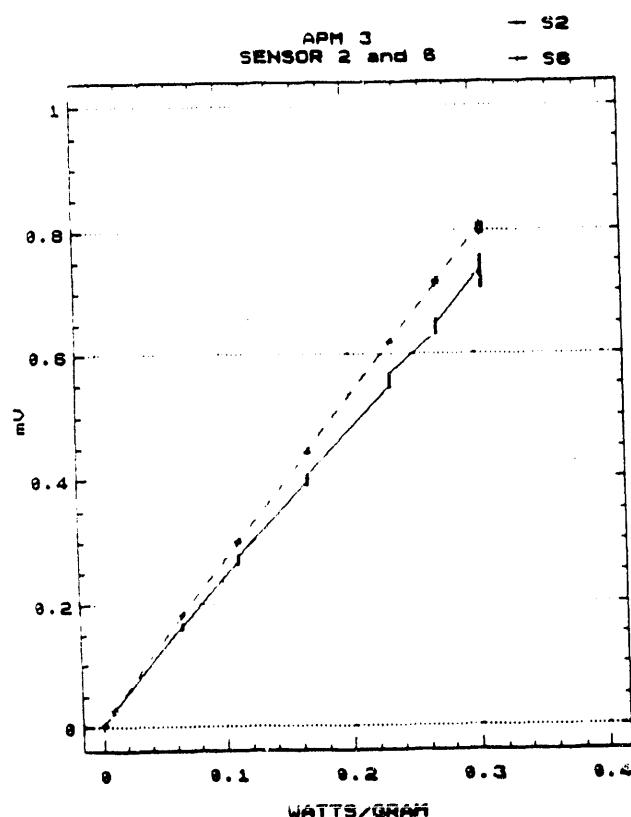
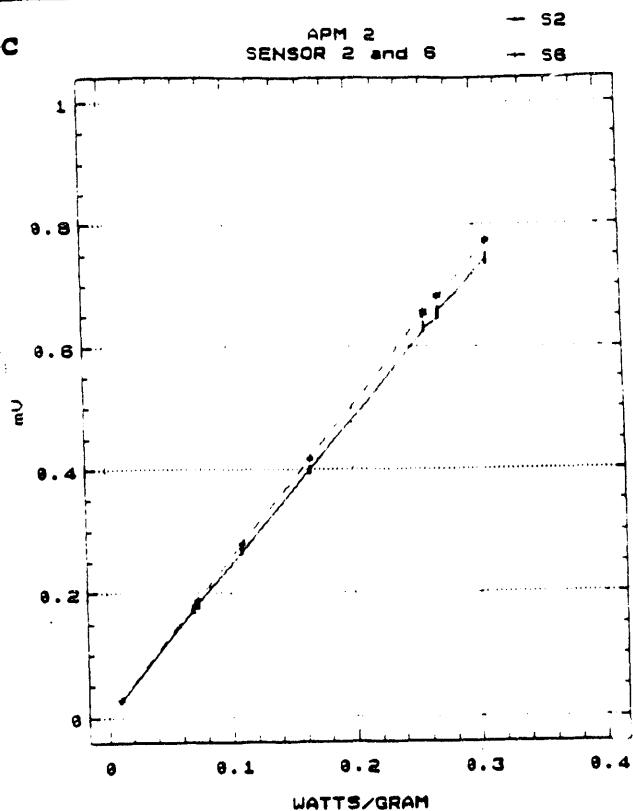
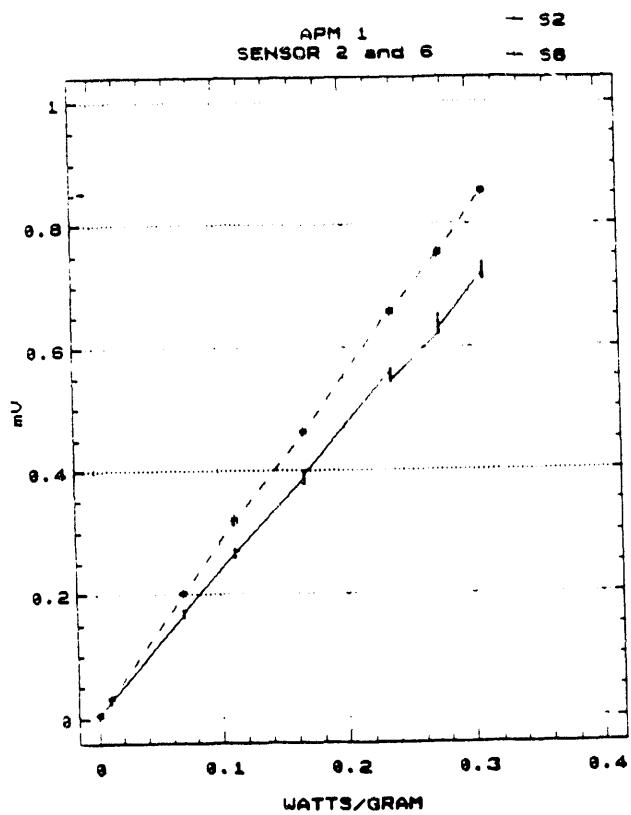
PLOT OF SENSOR 2 AND 6 ( mV ) VS WATTS/GRAM

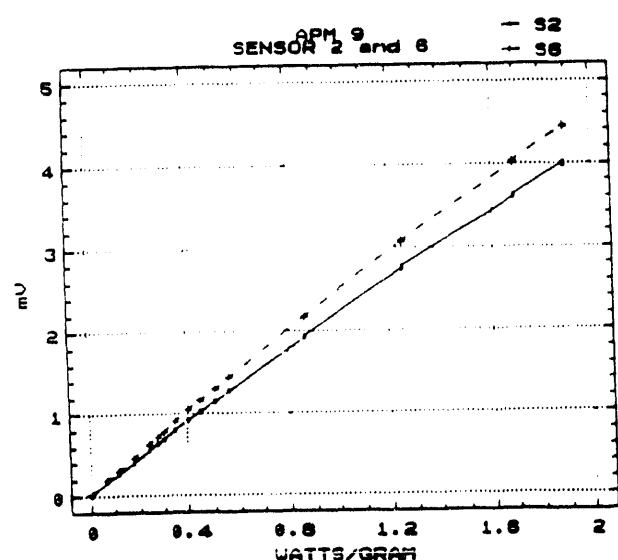
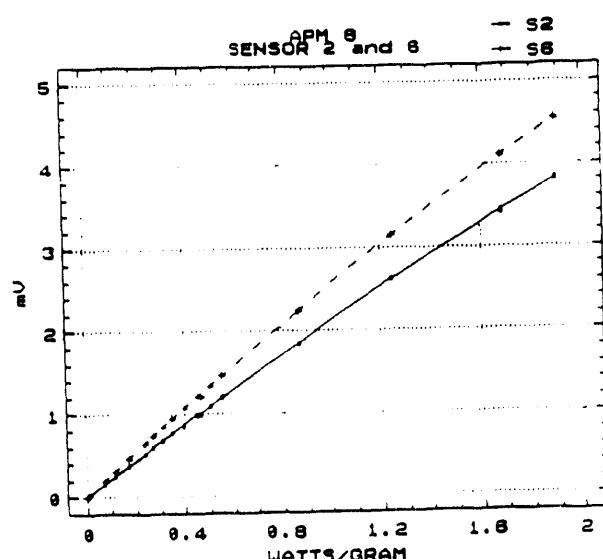
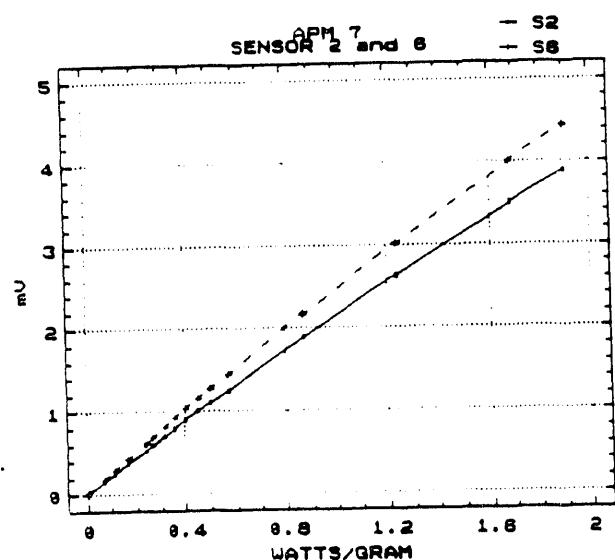
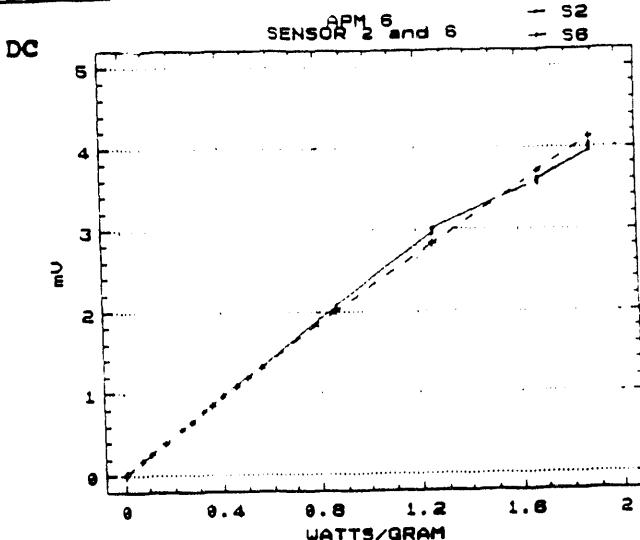
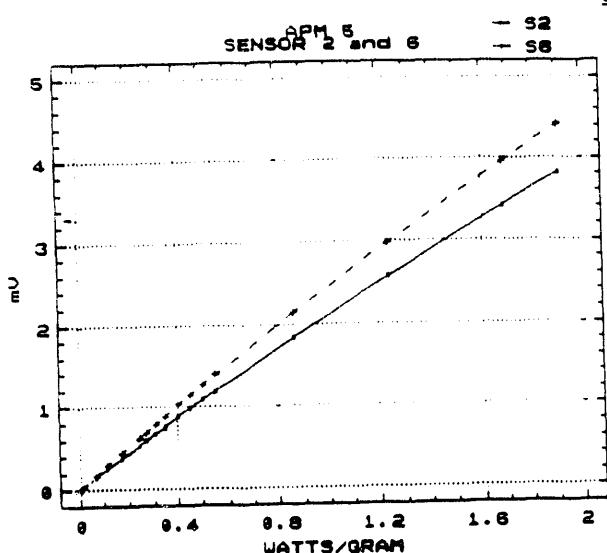
WATTS/GRAM = 0 TO 0.4

**DISPLAY 7 : AC - APM 7 THROUGH APM 9**

PLOT OF SENSOR 2 AND 6 ( mV ) VS WATTS/GRAM

WATTS/GRAM = 0 TO 0.4

DISPLAY 1

DISPLAY 2

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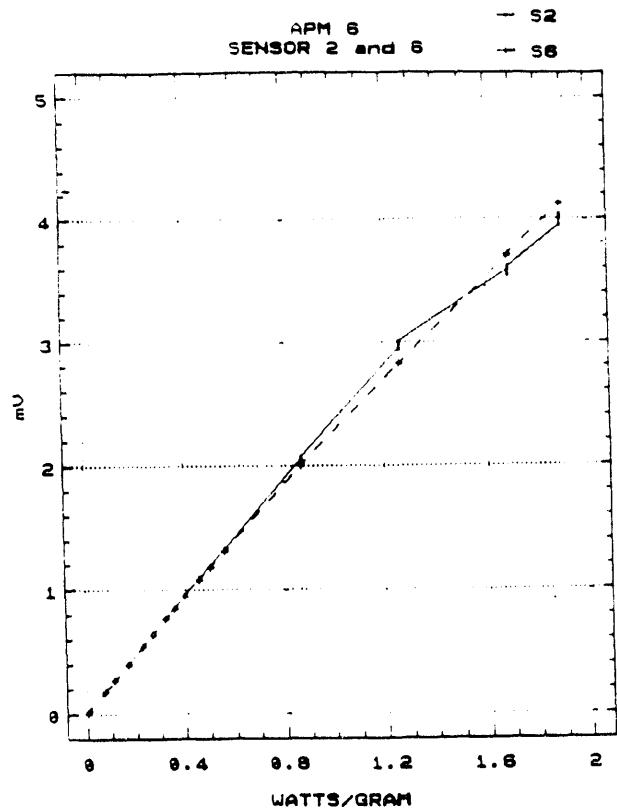
Statistical Analysis of Test Data for APM Rod Issue

May 29, 1992

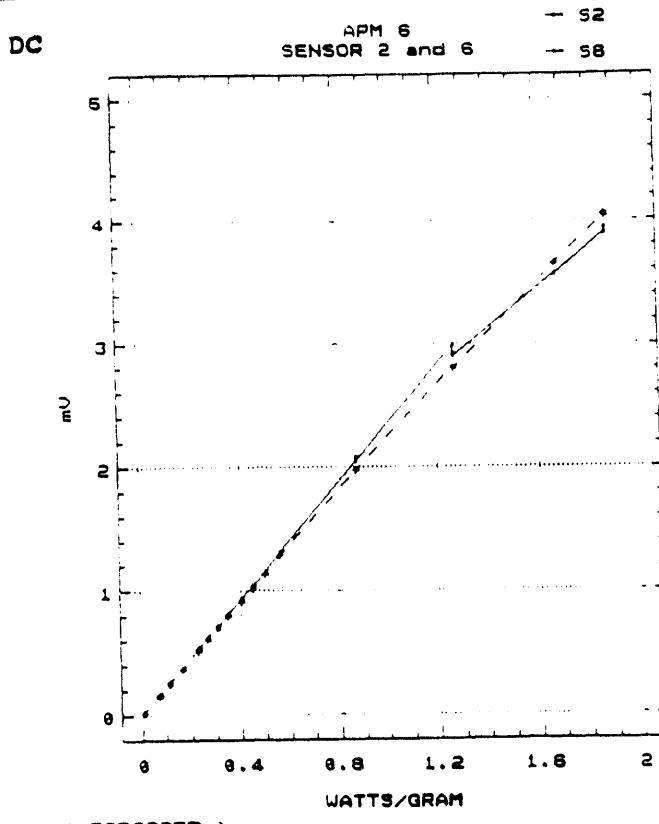
Revision 0

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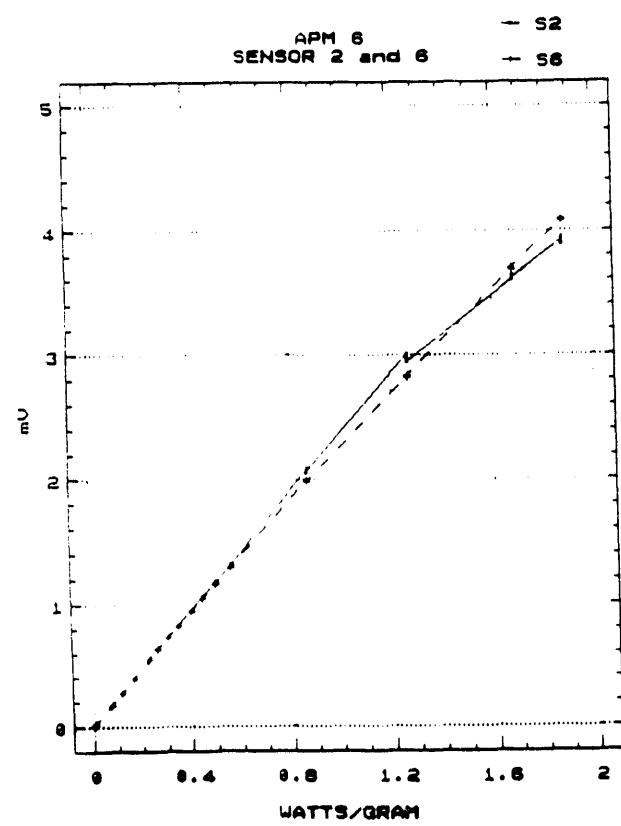
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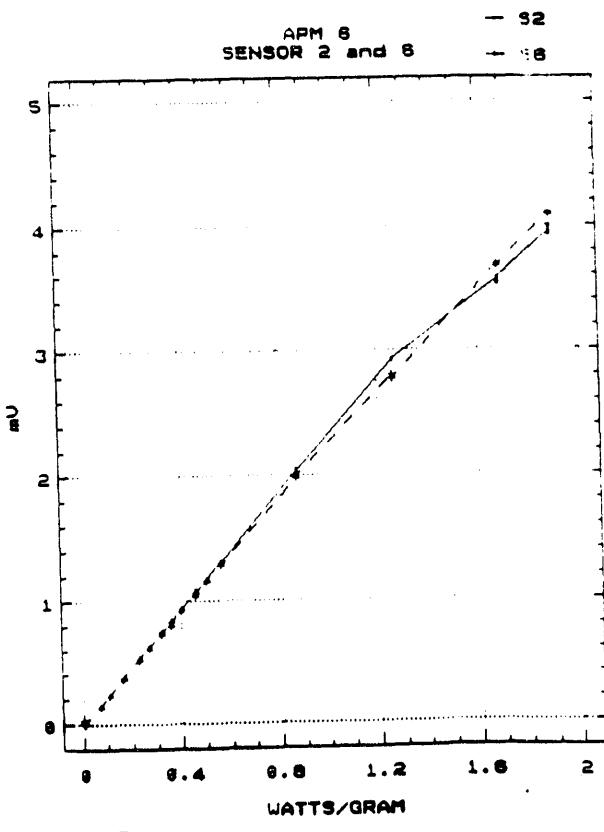
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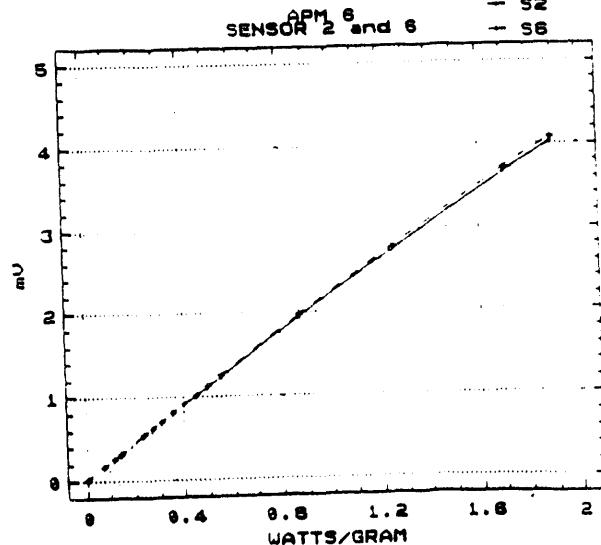
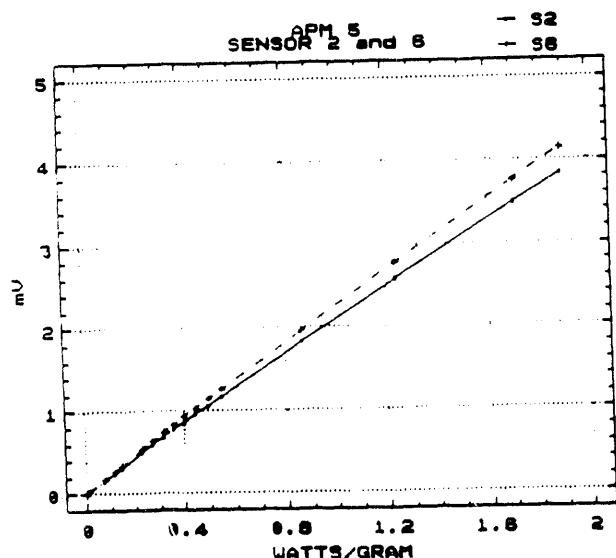
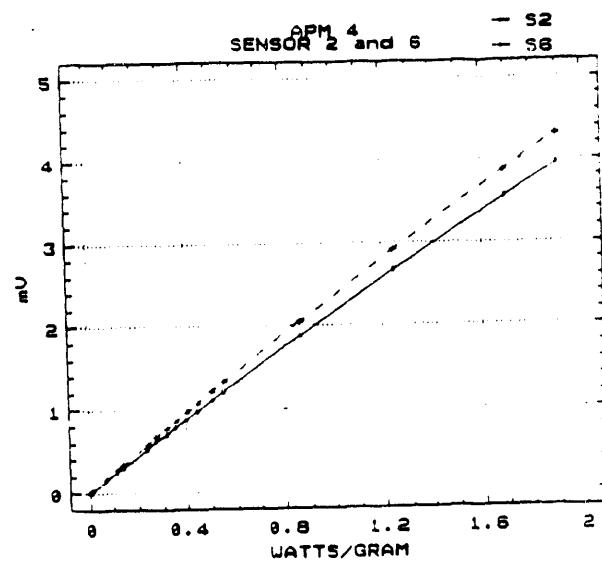
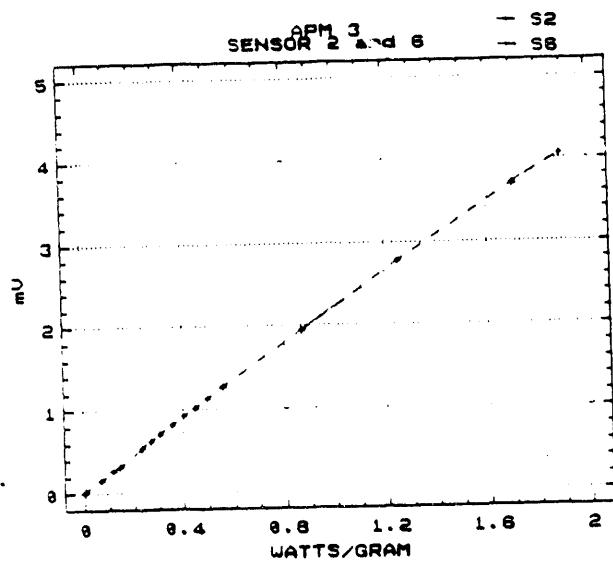
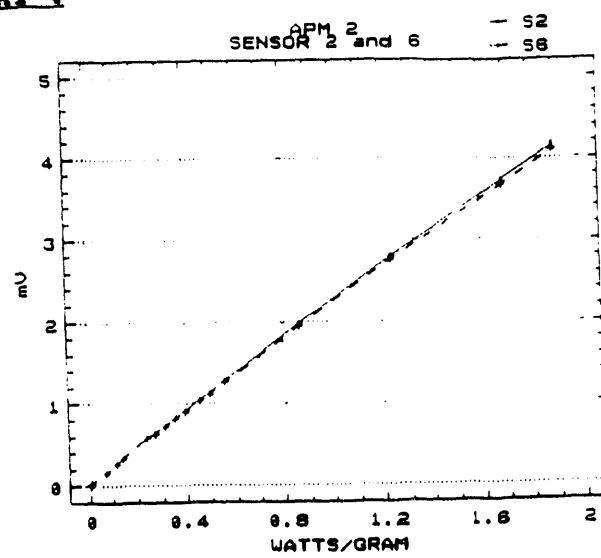
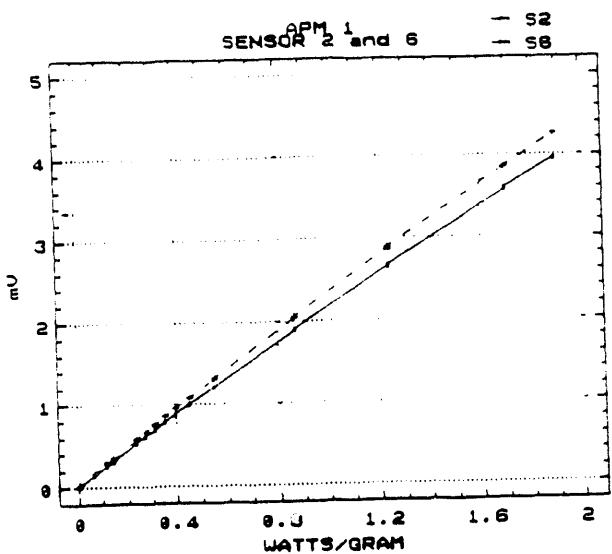
( ROD6CCRP )



( ROD6REP )



( ROD6SPP )

DISPLAY 4

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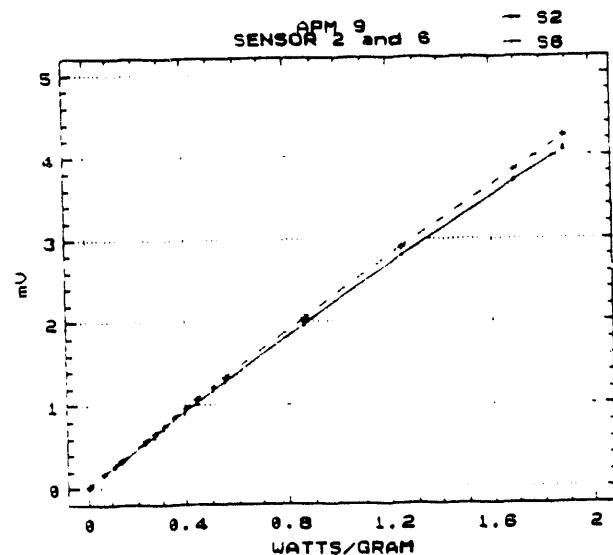
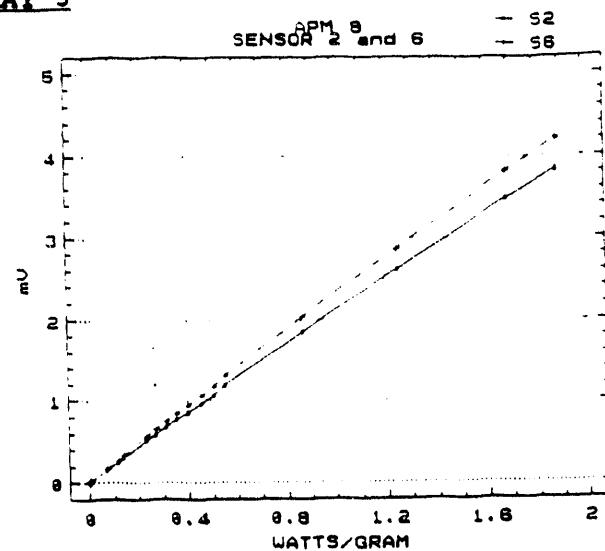
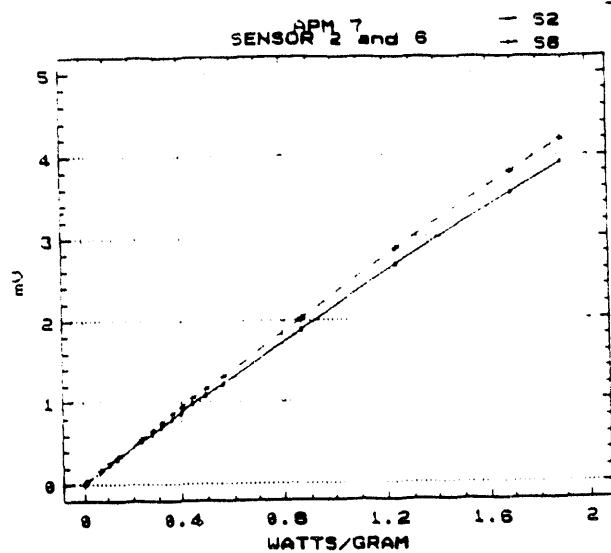
Statistical Analysis of Test Data for APM Rod Issue

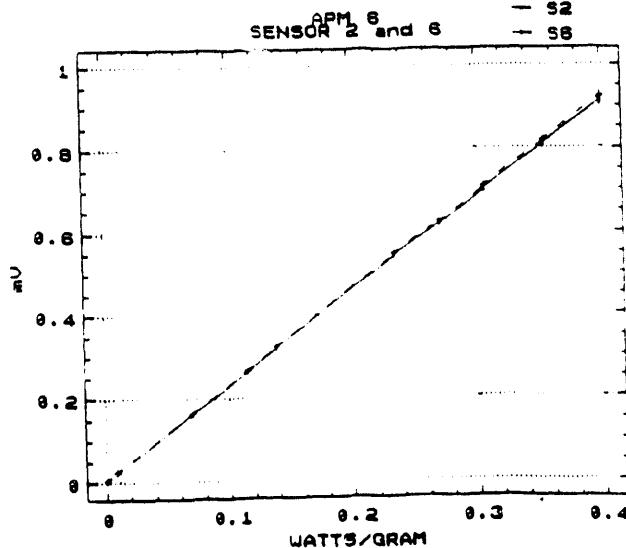
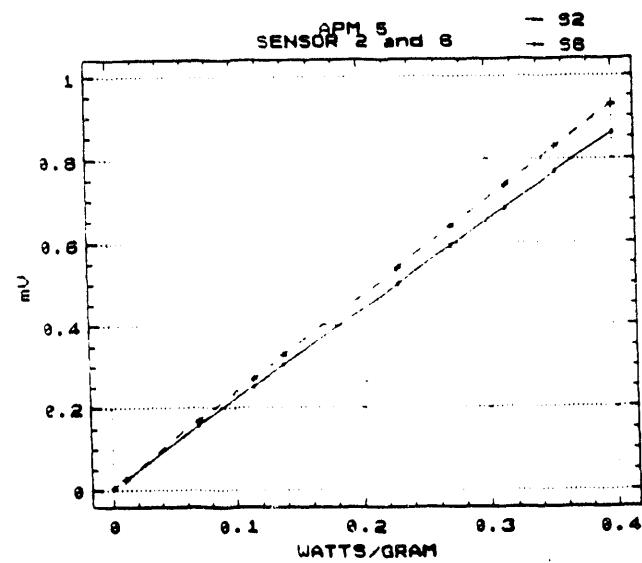
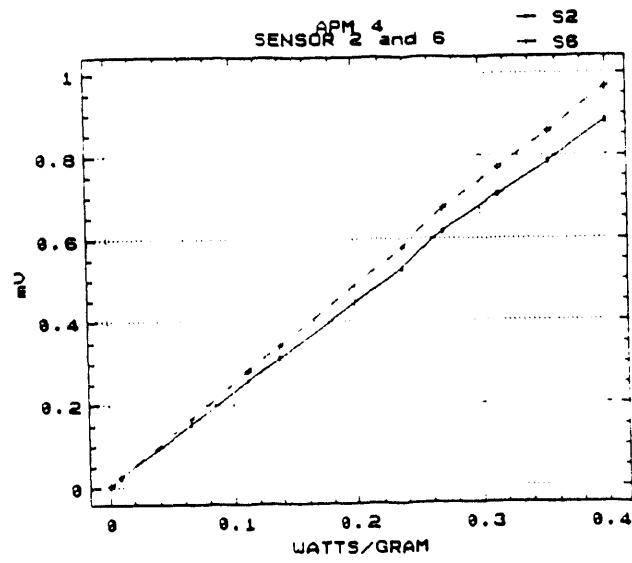
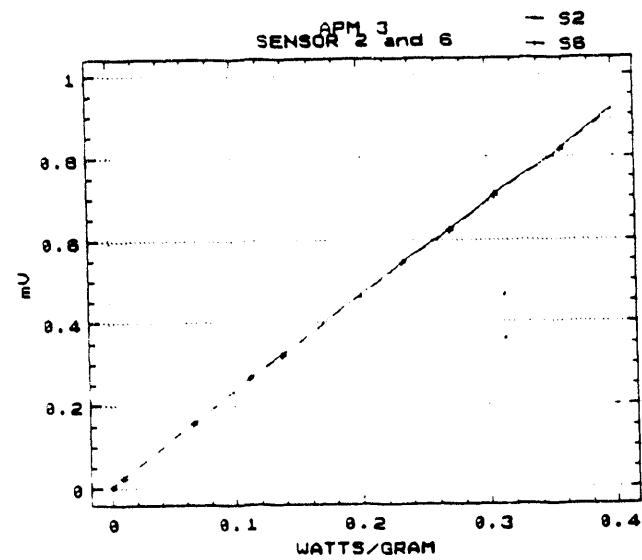
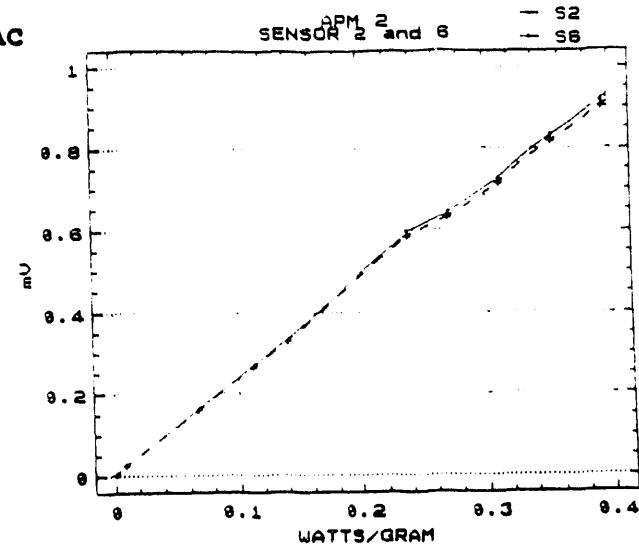
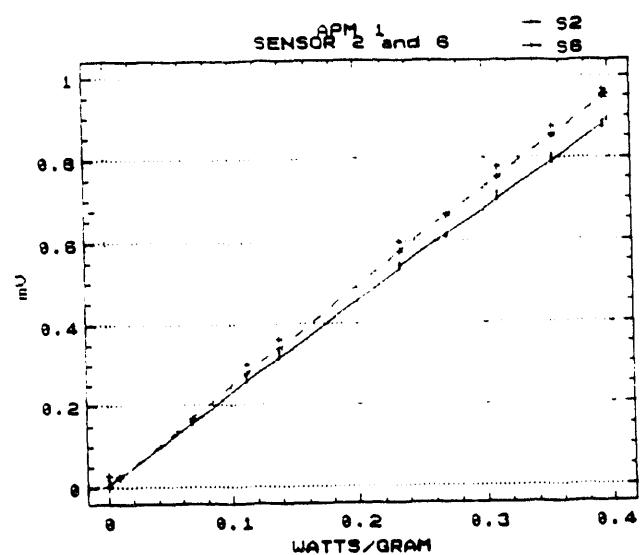
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DISPLAY 6

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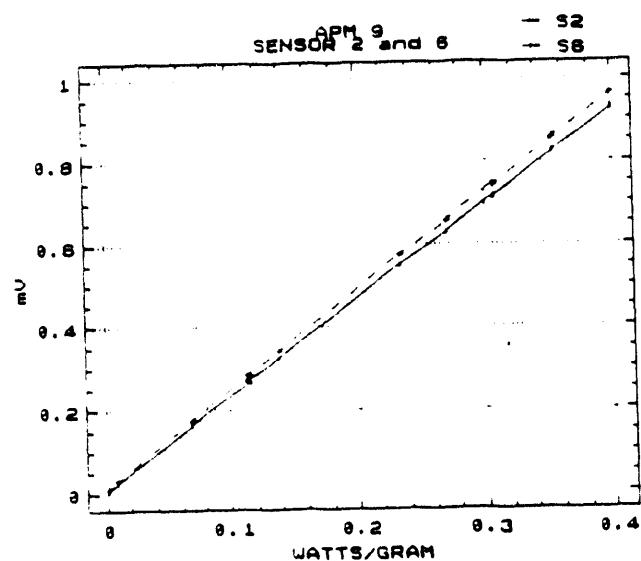
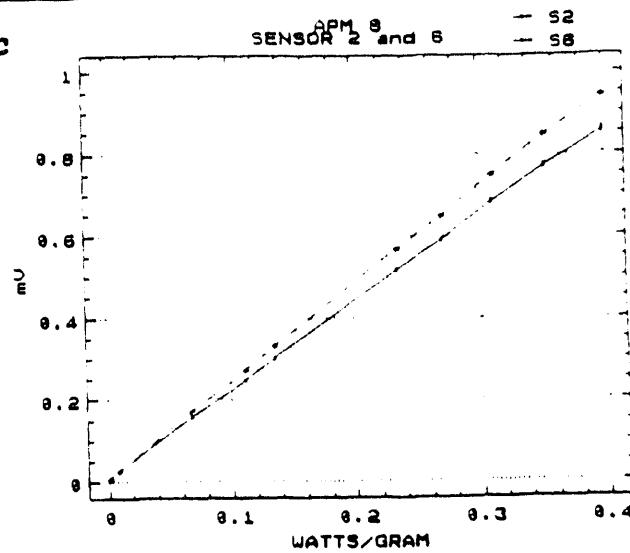
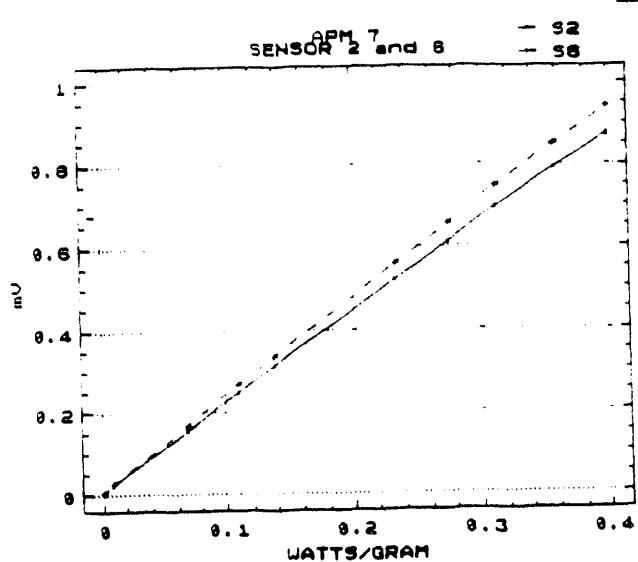
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## 10.0 Tables

TABLE 1: DC - APM 1

TABLE 2: DC - APM 2

TABLE 3: DC - APM 3

TABLE 4: DC - APM 4

TABLE 5: DC - APM 5

TABLE 6: DC - APM 6

TABLE 7: DC - APM 7

TABLE 8: DC - APM 8

TABLE 9: DC - APM 9

TABLE 10: AC - APM 1

TABLE 11: AC - APM 2

TABLE 12: AC - APM 3

TABLE 13: AC - APM 4

TABLE 14: AC - APM 5

TABLE 15: AC - APM 6

TABLE 16: AC - APM 7

TABLE 17: AC - APM 8

TABLE 18: AC - APM 9

X = SENSOR 6 WATTS PER GRAM.

T = UNOBSERVED ACTUAL ROOF-TOP RATIO.

T\_MIN = LOWER 95% CONFIDENCE BOUND ON T.

T\_MIN\_N = LOWER 95% CONFIDENCE BOUND ON T  
WITH CSA.

T\_MAX = UPPER 95% CONFIDENCE BOUND ON T.

T\_MAX\_N = UPPER 95% CONFIDENCE BOUND ON T  
WITH CSA.

P = EXPECTED ROOF-TOP RATIO.

PCT\_TO = PERCENT STANDARD DEVIATION OF P.

PCT\_TO\_N = PERCENT STANDARD DEVIATION OF P  
WITH CSA.

TABLE 1

( DC - APM 1 )

OBS	X	T	T_MIN	T_MIN_N	T_MAX	T_MAX_N	P	PCT_TO	PCT_TO_N
1	0.05	0.80	0.68731	0.66691	0.91269	0.93309	0.67407	6.62431	7.89136
2	0.05	0.85	0.73578	0.71479	0.96422	0.98521	0.71597	6.30357	7.52929
3	0.05	0.90	0.78419	0.76260	1.01581	1.03740	0.75785	6.02153	7.21175
4	0.05	0.95	0.83255	0.81035	1.06745	1.08965	0.79970	5.77197	6.93156
5	0.05	1.00	0.88087	0.85802	1.11913	1.14198	0.84153	5.54993	6.68293
6	0.05	1.05	0.92914	0.90563	1.17086	1.19437	0.88333	5.35139	6.46123
7	0.05	1.10	0.97737	0.95318	1.22263	1.24682	0.92510	5.17306	6.26263
8	0.05	1.15	1.02556	1.00067	1.27444	1.29933	0.96685	5.01221	6.08400
9	0.05	1.20	1.07371	1.04811	1.32629	1.35189	1.00857	4.86661	5.92272
10	0.05	1.25	1.12182	1.09549	1.37818	1.40451	1.05027	4.73433	5.77660
11	0.05	1.30	1.16989	1.14282	1.43011	1.45718	1.09193	4.61380	5.64378
12	0.05	1.35	1.21793	1.19011	1.48207	1.50989	1.13358	4.50362	5.52270
13	0.05	1.40	1.26593	1.23734	1.53407	1.56266	1.17519	4.40265	5.41201
14	0.05	1.45	1.31391	1.28454	1.58609	1.61546	1.21678	4.30988	5.31056
15	0.05	1.50	1.36185	1.33169	1.63815	1.66831	1.25834	4.22443	5.21734
16	0.10	0.80	0.74100	0.73069	0.85900	0.86931	0.67540	3.33996	3.97560
17	0.10	0.85	0.79014	0.77953	0.90986	0.92047	0.71716	3.17962	3.79460
18	0.10	0.90	0.83926	0.82834	0.96074	0.97166	0.75887	3.03856	3.63581
19	0.10	0.95	0.88837	0.87712	1.01163	1.02288	0.80052	2.91369	3.49564
20	0.10	1.00	0.93746	0.92588	1.06254	1.07412	0.84212	2.80253	3.37120
21	0.10	1.05	0.98653	0.97462	1.11347	1.12538	0.88367	2.70308	3.26019
22	0.10	1.10	1.03559	1.02333	1.16441	1.17667	0.92517	2.61369	3.16069
23	0.10	1.15	1.08464	1.07202	1.21536	1.22798	0.96661	2.53301	3.07114
24	0.10	1.20	1.13367	1.12068	1.26633	1.27932	1.00800	2.45992	2.99025
25	0.10	1.25	1.18270	1.16933	1.31730	1.33067	1.04934	2.39346	2.91690
26	0.10	1.30	1.23170	1.21796	1.36830	1.38204	1.09062	2.33286	2.85020
27	0.10	1.35	1.28070	1.26656	1.41930	1.43344	1.13185	2.27742	2.78935
28	0.10	1.40	1.32969	1.31515	1.47031	1.48485	1.17303	2.22657	2.73368
29	0.10	1.45	1.37866	1.36373	1.52134	1.53627	1.21416	2.17981	2.68262
30	0.10	1.50	1.42762	1.41228	1.57238	1.58772	1.25523	2.13671	2.63567
31	0.15	0.80	0.75959	0.75264	0.84041	0.84736	0.67675	2.24296	2.66855
32	0.15	0.85	0.80903	0.80188	0.89097	0.89812	0.71836	2.13564	2.54754
33	0.15	0.90	0.85847	0.85110	0.94153	0.94890	0.75990	2.04116	2.44131
34	0.15	0.95	0.90791	0.90031	0.99209	0.99969	0.80135	1.95745	2.34748
35	0.15	1.00	0.95734	0.94952	1.04266	1.05048	0.84273	1.88287	2.26414
36	0.15	1.05	1.00676	0.99871	1.09324	1.10129	0.88402	1.81609	2.18974
37	0.15	1.10	1.05618	1.04788	1.14382	1.15212	0.92524	1.75604	2.12303
38	0.15	1.15	1.10559	1.09705	1.19441	1.20295	0.96637	1.70181	2.06297
39	0.15	1.20	1.15499	1.14620	1.24501	1.25380	1.00743	1.65267	2.00870
40	0.15	1.25	1.20439	1.19534	1.29561	1.30466	1.04840	1.60799	1.95949
41	0.15	1.30	1.25377	1.24445	1.34623	1.35555	1.08929	1.56726	1.91475
42	0.15	1.35	1.30313	1.29355	1.39687	1.40645	1.13011	1.53001	1.87394
43	0.15	1.40	1.35248	1.34263	1.44752	1.45737	1.17084	1.49589	1.83664
44	0.15	1.45	1.40181	1.39168	1.49819	1.50832	1.21150	1.46455	1.80246
45	0.15	1.50	1.45111	1.44070	1.54889	1.55930	1.25207	1.43572	1.77108
46	0.20	0.80	0.76935	0.76408	0.83065	0.83592	0.67812	1.69144	2.01252
47	0.20	0.85	0.81899	0.81356	0.88101	0.88644	0.71958	1.61045	1.92136

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TABLE 1

( DC - APM 1 )

( CONTINUED )

OBS	X	T	T_MIN	T_MIN_N	T_MAX	T_MAX_N	P	PCT_TO	PCT_TO_N
48	0.20	0.90	0.86863	0.86303	0.93137	0.93697	0.76094	1.53913	1.84133
49	0.20	0.95	0.91826	0.91249	0.98174	0.98751	0.80220	1.47596	1.77065
50	0.20	1.00	0.96788	0.96194	1.03212	1.03806	0.84334	1.41971	1.70789
51	0.20	1.05	1.01749	1.01137	1.08251	1.08863	0.88438	1.36941	1.65193
52	0.20	1.10	1.06708	1.06077	1.13292	1.13923	0.92531	1.32427	1.60182
53	0.20	1.15	1.11663	1.11013	1.18337	1.18987	0.96613	1.28362	1.55680
54	0.20	1.20	1.16615	1.15945	1.23385	1.24055	1.00684	1.24693	1.51624
55	0.20	1.25	1.21561	1.20871	1.28439	1.29129	1.04745	1.21373	1.47960
56	0.20	1.30	1.26502	1.25792	1.33498	1.34208	1.08795	1.18366	1.44643
57	0.20	1.35	1.31435	1.30705	1.38565	1.39295	1.12834	1.15637	1.41635
58	0.20	1.40	1.36362	1.35610	1.43638	1.44390	1.16862	1.13161	1.38905
59	0.20	1.45	1.41282	1.40509	1.48718	1.49491	1.20880	1.10913	1.36424
60	0.20	1.50	1.46194	1.45399	1.53806	1.54601	1.24887	1.08873	1.34169
61	0.25	0.80	0.77543	0.77117	0.82457	0.82883	0.67950	1.35907	1.61771
62	0.25	0.85	0.82517	0.82077	0.87483	0.87923	0.72082	1.29412	1.54467
63	0.25	0.90	0.87489	0.87035	0.92511	0.92965	0.76200	1.23709	1.48068
64	0.25	0.95	0.92456	0.91988	0.97544	0.98012	0.80305	1.18676	1.42433
65	0.25	1.00	0.97417	0.96935	1.02583	1.03065	0.84396	1.14221	1.37451
66	0.25	1.05	1.02371	1.01874	1.07629	1.08126	0.88474	1.10265	1.33031
67	0.25	1.10	1.07316	1.06804	1.12684	1.13196	0.92538	1.06748	1.29101
68	0.25	1.15	1.12252	1.11723	1.17748	1.18277	0.96588	1.03619	1.25602
69	0.25	1.20	1.17178	1.16634	1.22822	1.23366	1.00625	1.00837	1.22482
70	0.25	1.25	1.22095	1.21534	1.27905	1.28466	1.04648	0.98367	1.19702
71	0.25	1.30	1.27004	1.26426	1.32996	1.33574	1.08658	0.96179	1.17227
72	0.25	1.35	1.31905	1.31310	1.38095	1.38690	1.12654	0.94249	1.15027
73	0.25	1.40	1.36798	1.36186	1.43202	1.43814	1.16637	0.92556	1.13076
74	0.25	1.45	1.41685	1.41055	1.48315	1.48945	1.20606	0.91082	1.11354
75	0.25	1.50	1.46565	1.45917	1.53435	1.54083	1.24562	0.89810	1.09842
76	0.30	0.80	0.77930	0.77570	0.82070	0.82430	0.68091	1.13879	1.35563
77	0.30	0.85	0.82896	0.82525	0.87104	0.87475	0.72208	1.08536	1.29535
78	0.30	0.90	0.87852	0.87470	0.92148	0.92530	0.76308	1.03885	1.24290
79	0.30	0.95	0.92799	0.92404	0.97201	0.97596	0.80392	0.99832	1.19711
80	0.30	1.00	0.97735	0.97327	1.02265	1.02673	0.84459	0.96299	1.15709
81	0.30	1.05	1.02660	1.02240	1.07340	1.07760	0.88510	0.93227	1.12212
82	0.30	1.10	1.07576	1.07142	1.12424	1.12858	0.92545	0.90566	1.09160
83	0.30	1.15	1.12482	1.12035	1.17518	1.17965	0.96563	0.88276	1.06506
84	0.30	1.20	1.17381	1.16920	1.22619	1.23080	1.00565	0.86325	1.04209
85	0.30	1.25	1.22271	1.21796	1.27729	1.28204	1.04550	0.84683	1.02235
86	0.30	1.30	1.27153	1.26664	1.32847	1.33336	1.08519	0.83328	1.00557
87	0.30	1.35	1.32028	1.31524	1.37972	1.38476	1.12472	0.82237	0.99150
88	0.30	1.40	1.36895	1.36376	1.43105	1.43624	1.16408	0.81394	0.97993
89	0.30	1.45	1.41755	1.41221	1.48245	1.48779	1.20326	0.80782	0.97069
90	0.30	1.50	1.46608	1.46058	1.53392	1.53942	1.24232	0.80385	0.96359

TABLE 2

( DC - APM 2 )

OBS	X	T	T_MIN	T_MIN_N	T_MAX	T_MAX_N	P	PCT_TO	PCT_TO_N
1	0.05	0.80	0.73639	0.70461	0.86361	0.89539	0.76652	3.75865	5.73515
2	0.05	0.85	0.78534	0.75260	0.91466	0.94740	0.81424	3.58810	5.50403
3	0.05	0.90	0.83425	0.80052	0.96575	0.99948	0.86193	3.43863	5.30254
4	0.05	0.95	0.88313	0.84837	1.01687	1.05163	0.90960	3.30680	5.12578
5	0.05	1.00	0.93198	0.89616	1.06802	1.10384	0.95724	3.18991	4.96985
6	0.05	1.05	0.98079	0.94389	1.11921	1.15611	1.00487	3.08573	4.83159
7	0.05	1.10	1.02958	0.99157	1.17042	1.20843	1.05247	2.99247	4.70843
8	0.05	1.15	1.07833	1.03920	1.22167	1.26080	1.10004	2.90863	4.59826
9	0.05	1.20	1.12706	1.08678	1.27294	1.31322	1.14760	2.83297	4.49932
10	0.05	1.25	1.17577	1.13431	1.32423	1.36569	1.19513	2.76447	4.41014
11	0.05	1.30	1.22445	1.18181	1.37555	1.41819	1.24264	2.70224	4.32948
12	0.05	1.35	1.27310	1.22926	1.42690	1.47074	1.29012	2.64554	4.25632
13	0.05	1.40	1.32174	1.27668	1.47826	1.52332	1.33758	2.59373	4.18974
14	0.05	1.45	1.37035	1.32406	1.52965	1.57594	1.38502	2.54627	4.12900
15	0.05	1.50	1.41895	1.37140	1.58105	1.62860	1.43244	2.50268	4.07343
16	0.10	0.80	0.76686	0.75083	0.83314	0.84917	0.76844	1.89237	2.88391
17	0.10	0.85	0.81629	0.79977	0.88371	0.90023	0.81608	1.80714	2.76842
18	0.10	0.90	0.86570	0.84867	0.93430	0.95133	0.86367	1.73241	2.66771
19	0.10	0.95	0.91510	0.89754	0.98490	1.00246	0.91122	1.66648	2.57935
20	0.10	1.00	0.96449	0.94639	1.03551	1.05361	0.95872	1.60798	2.50137
21	0.10	1.05	1.01386	0.99521	1.08614	1.10479	1.00617	1.55583	2.43222
22	0.10	1.10	1.06322	1.04400	1.13678	1.15600	1.05358	1.50911	2.37059
23	0.10	1.15	1.11257	1.09278	1.18743	1.20722	1.10094	1.46709	2.31545
24	0.10	1.20	1.16191	1.14153	1.23809	1.25847	1.14826	1.42915	2.26590
25	0.10	1.25	1.21125	1.19026	1.28875	1.30974	1.19553	1.39478	2.22123
26	0.10	1.30	1.26057	1.23898	1.33943	1.36102	1.24275	1.36353	2.18082
27	0.10	1.35	1.30988	1.28767	1.39012	1.41233	1.28993	1.33503	2.14413
28	0.10	1.40	1.35918	1.33635	1.44082	1.46365	1.33706	1.30898	2.11074
29	0.10	1.45	1.40848	1.38501	1.49152	1.51499	1.38415	1.28510	2.08027
30	0.10	1.50	1.45777	1.43366	1.54223	1.56634	1.43119	1.26315	2.05238
31	0.15	0.80	0.77739	0.76661	0.82261	0.83339	0.77039	1.26915	1.93281
32	0.15	0.85	0.82702	0.81590	0.87298	0.88410	0.81795	1.21215	1.85573
33	0.15	0.90	0.87664	0.86517	0.92336	0.93483	0.86544	1.16214	1.78850
34	0.15	0.95	0.92625	0.91443	0.97375	0.98557	0.91286	1.11799	1.72949
35	0.15	1.00	0.97586	0.96366	1.02414	1.03634	0.96021	1.07880	1.67740
36	0.15	1.05	1.02546	1.01289	1.07454	1.08711	1.00749	1.04383	1.63119
37	0.15	1.10	1.07506	1.06210	1.12494	1.13790	1.05471	1.01250	1.59000
38	0.15	1.15	1.12464	1.11129	1.17536	1.18871	1.10185	0.98430	1.55313
39	0.15	1.20	1.17423	1.16047	1.22577	1.23953	1.14893	0.95884	1.52000
40	0.15	1.25	1.22380	1.20964	1.27620	1.29036	1.19593	0.93577	1.49013
41	0.15	1.30	1.27337	1.25879	1.32663	1.34121	1.24287	0.91480	1.46311
42	0.15	1.35	1.32292	1.30792	1.37708	1.39208	1.28973	0.89569	1.43859
43	0.15	1.40	1.37247	1.35704	1.42753	1.44296	1.33653	0.87824	1.41627
44	0.15	1.45	1.42200	1.40614	1.47800	1.49386	1.38326	0.86225	1.39592
45	0.15	1.50	1.47152	1.45522	1.52848	1.54478	1.42992	0.84759	1.37730
46	0.20	0.80	0.78290	0.77474	0.81710	0.82526	0.77236	0.95606	1.45633
47	0.20	0.85	0.83265	0.82423	0.86735	0.87577	0.81984	0.91310	1.39842

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TABLE 2

( DC - APM 2 )

( CONTINUED )

OBS	X	T	T_MIN	T_MIN_N	T_MAX	T_MAX_N	P	PCT_TO	PCT_TO_N
48	0.20	0.90	0.88239	0.87371	0.91761	0.92629	0.86723	0.87540	1.34790
49	0.20	0.95	0.93213	0.92317	0.96787	0.97683	0.91452	0.84212	1.30356
50	0.20	1.00	0.98186	0.97262	1.01814	1.02738	0.96172	0.81260	1.26443
51	0.20	1.05	1.03159	1.02205	1.06841	1.07795	1.00883	0.78629	1.22974
52	0.20	1.10	1.08129	1.07146	1.11871	1.12854	1.05585	0.76275	1.19884
53	0.20	1.15	1.13098	1.12085	1.16902	1.17915	1.10277	0.74162	1.17121
54	0.20	1.20	1.18065	1.17021	1.21935	1.22979	1.14960	0.72260	1.14642
55	0.20	1.25	1.23030	1.21954	1.26970	1.28046	1.19634	0.70543	1.12412
56	0.20	1.30	1.27991	1.26883	1.32009	1.33117	1.24298	0.68991	1.10398
57	0.20	1.35	1.32949	1.31809	1.37051	1.38191	1.28953	0.67586	1.08577
58	0.20	1.40	1.37904	1.36731	1.42096	1.43269	1.33599	0.66313	1.06926
59	0.20	1.45	1.42855	1.41649	1.47145	1.48351	1.38236	0.65157	1.05426
60	0.20	1.50	1.47803	1.46563	1.52197	1.53437	1.42863	0.64109	1.04061
61	0.25	0.80	0.78632	0.77973	0.81368	0.82027	0.77435	0.76757	1.17006
62	0.25	0.85	0.83613	0.82933	0.86387	0.87067	0.82175	0.73314	1.12372
63	0.25	0.90	0.88593	0.87891	0.91407	0.92109	0.86904	0.70299	1.08334
64	0.25	0.95	0.93570	0.92846	0.96430	0.97154	0.91621	0.67648	1.04796
65	0.25	1.00	0.98545	0.97797	1.01455	1.02203	0.96326	0.65306	1.01680
66	0.25	1.05	1.03516	1.02744	1.06484	1.07256	1.01019	0.63231	0.98925
67	0.25	1.10	1.08482	1.07686	1.11518	1.12314	1.05701	0.61389	0.96481
68	0.25	1.15	1.13444	1.12623	1.16556	1.17377	1.10371	0.59752	0.94306
69	0.25	1.20	1.18401	1.17555	1.21599	1.22445	1.15029	0.58296	0.92365
70	0.25	1.25	1.23354	1.22482	1.26646	1.27518	1.19675	0.57002	0.90630
71	0.25	1.30	1.28302	1.27405	1.31698	1.32595	1.24310	0.55854	0.89078
72	0.25	1.35	1.33247	1.32323	1.36753	1.37677	1.28933	0.54837	0.87687
73	0.25	1.40	1.38188	1.37237	1.41812	1.42763	1.33545	0.53939	0.86441
74	0.25	1.45	1.43126	1.42147	1.46874	1.47853	1.38145	0.53151	0.85324
75	0.25	1.50	1.48060	1.47053	1.51940	1.52947	1.42733	0.52463	0.84325
76	0.30	0.80	0.78847	0.78293	0.81153	0.81707	0.77637	0.64269	0.97976
77	0.30	0.85	0.83825	0.83253	0.86175	0.86747	0.82369	0.61432	0.94137
78	0.30	0.90	0.88799	0.88208	0.91201	0.91792	0.87087	0.58966	0.90804
79	0.30	0.95	0.93767	0.93157	0.96233	0.96843	0.91791	0.56819	0.87897
80	0.30	1.00	0.98731	0.98101	1.01269	1.01899	0.96481	0.54946	0.85353
81	0.30	1.05	1.03690	1.03039	1.06310	1.06961	1.01156	0.53315	0.83120
82	0.30	1.10	1.08643	1.07972	1.11357	1.12028	1.05818	0.51897	0.81156
83	0.30	1.15	1.13593	1.12900	1.16407	1.17100	1.10465	0.50670	0.79432
84	0.30	1.20	1.18538	1.17824	1.21462	1.22176	1.15098	0.49614	0.77914
85	0.30	1.25	1.23479	1.22743	1.2621	1.27257	1.19717	0.48713	0.76580
86	0.30	1.30	1.28416	1.27657	1.31584	1.32343	1.24322	0.47955	0.75412
87	0.30	1.35	1.33349	1.32568	1.36651	1.37432	1.28913	0.47327	0.74391
88	0.30	1.40	1.38279	1.37475	1.41721	1.42525	1.33490	0.46819	0.73504
89	0.30	1.45	1.43205	1.42377	1.46795	1.47623	1.38052	0.46423	0.72738
90	0.30	1.50	1.48127	1.47276	1.51873	1.52724	1.42601	0.46131	0.72084

TABLE 3

( DC - APM 3 )

GBS	X	T	T_MIN	T_MIN_N	T_MAX	T_MAX_N	P	PCT_TO	PCT_TO_N
1	0.05	0.80	0.67849	0.65927	0.92151	0.94073	0.71491	7.16022	8.35608
2	0.05	0.85	0.72721	0.70733	0.97279	0.99267	0.75945	6.79309	7.95635
3	0.05	0.90	0.77588	0.75533	1.02412	1.04467	0.80396	6.46930	7.60512
4	0.05	0.95	0.82452	0.80326	1.07548	1.09674	0.84846	6.18195	7.29457
5	0.05	1.00	0.87312	0.85113	1.12688	1.14887	0.89294	5.92552	7.01848
6	0.05	1.05	0.92168	0.89894	1.17832	1.20106	0.93740	5.69552	6.77180
7	0.05	1.10	0.97021	0.94669	1.22979	1.25331	0.98184	5.48830	6.55040
8	0.05	1.15	1.01871	0.99439	1.28129	1.30561	1.02627	5.30083	6.35088
9	0.05	1.20	1.06717	1.04203	1.33283	1.35797	1.07068	5.13060	6.17041
10	0.05	1.25	1.11560	1.08963	1.38440	1.41037	1.11507	4.97549	6.00659
11	0.05	1.30	1.16400	1.13718	1.43600	1.46282	1.15944	4.83371	5.85742
12	0.05	1.35	1.21237	1.18468	1.48763	1.51532	1.20380	4.70374	5.72120
13	0.05	1.40	1.26072	1.23214	1.53928	1.56786	1.24813	4.58427	5.59644
14	0.05	1.45	1.30903	1.27955	1.59097	1.62045	1.29245	4.47417	5.48191
15	0.05	1.50	1.35732	1.32693	1.64268	1.67307	1.33676	4.37248	5.37650
16	0.10	0.80	0.73664	0.72695	0.86336	0.87305	0.71735	3.60351	4.20290
17	0.10	0.85	0.78593	0.77591	0.91407	0.92409	0.76188	3.41996	4.00308
18	0.10	0.90	0.83520	0.82483	0.96480	0.97517	0.80638	3.25802	3.82744
19	0.10	0.95	0.88447	0.87374	1.01553	1.02626	0.85084	3.11424	3.67209
20	0.10	1.00	0.93373	0.92263	1.06627	1.07737	0.89527	2.98586	3.53392
21	0.10	1.05	0.98298	0.97149	1.11702	1.12851	0.93966	2.87066	3.41041
22	0.10	1.10	1.03222	1.02033	1.16778	1.17967	0.98401	2.76680	3.29951
23	0.10	1.15	1.08145	1.06916	1.21855	1.23084	1.02833	2.67278	3.19951
24	0.10	1.20	1.13068	1.11797	1.26932	1.28203	1.07262	2.58735	3.10901
25	0.10	1.25	1.17989	1.16676	1.32011	1.33324	1.11686	2.50945	3.02681
26	0.10	1.30	1.22910	1.21554	1.37090	1.38446	1.16108	2.43820	2.95192
27	0.10	1.35	1.27831	1.26430	1.42169	1.43570	1.20525	2.37283	2.88348
28	0.10	1.40	1.32750	1.31304	1.47250	1.48696	1.24940	2.31269	2.82077
29	0.10	1.45	1.37669	1.36177	1.52331	1.53823	1.29350	2.25723	2.76315
30	0.10	1.50	1.42587	1.41048	1.57413	1.58952	1.33757	2.20597	2.71010
31	0.15	0.80	0.75679	0.75028	0.84321	0.84972	0.71982	2.41544	2.81640
32	0.15	0.85	0.80635	0.79961	0.89365	0.90039	0.76435	2.29258	2.68279
33	0.15	0.90	0.85592	0.84894	0.94408	0.95106	0.80883	2.18409	2.56527
34	0.15	0.95	0.90548	0.89826	0.99452	1.00174	0.85326	2.08770	2.46127
35	0.15	1.00	0.95505	0.94758	1.04495	1.05242	0.89763	2.00157	2.36871
36	0.15	1.05	1.00462	0.99689	1.09538	1.10311	0.94195	1.92422	2.28594
37	0.15	1.10	1.05419	1.04619	1.14581	1.15381	0.98621	1.85446	2.21158
38	0.15	1.15	1.10376	1.09548	1.19624	1.20452	1.03043	1.79128	2.14452
39	0.15	1.20	1.15332	1.14476	1.24668	1.25524	1.07458	1.73387	2.08382
40	0.15	1.25	1.20288	1.19403	1.29712	1.30597	1.11869	1.68152	2.02869
41	0.15	1.30	1.25243	1.24328	1.34757	1.35672	1.16274	1.63365	1.97847
42	0.15	1.35	1.30196	1.29251	1.39804	1.40749	1.20673	1.58977	1.93261
43	0.15	1.40	1.35148	1.34172	1.44852	1.45828	1.25067	1.54945	1.89063
44	0.15	1.45	1.40098	1.39090	1.49902	1.50910	1.29456	1.51233	1.85211
45	0.15	1.50	1.45045	1.44006	1.54955	1.55994	1.33840	1.47809	1.81670
46	0.20	0.80	0.76738	0.76245	0.83262	0.83755	0.72233	1.81807	2.12032
47	0.20	0.85	0.81713	0.81203	0.88287	0.88797	0.76686	1.72535	2.01965

TABLE 3

( DC - APM 3 )

( CONTINUED )

OBS	X	T	T_MIN	T_MIN_N	T_MAX	T_MAX_N	P	PCT_TO	PCT_TO_N
48	0.20	0.90	0.86688	0.86160	0.93312	0.93840	0.81132	1.64347	1.93110
49	0.20	0.95	0.91664	0.91117	0.98336	0.98883	0.85571	1.57074	1.85276
50	0.20	1.00	0.96639	0.96072	1.03361	1.03928	0.90003	1.50581	1.78309
51	0.20	1.05	1.01612	1.01026	1.08388	1.08974	0.94427	1.44759	1.72086
52	0.20	1.10	1.06583	1.05977	1.13417	1.14023	0.98844	1.39518	1.66505
53	0.20	1.15	1.11551	1.10923	1.18449	1.19077	1.03255	1.34788	1.61484
54	0.20	1.20	1.16515	1.15865	1.23485	1.24135	1.07657	1.30506	1.56953
55	0.20	1.25	1.21472	1.20800	1.28528	1.29200	1.12053	1.26623	1.52856
56	0.20	1.30	1.26422	1.25728	1.33578	1.34272	1.16442	1.23096	1.49144
57	0.20	1.35	1.31365	1.30647	1.38635	1.39353	1.20823	1.19889	1.45775
58	0.20	1.40	1.36299	1.35557	1.43701	1.44443	1.25197	1.16972	1.42715
59	0.20	1.45	1.41224	1.40459	1.48776	1.49541	1.29564	1.14319	1.39934
60	0.20	1.50	1.46142	1.45353	1.53858	1.54647	1.33924	1.11907	1.37405
61	0.25	0.80	0.77399	0.77001	0.82601	0.82999	0.72486	1.45797	1.70124
62	0.25	0.85	0.82383	0.81971	0.87617	0.88029	0.76940	1.38365	1.62062
63	0.25	0.90	0.87364	0.86938	0.92636	0.93062	0.81384	1.31821	1.54987
64	0.25	0.95	0.92341	0.91899	0.97659	0.98101	0.85819	1.26032	1.48747
65	0.25	1.00	0.97311	0.96853	1.02689	1.03147	0.90245	1.20894	1.43224
66	0.25	1.05	1.02271	1.01797	1.07729	1.08203	0.94662	1.16322	1.38320
67	0.25	1.10	1.07222	1.06731	1.12778	1.13269	0.99070	1.12249	1.33956
68	0.25	1.15	1.12161	1.11653	1.17839	1.18347	1.03469	1.08617	1.30068
69	0.25	1.20	1.17091	1.16565	1.22909	1.23435	1.07859	1.05382	1.26602
70	0.25	1.25	1.22011	1.21467	1.27989	1.28533	1.12240	1.02505	1.23515
71	0.25	1.30	1.26922	1.26359	1.33078	1.33641	1.16612	0.99953	1.20767
72	0.25	1.35	1.31825	1.31244	1.38175	1.38756	1.20975	0.97700	1.18328
73	0.25	1.40	1.36721	1.36120	1.43279	1.43880	1.25328	0.95722	1.16170
74	0.25	1.45	1.41609	1.40989	1.48391	1.49011	1.29673	0.94000	1.14269
75	0.25	1.50	1.46491	1.45851	1.53509	1.54149	1.34009	0.92514	1.12607
76	0.30	0.80	0.77821	0.77487	0.82179	0.82513	0.72743	1.21914	1.42295
77	0.30	0.85	0.82794	0.82448	0.87206	0.87552	0.77197	1.15804	1.35649
78	0.30	0.90	0.87755	0.87396	0.92245	0.92604	0.81639	1.10475	1.29861
79	0.30	0.95	0.92705	0.92333	0.97295	0.97667	0.86071	1.05821	1.24806
80	0.30	1.00	0.97642	0.97257	1.02358	1.02743	0.90491	1.01758	1.20389
81	0.30	1.05	1.02569	1.02170	1.07431	1.07830	0.94901	0.98219	1.16530
82	0.30	1.10	1.07485	1.07072	1.12515	1.12928	0.99299	0.95151	1.13167
83	0.30	1.15	1.12393	1.11964	1.17607	1.18036	1.03687	0.92509	1.10247
84	0.30	1.20	1.17291	1.16848	1.22709	1.23152	1.08064	0.90257	1.07728
85	0.30	1.25	1.22182	1.21723	1.27818	1.28277	1.12430	0.88363	1.05573
86	0.30	1.30	1.27065	1.26591	1.32935	1.33409	1.16785	0.86801	1.03750
87	0.30	1.35	1.31940	1.31450	1.38060	1.38550	1.21128	0.85548	1.02234
88	0.30	1.40	1.36808	1.36302	1.43192	1.43698	1.25461	0.84582	1.01001
89	0.30	1.45	1.41669	1.41146	1.48331	1.48854	1.29783	0.83884	1.00031
90	0.30	1.50	1.46523	1.45982	1.53477	1.54018	1.34095	0.83437	0.99305

TABLE 4

( DC - APM 4 )

OBS	X	T	T_MIN	T_MIN_N	T_MAX	T_MAX_N	P	PCT_TO	PCT_TO_N
1	0.05	0.80	0.72563	0.69612	0.87437	0.90388	0.68187	4.37991	6.21502
2	0.05	0.85	0.77431	0.74408	0.92569	0.95592	0.72431	4.18632	5.95470
3	0.05	0.90	0.82293	0.79196	0.97707	1.00804	0.76673	4.01685	5.72737
4	0.05	0.95	0.87152	0.83978	1.02848	1.06022	0.80912	3.86757	5.52763
5	0.05	1.00	0.92007	0.88754	1.07993	1.11246	0.85150	3.73536	5.35113
6	0.05	1.05	0.96858	0.93524	1.13142	1.16476	0.89385	3.61766	5.19440
7	0.05	1.10	1.01705	0.98288	1.18295	1.21712	0.93619	3.51242	5.05457
8	0.05	1.15	1.06549	1.03046	1.23451	1.26954	0.97850	3.41792	4.92930
9	0.05	1.20	1.11389	1.07800	1.28611	1.32200	1.02079	3.33274	4.81664
10	0.05	1.25	1.16227	1.12549	1.33773	1.37451	1.06306	3.25569	4.71496
11	0.05	1.30	1.21062	1.17293	1.38938	1.42707	1.10530	3.18577	4.62288
12	0.05	1.35	1.25893	1.22034	1.44107	1.47966	1.14753	3.12213	4.53924
13	0.05	1.40	1.30723	1.2670	1.49277	1.53230	1.18974	3.06403	4.46304
14	0.05	1.45	1.35549	1.31503	1.54451	1.58497	1.23192	3.01086	4.39343
15	0.05	1.50	1.40374	1.36232	1.59626	1.63768	1.27408	2.96208	4.32969
16	0.10	0.80	0.76121	0.74633	0.83879	0.85367	0.68219	2.20516	3.12467
17	0.10	0.85	0.81049	0.79524	0.88951	0.90476	0.72446	2.10835	2.99450
18	0.10	0.90	0.85975	0.84412	0.94025	0.95588	0.76670	2.02356	2.88080
19	0.10	0.95	0.90899	0.89298	0.99101	1.00702	0.80889	1.94884	2.78086
20	0.10	1.00	0.95823	0.94180	1.04177	1.05820	0.85104	1.88262	2.69252
21	0.10	1.05	1.00744	0.99060	1.09256	1.10940	0.89314	1.82364	2.61404
22	0.10	1.10	1.05664	1.03938	1.14336	1.16062	0.93521	1.77087	2.54400
23	0.10	1.15	1.10583	1.08813	1.19417	1.21187	0.97723	1.72344	2.48123
24	0.10	1.20	1.15501	1.13686	1.24499	1.26314	1.01921	1.68066	2.42474
25	0.10	1.25	1.20417	1.18557	1.29583	1.31443	1.06115	1.64194	2.37373
26	0.10	1.30	1.25332	1.23426	1.34668	1.36574	1.10304	1.60677	2.32752
27	0.10	1.35	1.30246	1.28293	1.39754	1.41707	1.14489	1.57473	2.28552
28	0.10	1.40	1.35159	1.33158	1.44841	1.46842	1.18670	1.54547	2.24724
29	0.10	1.45	1.40072	1.38022	1.49928	1.51978	1.22847	1.51866	2.21226
30	0.10	1.50	1.44983	1.42884	1.55017	1.57116	1.27020	1.49404	2.18020
31	0.15	0.80	0.77354	0.76354	0.82646	0.83646	0.68250	1.47861	2.09344
32	0.15	0.85	0.82307	0.81282	0.87693	0.88718	0.72461	1.41380	2.00648
33	0.15	0.90	0.87260	0.86208	0.92740	0.93792	0.76666	1.35699	1.93048
34	0.15	0.95	0.92211	0.91133	0.97789	0.98867	0.80865	1.30689	1.86365
35	0.15	1.00	0.97163	0.96057	1.02837	1.03943	0.85057	1.26246	1.80455
36	0.15	1.05	1.02113	1.00979	1.07887	1.09021	0.89243	1.22285	1.75203
37	0.15	1.10	1.07062	1.05899	1.12938	1.14101	0.93422	1.18740	1.70514
38	0.15	1.15	1.12011	1.10818	1.17989	1.19182	0.97595	1.15552	1.66310
39	0.15	1.20	1.16959	1.15735	1.23041	1.24265	1.01762	1.12676	1.62526
40	0.15	1.25	1.21906	1.20651	1.28094	1.29349	1.05922	1.10073	1.59110
41	0.15	1.30	1.26852	1.25565	1.33148	1.34435	1.10076	1.07710	1.56015
42	0.15	1.35	1.31796	1.30478	1.38204	1.39522	1.14223	1.05558	1.53202
43	0.15	1.40	1.36739	1.35388	1.43261	1.44612	1.18365	1.03594	1.50640
44	0.15	1.45	1.41681	1.40297	1.48319	1.49703	1.22499	1.01798	1.48301
45	0.15	1.50	1.46621	1.45204	1.53379	1.54796	1.26628	1.00153	1.46159
46	0.20	0.80	0.78002	0.77245	0.81998	0.82755	0.68282	1.11335	1.57646
47	0.20	0.85	0.82970	0.82195	0.87030	0.87805	0.72477	1.06443	1.51102

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TABLE 4

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OBS	X	T	T_MIN	T_MIN_N	T_MAX	T_MAX_N	P	PCT_TO	PCT_TO_N
48	0.20	0.90	0.87939	0.87143	0.92061	0.92857	0.76663	1.02156	1.45384
49	0.20	0.95	0.92906	0.92090	0.97094	0.97910	0.80841	0.98375	1.40355
50	0.20	1.00	0.97873	0.97036	1.02127	1.02964	0.85010	0.95024	1.35911
51	0.20	1.05	1.02838	1.01979	1.07162	1.08021	0.89171	0.92041	1.31963
52	0.20	1.10	1.07802	1.06920	1.12198	1.13080	0.93323	0.89376	1.28442
53	0.20	1.15	1.12763	1.11859	1.17237	1.18141	0.97466	0.86987	1.25289
54	0.20	1.20	1.17722	1.16794	1.22278	1.23206	1.01601	0.84840	1.22458
55	0.20	1.25	1.22677	1.21725	1.27323	1.28275	1.05728	0.82906	1.19908
56	0.20	1.30	1.27629	1.26653	1.32371	1.33347	1.09846	0.81160	1.17604
57	0.20	1.35	1.32576	1.31575	1.37424	1.38425	1.13955	0.79583	1.15520
58	0.20	1.40	1.37520	1.36493	1.42480	1.43507	1.18056	0.78157	1.13629
59	0.20	1.45	1.42458	1.41407	1.47542	1.48593	1.22148	0.76867	1.11913
60	0.20	1.50	1.47393	1.46315	1.52607	1.53685	1.26232	0.75701	1.10351
61	0.25	0.80	0.78403	0.77793	0.81597	0.82207	0.68314	0.89340	1.26573
62	0.25	0.85	0.83380	0.82754	0.86620	0.87246	0.72492	0.85419	1.21333
63	0.25	0.90	0.88355	0.87712	0.91645	0.92288	0.76660	0.81991	1.16760
64	0.25	0.95	0.93327	0.92667	0.96673	0.97333	0.80816	0.78979	1.12748
65	0.25	1.00	0.98295	0.97618	1.01705	1.02382	0.84962	0.76325	1.09210
66	0.25	1.05	1.03258	1.02563	1.06742	1.07437	0.89098	0.73979	1.06080
67	0.25	1.10	1.08215	1.07502	1.11785	1.12498	0.93222	0.71901	1.03301
68	0.25	1.15	1.13167	1.12435	1.16833	1.17565	0.97336	0.70061	1.00828
69	0.25	1.20	1.18113	1.17362	1.21887	1.22638	1.01439	0.68430	0.98623
70	0.25	1.25	1.23053	1.22283	1.26947	1.27717	1.05532	0.66987	0.96654
71	0.25	1.30	1.27989	1.27198	1.32011	1.32802	1.09613	0.65713	0.94995
72	0.25	1.35	1.32919	1.32108	1.37081	1.37892	1.13684	0.64592	0.93323
73	0.25	1.40	1.37845	1.37014	1.42155	1.42986	1.17744	0.63611	0.91920
74	0.25	1.45	1.42767	1.41914	1.47233	1.48086	1.21794	0.62757	0.90668
75	0.25	1.50	1.47685	1.46811	1.52315	1.53189	1.25833	0.62021	0.89554
76	0.30	0.80	0.78652	0.78139	0.81348	0.81861	0.68346	0.74798	1.05945
77	0.30	0.85	0.83624	0.83098	0.86376	0.86902	0.72507	0.71573	1.01609
78	0.30	0.90	0.88591	0.88050	0.91409	0.91950	0.76656	0.68778	0.97842
79	0.30	0.95	0.93551	0.92996	0.96449	0.97004	0.80792	0.66352	0.94557
80	0.30	1.00	0.98505	0.97935	1.01495	1.02065	0.84915	0.64246	0.91683
81	0.30	1.05	1.03453	1.02868	1.06547	1.07132	0.89024	0.62420	0.89165
82	0.30	1.10	1.08395	1.07794	1.11605	1.12206	0.93121	0.60844	0.86956
83	0.30	1.15	1.13331	1.12714	1.16669	1.17286	0.97205	0.59491	0.85021
84	0.30	1.20	1.18262	1.17629	1.21738	1.22371	1.01276	0.58339	0.83327
85	0.30	1.25	1.23189	1.22538	1.26811	1.27462	1.05334	0.57371	0.81849
86	0.30	1.30	1.28110	1.27443	1.31890	1.32557	1.09379	0.56570	0.80565
87	0.30	1.35	1.33027	1.32342	1.36973	1.37658	1.13411	0.55923	0.79457
88	0.30	1.40	1.37940	1.37237	1.42060	1.42763	1.17430	0.55419	0.78508
89	0.30	1.45	1.42848	1.42127	1.47152	1.47873	1.21436	0.55047	0.77705
90	0.30	1.50	1.47751	1.47013	1.52249	1.52987	1.25430	0.54799	0.77036

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TABLE 5

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OBS	X	T	T_MIN	T_MIN_N	T_MAX	T_MAX_N	P	PCT_TO	PCT_TO_N
1	0.05	0.80	0.66880	0.64893	0.93120	0.95107	0.68732	8.03927	9.27788
2	0.05	0.85	0.71567	0.69544	0.98433	1.00456	0.73018	7.74049	8.92774
3	0.05	0.90	0.76244	0.74182	1.03756	1.05818	0.77302	7.48090	8.62334
4	0.05	0.95	0.80910	0.78808	1.09090	1.11192	0.81586	7.25391	8.35703
5	0.05	1.00	0.85567	0.83424	1.14433	1.16576	0.85868	7.05431	8.12272
6	0.05	1.05	0.90215	0.88029	1.19785	1.21971	0.90149	6.87788	7.91550
7	0.05	1.10	0.94855	0.92625	1.25145	1.27375	0.94428	6.72119	7.73137
8	0.05	1.15	0.99487	0.97213	1.30513	1.32787	0.98707	6.58142	7.56705
9	0.05	1.20	1.04112	1.01791	1.35888	1.38209	1.02984	6.45624	7.41982
10	0.05	1.25	1.08731	1.06363	1.41269	1.43637	1.07260	6.34372	7.28741
11	0.05	1.30	1.13343	1.10927	1.46657	1.49073	1.11535	6.24222	7.16792
12	0.05	1.35	1.17949	1.15484	1.52051	1.54516	1.15808	6.15036	7.05974
13	0.05	1.40	1.22550	1.20035	1.57450	1.59965	1.20081	6.06697	6.96151
14	0.05	1.45	1.27145	1.24579	1.62855	1.65421	1.24352	5.99107	6.87205
15	0.05	1.50	1.31736	1.29119	1.68264	1.70881	1.28622	5.92178	6.79037
16	0.10	0.80	0.73299	0.72301	0.86701	0.87699	0.68779	4.03138	4.65194
17	0.10	0.85	0.78134	0.77117	0.91866	0.92883	0.73057	3.88209	4.47697
18	0.10	0.90	0.82963	0.81927	0.97037	0.98073	0.77333	3.75237	4.32486
19	0.10	0.95	0.87787	0.86731	1.02213	1.03269	0.81607	3.63895	4.19177
20	0.10	1.00	0.92607	0.91529	1.07393	1.08471	0.85878	3.53921	4.07467
21	0.10	1.05	0.97422	0.96323	1.12578	1.13677	0.90147	3.45104	3.97110
22	0.10	1.10	1.02233	1.01111	1.17767	1.18889	0.94413	3.37274	3.87907
23	0.10	1.15	1.07040	1.05895	1.22960	1.24105	0.98677	3.30288	3.79693
24	0.10	1.20	1.11843	1.10675	1.28157	1.29325	1.02938	3.24032	3.72334
25	0.10	1.25	1.16643	1.15451	1.33357	1.34549	1.07198	3.18407	3.65714
26	0.10	1.30	1.21440	1.20223	1.38560	1.39777	1.11454	3.13333	3.59740
27	0.10	1.35	1.26234	1.24992	1.43766	1.45008	1.15709	3.08741	3.54331
28	0.10	1.40	1.31025	1.29758	1.48975	1.50242	1.19961	3.04571	3.49419
29	0.10	1.45	1.35813	1.34521	1.54187	1.55479	1.24210	3.00776	3.44945
30	0.10	1.50	1.40599	1.39281	1.59401	1.60719	1.28457	2.97310	3.40860
31	0.15	0.80	0.75443	0.74774	0.84557	0.85226	0.68826	2.69609	3.11056
32	0.15	0.85	0.80327	0.79646	0.89673	0.90354	0.73097	2.59665	2.99399
33	0.15	0.90	0.85207	0.84513	0.94793	0.95487	0.77364	2.51024	2.89265
34	0.15	0.95	0.90084	0.89376	0.99916	1.00624	0.81628	2.43469	2.80398
35	0.15	1.00	0.94958	0.94236	1.05042	1.05764	0.85888	2.36824	2.72596
36	0.15	1.05	0.99829	0.99092	1.10171	1.10908	0.90145	2.30951	2.65696
37	0.15	1.10	1.04697	1.03945	1.15303	1.16055	0.94398	2.25734	2.59563
38	0.15	1.15	1.09563	1.08795	1.20437	1.21205	0.98647	2.21080	2.54090
39	0.15	1.20	1.14426	1.13642	1.25574	1.26358	1.02893	2.16911	2.49185
40	0.15	1.25	1.19287	1.18487	1.30713	1.31513	1.07135	2.13162	2.44774
41	0.15	1.30	1.24146	1.23329	1.35854	1.36671	1.11373	2.09781	2.40792
42	0.15	1.35	1.29003	1.28169	1.40997	1.41831	1.15608	2.06720	2.37186
43	0.15	1.40	1.33858	1.33007	1.46142	1.46993	1.19839	2.03940	2.33911
44	0.15	1.45	1.38711	1.37843	1.51289	1.52157	1.24067	2.01410	2.30928
45	0.15	1.50	1.43562	1.42676	1.56438	1.57324	1.28291	1.99099	2.28203
46	0.20	0.80	0.76517	0.76013	0.83483	0.83987	0.68873	2.02886	2.34023
47	0.20	0.85	0.81426	0.80912	0.88574	0.89088	0.73137	1.95434	2.25288

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TABLE 5

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OBS	X	T	T_MIN	T_MIN_N	T_MAX	T_MAX_N	P	PCT_TO	PCT_TO_N
48	0.20	0.90	0.86332	0.85809	0.93668	0.94191	0.77395	1.88960	2.17693
49	0.20	0.95	0.91236	0.90702	0.98764	0.99298	0.81649	1.83299	2.11047
50	0.20	1.00	0.96137	0.95592	1.03863	1.04408	0.85898	1.78320	2.05200
51	0.20	1.05	1.01037	1.00480	1.08963	1.09520	0.90143	1.73918	2.00027
52	0.20	1.10	1.05934	1.05366	1.14066	1.14634	0.94382	1.70008	1.95431
53	0.20	1.15	1.10829	1.10249	1.19171	1.19751	0.98617	1.66519	1.91328
54	0.20	1.20	1.15722	1.15130	1.24278	1.24870	1.02847	1.63394	1.87650
55	0.20	1.25	1.20614	1.20010	1.29386	1.29990	1.07072	1.60584	1.84342
56	0.20	1.30	1.25504	1.24887	1.34496	1.35113	1.11292	1.58048	1.81356
57	0.20	1.35	1.30393	1.29763	1.39607	1.40237	1.15507	1.55752	1.78652
58	0.20	1.40	1.35280	1.34637	1.44720	1.45363	1.19718	1.53668	1.76195
59	0.20	1.45	1.40166	1.39509	1.49834	1.50491	1.23923	1.51769	1.73957
60	0.20	1.50	1.45050	1.44381	1.54950	1.55619	1.28124	1.50036	1.71913
61	0.25	0.80	0.77163	0.76758	0.82837	0.83242	0.68920	1.62878	1.87827
62	0.25	0.85	0.82088	0.81675	0.87912	0.88325	0.73177	1.56923	1.80844
63	0.25	0.90	0.87010	0.86588	0.92990	0.93412	0.77427	1.51748	1.74773
64	0.25	0.95	0.91930	0.91500	0.98070	0.98500	0.81671	1.47223	1.69460
65	0.25	1.00	0.96848	0.96409	1.03152	1.03591	0.85909	1.43243	1.64785
66	0.25	1.05	1.01764	1.01316	1.08236	1.08684	0.90141	1.39724	1.60650
67	0.25	1.10	1.06679	1.06222	1.13321	1.13778	0.94367	1.36598	1.56974
68	0.25	1.15	1.11592	1.11125	1.18408	1.18875	0.98586	1.33808	1.53693
69	0.25	1.20	1.16504	1.16027	1.23496	1.23973	1.02800	1.31309	1.50752
70	0.25	1.25	1.21414	1.20927	1.28586	1.29073	1.07008	1.29061	1.48106
71	0.25	1.30	1.26323	1.25826	1.33677	1.34174	1.11210	1.27033	1.45717
72	0.25	1.35	1.31231	1.30723	1.38769	1.39277	1.15406	1.25196	1.43553
73	0.25	1.40	1.36138	1.35620	1.43862	1.44380	1.19595	1.23527	1.41587
74	0.25	1.45	1.41043	1.40514	1.48957	1.49486	1.23779	1.22008	1.39795
75	0.25	1.50	1.45948	1.45408	1.54052	1.54592	1.27956	1.20620	1.38159
76	0.30	0.80	0.77596	0.77257	0.82404	0.82743	0.68968	1.36223	1.57045
77	0.30	0.85	0.82531	0.82185	0.87469	0.87815	0.73217	1.31265	1.51230
78	0.30	0.90	0.87463	0.87110	0.92537	0.92890	0.77458	1.26956	1.46174
79	0.30	0.95	0.92394	0.92034	0.97606	0.97966	0.81692	1.23188	1.41750
80	0.30	1.00	0.97324	0.96956	1.02676	1.03044	0.85919	1.19874	1.37856
81	0.30	1.05	1.02252	1.01876	1.07748	1.08124	0.90139	1.16943	1.34412
82	0.30	1.10	1.07178	1.06795	1.12822	1.13205	0.94351	1.14339	1.31350
83	0.30	1.15	1.12103	1.11712	1.17897	1.18288	0.98556	1.12015	1.28616
84	0.30	1.20	1.17028	1.16628	1.22972	1.23372	1.02754	1.09933	1.26165
85	0.30	1.25	1.21951	1.21542	1.28049	1.28458	1.06944	1.08059	1.23960
86	0.30	1.30	1.26872	1.26455	1.33128	1.33545	1.11127	1.06368	1.21969
87	0.30	1.35	1.31793	1.31367	1.38207	1.38633	1.15303	1.04837	1.20165
88	0.30	1.40	1.36713	1.36278	1.43287	1.43722	1.19472	1.03445	1.18525
89	0.30	1.45	1.41633	1.41188	1.48367	1.48812	1.23633	1.02177	1.17031
90	0.30	1.50	1.46551	1.46097	1.53449	1.53903	1.27787	1.01019	1.15665

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TABLE 6

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OBS	X	T	T_MIN	T_MIN_N	T_MAX	T_MAX_N	P	PCT_TO	PCT_TO_N
1	0.05	0.80	0.16528	0.16130	1.43472	1.43870	0.84008	38.8766	39.1244
2	0.05	0.85	0.21336	0.20918	1.48664	1.49082	0.89239	36.6562	36.9015
3	0.05	0.90	0.26140	0.25699	1.53860	1.54301	0.94468	34.6858	34.9294
4	0.05	0.95	0.30937	0.30474	1.59063	1.59526	0.99694	32.9258	33.1686
5	0.05	1.00	0.35729	0.35242	1.64271	1.64758	1.04918	31.3447	31.5872
6	0.05	1.05	0.40515	0.40003	1.69485	1.69997	1.10140	29.9169	30.1598
7	0.05	1.10	0.45296	0.44757	1.74704	1.75243	1.15360	28.6215	28.8652
8	0.05	1.15	0.50071	0.49505	1.79929	1.80495	1.20577	27.4412	27.6861
9	0.05	1.20	0.54840	0.54246	1.85160	1.85754	1.25792	26.3616	26.6080
10	0.05	1.25	0.59604	0.58980	1.90396	1.91020	1.31005	25.3706	25.6188
11	0.05	1.30	0.64363	0.63708	1.95637	1.96292	1.36215	24.4579	24.7082
12	0.05	1.35	0.69116	0.68430	2.00884	2.01570	1.41423	23.6149	23.8675
13	0.05	1.40	0.73864	0.73145	2.06136	2.06855	1.46629	22.8340	23.0891
14	0.05	1.45	0.78607	0.77854	2.11393	2.12146	1.51832	22.1088	22.3667
15	0.05	1.50	0.83344	0.82557	2.16656	2.17443	1.57034	21.4338	21.6944
16	0.10	0.80	0.47533	0.47333	1.12467	1.12667	0.83932	19.5139	19.6381
17	0.10	0.85	0.52393	0.52183	1.17607	1.17817	0.89138	18.4041	18.5270
18	0.10	0.90	0.57251	0.57029	1.22749	1.22971	0.94341	17.4193	17.5414
19	0.10	0.95	0.62106	0.61873	1.27894	1.28127	0.99538	16.5397	16.6613
20	0.10	1.00	0.66958	0.66713	1.33042	1.33287	1.04731	15.7496	15.8711
21	0.10	1.05	0.71807	0.71549	1.38193	1.38451	1.09919	15.0360	15.1577
22	0.10	1.10	0.76654	0.76383	1.43346	1.43617	1.15103	14.3887	14.5107
23	0.10	1.15	0.81499	0.81213	1.48501	1.48787	1.20282	13.7989	13.9215
24	0.10	1.20	0.86340	0.86041	1.53660	1.53959	1.25457	13.2594	13.3828
25	0.10	1.25	0.91179	0.90865	1.58821	1.59135	1.30627	12.7642	12.8885
26	0.10	1.30	0.96016	0.95686	1.63984	1.64314	1.35792	12.3082	12.4335
27	0.10	1.35	1.00850	1.00504	1.69150	1.69496	1.40953	11.8870	12.0134
28	0.10	1.40	1.05681	1.05319	1.74319	1.74681	1.46109	11.4968	11.6245
29	0.10	1.45	1.10510	1.10131	1.79490	1.79869	1.51260	11.1345	11.2635
30	0.10	1.50	1.15337	1.14940	1.84663	1.85060	1.56407	10.7972	10.9276
31	0.15	0.80	0.57880	0.57745	1.02120	1.02255	0.83855	13.0628	13.1458
32	0.15	0.85	0.62758	0.62617	1.07242	1.07383	0.89037	12.3234	12.4055
33	0.15	0.90	0.67635	0.67487	1.12365	1.12513	0.94213	11.6673	11.7488
34	0.15	0.95	0.72511	0.72354	1.17489	1.17646	0.99381	11.0813	11.1625
35	0.15	1.00	0.77385	0.77220	1.22615	1.22780	1.04543	10.5549	10.6360
36	0.15	1.05	0.82257	0.82084	1.27743	1.27916	1.09697	10.0795	10.1608
37	0.15	1.10	0.87128	0.86946	1.32872	1.33054	1.14845	9.6483	9.7298
38	0.15	1.15	0.91997	0.91806	1.38003	1.38194	1.19986	9.2554	9.3373
39	0.15	1.20	0.96865	0.96664	1.43135	1.43336	1.25120	8.8961	8.9784
40	0.15	1.25	1.01731	1.01520	1.48269	1.48480	1.30247	8.5663	8.6492
41	0.15	1.30	1.06596	1.06374	1.53404	1.53626	1.35367	8.2625	8.3461
42	0.15	1.35	1.11459	1.11226	1.58541	1.58774	1.40480	7.9820	8.0663
43	0.15	1.40	1.16320	1.16077	1.63680	1.63923	1.45586	7.7221	7.8072
44	0.15	1.45	1.21181	1.20926	1.68819	1.69074	1.50686	7.4808	7.5667
45	0.15	1.50	1.26039	1.25773	1.73961	1.74227	1.55778	7.2562	7.3430
46	0.20	0.80	0.63061	0.62960	0.96939	0.97040	0.83778	9.8393	9.9017
47	0.20	0.85	0.67950	0.67843	1.02050	1.02157	0.88936	9.2851	9.3468

TABLE 6

( DC - APM 6 )

( CONTINUED )

OBS	X	T	T_MIN	T_MIN_N	T_MAX	T_MAX_N	P	PCT_TO	PCT_TO_N
48	0.20	0.90	0.72838	0.72726	1.07162	1.07274	0.94084	8.7934	8.8547
49	0.20	0.95	0.77725	0.77607	1.12275	1.12393	0.99224	8.3542	8.4153
50	0.20	1.00	0.82611	0.82487	1.17389	1.17513	1.04354	7.9598	8.0207
51	0.20	1.05	0.87496	0.87365	1.22504	1.22635	1.09474	7.6036	7.6646
52	0.20	1.10	0.92380	0.92243	1.27620	1.27757	1.14586	7.2804	7.3416
53	0.20	1.15	0.97264	0.97119	1.32736	1.32881	1.19688	6.9860	7.0475
54	0.20	1.20	1.02146	1.01994	1.37854	1.38006	1.24781	6.7168	6.7785
55	0.20	1.25	1.07027	1.06867	1.42973	1.43133	1.29865	6.4696	6.5318
56	0.20	1.30	1.11907	1.11740	1.48093	1.48260	1.34939	6.2420	6.3047
57	0.20	1.35	1.16787	1.16611	1.53213	1.53389	1.40005	6.0318	6.0950
58	0.20	1.40	1.21666	1.21481	1.58334	1.58519	1.45061	5.8371	5.9009
59	0.20	1.45	1.26543	1.26350	1.63457	1.63650	1.50108	5.6562	5.7206
60	0.20	1.50	1.31420	1.31218	1.68580	1.68782	1.55145	5.4879	5.5530
61	0.25	0.80	0.66177	0.66095	0.93823	0.93905	0.83701	7.9066	7.9566
62	0.25	0.85	0.71073	0.70987	0.98927	0.99013	0.88834	7.4636	7.5130
63	0.25	0.90	0.75968	0.75878	1.04032	1.04122	0.93955	7.0705	7.1196
64	0.25	0.95	0.80863	0.80768	1.09137	1.09232	0.99065	6.7194	6.7683
65	0.25	1.00	0.85758	0.85657	1.14242	1.14343	1.04163	6.4041	6.4529
66	0.25	1.05	0.90651	0.90546	1.19349	1.19454	1.09250	6.1194	6.1682
67	0.25	1.10	0.95545	0.95434	1.24455	1.24566	1.14325	5.8611	5.9100
68	0.25	1.15	1.00437	1.00321	1.29563	1.29679	1.19389	5.6257	5.6749
69	0.25	1.20	1.05330	1.05207	1.34670	1.34793	1.24441	5.4105	5.4599
70	0.25	1.25	1.10221	1.10092	1.39779	1.39908	1.29481	5.2129	5.2627
71	0.25	1.30	1.15112	1.14977	1.44888	1.45023	1.34510	5.0310	5.0811
72	0.25	1.35	1.20003	1.19861	1.49997	1.50139	1.39527	4.8629	4.9135
73	0.25	1.40	1.24893	1.24745	1.55107	1.55255	1.44533	4.7072	4.7582
74	0.25	1.45	1.29783	1.29627	1.60217	1.60373	1.49527	4.5626	4.6141
75	0.25	1.50	1.34672	1.34509	1.65328	1.65491	1.54509	4.4280	4.4800
76	0.30	0.80	0.68260	0.68191	0.91740	0.91809	0.83623	6.6190	6.6608
77	0.30	0.85	0.73161	0.73089	0.96839	0.96911	0.88731	6.2501	6.2914
78	0.30	0.90	0.78062	0.77986	1.01938	1.02014	0.93826	5.9228	5.9637
79	0.30	0.95	0.82963	0.82883	1.07037	1.07117	0.98906	5.6304	5.6712
80	0.30	1.00	0.87864	0.87780	1.12136	1.12220	1.03972	5.3678	5.4086
81	0.30	1.05	0.92765	0.92676	1.17235	1.17324	1.09025	5.1307	5.1715
82	0.30	1.10	0.97665	0.97572	1.22335	1.22428	1.14063	4.9156	4.9565
83	0.30	1.15	1.02565	1.02467	1.27435	1.27533	1.19088	4.7196	4.7606
84	0.30	1.20	1.07465	1.07362	1.32535	1.32638	1.24098	4.5403	4.5816
85	0.30	1.25	1.12365	1.12256	1.37635	1.37744	1.29095	4.3758	4.4173
86	0.30	1.30	1.17264	1.17151	1.42736	1.42849	1.34078	4.2242	4.2660
87	0.30	1.35	1.22163	1.22044	1.47837	1.47956	1.39047	4.0842	4.1263
88	0.30	1.40	1.27062	1.26938	1.52938	1.53062	1.44002	3.9545	3.9970
89	0.30	1.45	1.31961	1.31831	1.58039	1.58169	1.48943	3.8340	3.8769
90	0.30	1.50	1.36860	1.36723	1.63140	1.63277	1.53870	3.7218	3.7651

TABLE 7

( DC - APM 7 )

OBS	X	T	T_MIN	T_MIN_N	T_MAX	T_MAX_N	P	PCT_TO	PCT_TO_N
1	0.05	0.80	0.65879	0.64074	0.94121	0.95926	0.69161	8.65371	9.77905
2	0.05	0.85	0.70633	0.68784	0.99367	1.01216	0.73474	8.27867	9.36379
3	0.05	0.90	0.75378	0.73483	1.04622	1.06517	0.77785	7.95072	9.00100
4	0.05	0.95	0.80114	0.78171	1.09886	1.11829	0.82096	7.66218	8.68210
5	0.05	1.00	0.84841	0.82849	1.15159	1.17151	0.86405	7.40691	8.40021
6	0.05	1.05	0.89559	0.87516	1.20441	1.22484	0.90714	7.17993	8.14979
7	0.05	1.10	0.94269	0.92175	1.25731	1.27825	0.95021	6.97720	7.92630
8	0.05	1.15	0.98972	0.96825	1.31028	1.33175	0.99327	6.79537	7.72603
9	0.05	1.20	1.03668	1.01466	1.36332	1.38534	1.03631	6.63166	7.54585
10	0.05	1.25	1.08356	1.06100	1.41644	1.43900	1.07935	6.48375	7.38320
11	0.05	1.30	1.13038	1.10726	1.46962	1.49274	1.12238	6.34968	7.23586
12	0.05	1.35	1.17715	1.15345	1.52285	1.54655	1.16539	6.22777	7.10200
13	0.05	1.40	1.22385	1.19958	1.57615	1.60042	1.20839	6.11662	6.98004
14	0.05	1.45	1.27050	1.24564	1.62950	1.65436	1.25139	6.01501	6.86861
15	0.05	1.50	1.31709	1.29164	1.68291	1.70836	1.29437	5.92187	6.76655
16	0.10	0.80	0.72790	0.71883	0.87210	0.88117	0.69222	4.33894	4.90276
17	0.10	0.85	0.77658	0.76729	0.92342	0.93271	0.73528	4.15153	4.69525
18	0.10	0.90	0.82521	0.81568	0.97479	0.98432	0.77833	3.98767	4.51396
19	0.10	0.95	0.87379	0.86403	1.02621	1.03597	0.82135	3.84350	4.35460
20	0.10	1.00	0.92233	0.91232	1.07767	1.08768	0.86435	3.71594	4.21373
21	0.10	1.05	0.97083	0.96056	1.12917	1.13944	0.90733	3.60253	4.08859
22	0.10	1.10	1.01929	1.00875	1.18071	1.19125	0.95028	3.50123	3.97690
23	0.10	1.15	1.06771	1.05690	1.23229	1.24310	0.99322	3.41036	3.87681
24	0.10	1.20	1.11609	1.10501	1.28391	1.29499	1.03612	3.32856	3.78676
25	0.10	1.25	1.16444	1.15308	1.33556	1.34692	1.07901	3.25464	3.70546
26	0.10	1.30	1.21276	1.20112	1.38724	1.39888	1.12187	3.18763	3.63182
27	0.10	1.35	1.26104	1.24911	1.43896	1.45089	1.16471	3.12671	3.56491
28	0.10	1.40	1.30930	1.29708	1.49070	1.50292	1.20753	3.07115	3.50393
29	0.10	1.45	1.35753	1.34501	1.54247	1.55499	1.25032	3.02035	3.44822
30	0.10	1.50	1.40573	1.39292	1.59427	1.60708	1.29309	2.97379	3.39719
31	0.15	0.80	0.75097	0.74490	0.84903	0.85510	0.69283	2.90140	3.27798
32	0.15	0.85	0.80003	0.79381	0.89997	0.90619	0.73584	2.77657	3.13974
33	0.15	0.90	0.84906	0.84268	0.95094	0.95732	0.77881	2.66742	3.01897
34	0.15	0.95	0.89806	0.89151	1.00194	1.00849	0.82175	2.57139	2.91280
35	0.15	1.00	0.94703	0.94031	1.05297	1.05969	0.86466	2.48642	2.81896
36	0.15	1.05	0.99597	0.98908	1.10403	1.11092	0.90753	2.41088	2.73559
37	0.15	1.10	1.04488	1.03781	1.15512	1.16219	0.95036	2.34339	2.66118
38	0.15	1.15	1.09377	1.08652	1.20623	1.21348	0.99316	2.28287	2.59449
39	0.15	1.20	1.14263	1.13520	1.25737	1.26480	1.03593	2.22837	2.53449
40	0.15	1.25	1.19147	1.18385	1.30853	1.31615	1.07866	2.17912	2.48032
41	0.15	1.30	1.24029	1.23248	1.35971	1.36752	1.12136	2.13448	2.43124
42	0.15	1.35	1.28909	1.28109	1.41091	1.41891	1.16403	2.09388	2.38664
43	0.15	1.40	1.33787	1.32967	1.46213	1.47033	1.20666	2.05686	2.34601
44	0.15	1.45	1.38663	1.37823	1.51337	1.52177	1.24925	2.02300	2.30887
45	0.15	1.50	1.43538	1.42677	1.56462	1.57323	1.29181	1.99197	2.27485
46	0.20	0.80	0.76253	0.75796	0.83747	0.84204	0.69344	2.18308	2.46600
47	0.20	0.85	0.81179	0.80710	0.88821	0.89290	0.73639	2.08955	2.36240

TABLE 7

( DC - APM 7 )

( CONTINUED )

OBS	X	T	T_MIN	T_MIN_N	T_MAX	T_MAX_N	P	PCT_TO	PCT_TO_N
48	0.20	0.90	0.86102	0.85621	0.93898	0.94379	0.77929	2.00776	2.27189
49	0.20	0.95	0.91022	0.90529	0.98978	0.99471	0.82215	1.93580	2.19233
50	0.20	1.00	0.95941	0.95435	1.04059	1.04565	0.86496	1.87214	2.12200
51	0.20	1.05	1.00857	1.00338	1.09143	1.09662	0.90772	1.81553	2.05951
52	0.20	1.10	1.05772	1.05239	1.14228	1.14761	0.95044	1.76496	2.00374
53	0.20	1.15	1.10684	1.10138	1.19316	1.19862	0.99311	1.71960	1.95376
54	0.20	1.20	1.15595	1.15034	1.24405	1.24966	1.03574	1.67875	1.90878
55	0.20	1.25	1.20504	1.19929	1.29496	1.30071	1.07832	1.64184	1.86817
56	0.20	1.30	1.25412	1.24822	1.34588	1.35178	1.12085	1.60837	1.83137
57	0.20	1.35	1.30318	1.29713	1.39682	1.40287	1.16334	1.57794	1.79794
58	0.20	1.40	1.35223	1.34603	1.44777	1.45397	1.20578	1.55018	1.76746
59	0.20	1.45	1.40126	1.39491	1.49874	1.50509	1.24817	1.52479	1.73961
60	0.20	1.50	1.45028	1.44377	1.54972	1.55623	1.29052	1.50151	1.71409
61	0.25	0.80	0.76949	0.76582	0.83051	0.83418	0.69406	1.75238	1.97907
62	0.25	0.85	0.81887	0.81509	0.88113	0.88491	0.73695	1.67762	1.89625
63	0.25	0.90	0.86822	0.86435	0.93178	0.93565	0.77978	1.61225	1.82390
64	0.25	0.95	0.91755	0.91358	0.98245	0.98642	0.82255	1.55474	1.76030
65	0.25	1.00	0.96687	0.96280	1.03313	1.03720	0.86527	1.50385	1.70408
66	0.25	1.05	1.01617	1.01199	1.08383	1.08801	0.90792	1.45860	1.65412
67	0.25	1.10	1.06546	1.06117	1.13454	1.13883	0.95052	1.41817	1.60954
68	0.25	1.15	1.11473	1.11033	1.18527	1.18967	0.99306	1.38191	1.56957
69	0.25	1.20	1.16399	1.15947	1.23601	1.24053	1.03554	1.34925	1.53360
70	0.25	1.25	1.21323	1.20860	1.28677	1.29140	1.07797	1.31973	1.50112
71	0.25	1.30	1.26246	1.25771	1.33754	1.34229	1.12034	1.29297	1.47169
72	0.25	1.35	1.31168	1.30681	1.38832	1.39319	1.16264	1.26862	1.44494
73	0.25	1.40	1.36089	1.35590	1.43911	1.44410	1.20490	1.24641	1.42055
74	0.25	1.45	1.41009	1.40497	1.48991	1.49503	1.24709	1.22610	1.39826
75	0.25	1.50	1.45928	1.45403	1.54072	1.54597	1.28923	1.20747	1.37784
76	0.30	0.80	0.77415	0.77107	0.82585	0.82893	0.69469	1.46542	1.65461
77	0.30	0.85	0.82360	0.82045	0.87640	0.87955	0.73751	1.40318	1.58565
78	0.30	0.90	0.87304	0.86980	0.92696	0.93020	0.78027	1.34876	1.52541
79	0.30	0.95	0.92246	0.91914	0.97754	0.98086	0.82296	1.30087	1.47244
80	0.30	1.00	0.97187	0.96846	1.02813	1.03154	0.86557	1.25849	1.42562
81	0.30	1.05	1.02127	1.01776	1.07873	1.08224	0.90812	1.22081	1.38401
82	0.30	1.10	1.07065	1.06705	1.12935	1.13295	0.95060	1.18714	1.34687
83	0.30	1.15	1.12002	1.11633	1.17998	1.18367	0.99301	1.15693	1.31358
84	0.30	1.20	1.16938	1.16559	1.23062	1.23441	1.03535	1.12972	1.28361
85	0.30	1.25	1.21873	1.21484	1.28127	1.28516	1.07762	1.10513	1.25654
86	0.30	1.30	1.26806	1.26408	1.33194	1.33592	1.11982	1.08282	1.23201
87	0.30	1.35	1.31739	1.31330	1.38261	1.38670	1.16195	1.06252	1.20971
88	0.30	1.40	1.36671	1.36252	1.43329	1.43748	1.20401	1.04401	1.18938
89	0.30	1.45	1.41602	1.41173	1.48398	1.48827	1.24600	1.02706	1.17079
90	0.30	1.50	1.46532	1.46092	1.53468	1.53908	1.28792	1.01152	1.15375

**WSRC-TR-92-259**

**Task 92-053-1**

**Statistical Analysis of Test Data for APM Rod Issue**

**May 29, 1992**

**Revision 0**

**Page 32 of 87**

**TABLE 8**

**( DC - APM 8 )**

OBS	X	T	T_MIN	T_MIN_N	T_MAX	T_MAX_N	P	PCT_TO	PCT_TO_N
1	0.05	0.80	0.63354	0.61808	0.96646	0.98192	0.65076	10.2011	11.1658
2	0.05	0.85	0.68078	0.66496	1.01922	1.03504	0.69134	9.7519	10.6799
3	0.05	0.90	0.72790	0.71172	1.07210	1.08828	0.73192	9.3588	10.2550
4	0.05	0.95	0.77491	0.75836	1.12509	1.14164	0.77248	9.0127	9.8811
5	0.05	1.00	0.82182	0.80489	1.17818	1.19511	0.81303	8.7062	9.5502
6	0.05	1.05	0.86863	0.85131	1.23137	1.24869	0.85357	8.4336	9.2560
7	0.05	1.10	0.91535	0.89762	1.28465	1.30238	0.89409	8.1899	8.9931
8	0.05	1.15	0.96198	0.94384	1.33802	1.35616	0.93461	7.9711	8.7573
9	0.05	1.20	1.00853	0.98997	1.39147	1.41003	0.97512	7.7741	8.5450
10	0.05	1.25	1.05500	1.03600	1.44500	1.46400	1.01561	7.5959	8.3532
11	0.05	1.30	1.10140	1.08196	1.49860	1.51804	1.05610	7.4344	8.1792
12	0.05	1.35	1.14772	1.12783	1.55228	1.57217	1.09658	7.2873	8.0210
13	0.05	1.40	1.19397	1.17363	1.60603	1.62637	1.13704	7.1532	7.8768
14	0.05	1.45	1.24016	1.21936	1.65984	1.68064	1.17749	7.0306	7.7449
15	0.05	1.50	1.28629	1.26503	1.71371	1.73497	1.21794	6.9181	7.6240
16	0.10	0.80	0.71501	0.70724	0.88499	0.89276	0.65163	5.1152	5.5986
17	0.10	0.85	0.76351	0.75556	0.93649	0.94444	0.69217	4.8908	5.3558
18	0.10	0.90	0.81196	0.80383	0.98804	0.99617	0.73269	4.6944	5.1435
19	0.10	0.95	0.86035	0.85204	1.03965	1.04796	0.77319	4.5215	4.9567
20	0.10	1.00	0.90870	0.90019	1.09130	1.09981	0.81367	4.3684	4.7914
21	0.10	1.05	0.95699	0.94828	1.14301	1.15172	0.85413	4.2321	4.6444
22	0.10	1.10	1.00524	0.99633	1.19476	1.20367	0.89457	4.1104	4.5130
23	0.10	1.15	1.05345	1.04432	1.24655	1.25568	0.93499	4.0011	4.3952
24	0.10	1.20	1.10161	1.09227	1.29839	1.30773	0.97538	3.9027	4.2891
25	0.10	1.25	1.14974	1.14017	1.35026	1.35983	1.01575	3.8136	4.1933
26	0.10	1.30	1.19782	1.18804	1.40218	1.41196	1.05610	3.7329	4.1063
27	0.10	1.35	1.24587	1.23586	1.45413	1.46414	1.09643	3.6594	4.0273
28	0.10	1.40	1.29389	1.28364	1.50611	1.51636	1.13674	3.5924	3.9552
29	0.10	1.45	1.34187	1.33139	1.55813	1.56861	1.17703	3.5311	3.8893
30	0.10	1.50	1.38983	1.37911	1.61017	1.62089	1.21729	3.4749	3.8289
31	0.15	0.80	0.74220	0.73700	0.85780	0.86300	0.65249	3.4208	3.7437
32	0.15	0.85	0.79113	0.7881	0.90887	0.91419	0.69300	3.2713	3.5820
33	0.15	0.90	0.84003	0.83458	0.95997	0.96542	0.73347	3.1405	3.4405
34	0.15	0.95	0.88889	0.88332	1.01111	1.01668	0.77392	3.0253	3.3161
35	0.15	1.00	0.93772	0.93201	1.06228	1.06799	0.81433	2.9233	3.2060
36	0.15	1.05	0.98651	0.98067	1.11349	1.11933	0.85470	2.8326	3.1081
37	0.15	1.10	1.03528	1.02930	1.16472	1.17070	0.89505	2.7515	3.0206
38	0.15	1.15	1.08401	1.07789	1.21599	1.22211	0.93536	2.6788	2.9421
39	0.15	1.20	1.13272	1.12645	1.26728	1.27355	0.97564	2.6132	2.8714
40	0.15	1.25	1.18140	1.17498	1.31860	1.32502	1.01589	2.5539	2.8076
41	0.15	1.30	1.23006	1.22349	1.36994	1.37651	1.05611	2.5001	2.7497
42	0.15	1.35	1.27869	1.27196	1.42131	1.42804	1.09629	2.4512	2.6970
43	0.15	1.40	1.32730	1.32042	1.47270	1.47958	1.13644	2.4065	2.6490
44	0.15	1.45	1.37589	1.36885	1.52411	1.53115	1.17656	2.3657	2.6050
45	0.15	1.50	1.42445	1.41725	1.57555	1.58275	1.21665	2.3282	2.5648
46	0.20	0.80	0.75583	0.75191	0.84417	0.84809	0.65337	2.5741	2.8167
47	0.20	0.85	0.80498	0.80097	0.89502	0.89903	0.69384	2.4621	2.6955

TABLE 8

( DC - APM 8 )

( CONTINUED )

OBS	X	T	T_MIN	T_MIN_N	T_MAX	T_MAX_N	P	PCT_TO	PCT_TO_N
48	0.20	0.90	0.85411	0.85000	0.94589	0.95000	0.73426	2.3641	2.5896
49	0.20	0.95	0.90320	0.89900	0.99680	1.00100	0.77464	2.2778	2.4963
50	0.20	1.00	0.95227	0.94797	1.04773	1.05203	0.81498	2.2014	2.4138
51	0.20	1.05	1.00132	0.99691	1.09868	1.10309	0.85528	2.1334	2.3404
52	0.20	1.10	1.05035	1.04583	1.14965	1.15417	0.89553	2.0727	2.2749
53	0.20	1.15	1.09935	1.09473	1.20065	1.20527	0.93574	2.0181	2.2161
54	0.20	1.20	1.14833	1.14360	1.25167	1.25640	0.97591	1.9690	2.1631
55	0.20	1.25	1.19730	1.19245	1.30270	1.30755	1.01603	1.9246	2.1152
56	0.20	1.30	1.24624	1.24128	1.35376	1.35872	1.05611	1.8843	2.0718
57	0.20	1.35	1.29517	1.29009	1.40483	1.40991	1.09615	1.8476	2.0323
58	0.20	1.40	1.34408	1.33888	1.45592	1.46112	1.13614	1.8141	1.9963
59	0.20	1.45	1.39297	1.38766	1.50703	1.51234	1.17609	1.7835	1.9634
60	0.20	1.50	1.44185	1.43641	1.55815	1.56359	1.21600	1.7554	1.9332
61	0.25	0.80	0.76403	0.76088	0.83597	0.83912	0.65425	2.0664	2.2608
62	0.25	0.85	0.81332	0.81009	0.88668	0.88991	0.69468	1.9769	2.1640
63	0.25	0.90	0.86258	0.85928	0.93742	0.94072	0.73506	1.8986	2.0793
64	0.25	0.95	0.91182	0.90844	0.98818	0.99156	0.77538	1.8296	2.0048
65	0.25	1.00	0.96104	0.95758	1.03896	1.04242	0.81565	1.7686	1.9388
66	0.25	1.05	1.01025	1.00670	1.08975	1.09330	0.85586	1.7143	1.8802
67	0.25	1.10	1.05943	1.05580	1.14057	1.14420	0.89602	1.6657	1.8278
68	0.25	1.15	1.10860	1.10488	1.19140	1.19512	0.93612	1.6221	1.7807
69	0.25	1.20	1.15775	1.15394	1.24225	1.24606	0.97617	1.5828	1.7384
70	0.25	1.25	1.20689	1.20298	1.29311	1.29702	1.01617	1.5473	1.7001
71	0.25	1.30	1.25601	1.25201	1.34399	1.34799	1.05611	1.5151	1.6654
72	0.25	1.35	1.30512	1.30103	1.39488	1.39897	1.09600	1.4857	1.6338
73	0.25	1.40	1.35421	1.35002	1.44579	1.44998	1.13584	1.4590	1.6050
74	0.25	1.45	1.40330	1.39901	1.49670	1.50099	1.17562	1.4345	1.5787
75	0.25	1.50	1.45237	1.44798	1.54763	1.55202	1.21534	1.4120	1.5545
76	0.30	0.80	0.76952	0.76688	0.83048	0.83312	0.65514	1.7282	1.8904
77	0.30	0.85	0.81890	0.81620	0.88110	0.88380	0.69553	1.6537	1.8098
78	0.30	0.90	0.86826	0.86549	0.93174	0.93451	0.73585	1.5885	1.7393
79	0.30	0.95	0.91760	0.91476	0.98240	0.98524	0.77612	1.5311	1.6773
80	0.30	1.00	0.96692	0.96402	1.03308	1.03598	0.81631	1.4802	1.6223
81	0.30	1.05	1.01623	1.01325	1.08377	1.08675	0.85644	1.4350	1.5735
82	0.30	1.10	1.06552	1.06248	1.13448	1.13752	0.89651	1.3946	1.5299
83	0.30	1.15	1.11480	1.11168	1.18520	1.18832	0.93651	1.3582	1.4907
84	0.30	1.20	1.16407	1.16087	1.23593	1.23913	0.97644	1.3255	1.4554
85	0.30	1.25	1.21332	1.21005	1.28668	1.28995	1.01631	1.2959	1.4235
86	0.30	1.30	1.26257	1.25921	1.33743	1.34079	1.05612	1.2691	1.3946
87	0.30	1.35	1.31180	1.30836	1.38820	1.39164	1.09586	1.2446	1.3683
88	0.30	1.40	1.36102	1.35750	1.43898	1.44250	1.13553	1.2223	1.3443
89	0.30	1.45	1.41023	1.40663	1.48977	1.49337	1.17514	1.2019	1.3223
90	0.30	1.50	1.45943	1.45575	1.54057	1.54425	1.21468	1.1831	1.3022

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**Statistical Analysis of Test Data for APM Rod Issue**

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**TABLE 9**

**( DC - APM 9 )**

OBS	X	T	T_MIN	T_MIN_N	T_MAX	T_MAX_N	P	PCT_TO	PCT_TO_N
1	0.05	0.80	0.63823	0.62305	0.96177	0.97695	0.70542	9.91234	10.8592
2	0.05	0.85	0.68526	0.66970	1.01474	1.03030	0.74940	9.49199	10.4052
3	0.05	0.90	0.73218	0.71622	1.06782	1.08378	0.79338	9.12479	10.0089
4	0.05	0.95	0.77898	0.76262	1.12102	1.13738	0.83734	8.80202	9.6608
5	0.05	1.00	0.82568	0.80891	1.17432	1.19109	0.88129	8.51673	9.3532
6	0.05	1.05	0.87229	0.85508	1.22771	1.24492	0.92523	8.26330	9.0802
7	0.05	1.10	0.91879	0.90114	1.28121	1.29886	0.96916	8.03714	8.8367
8	0.05	1.15	0.96521	0.94711	1.33479	1.35289	1.01307	7.83448	8.6186
9	0.05	1.20	1.01154	0.99299	1.38846	1.40701	1.05698	7.65217	8.4226
10	0.05	1.25	1.05780	1.03878	1.44220	1.46122	1.10087	7.48759	8.2457
11	0.05	1.30	1.10398	1.08448	1.49602	1.51552	1.14475	7.33853	8.0855
12	0.05	1.35	1.15009	1.13011	1.54991	1.56989	1.18862	7.20310	7.9401
13	0.05	1.40	1.19613	1.17566	1.60387	1.62434	1.23247	7.07970	7.8076
14	0.05	1.45	1.24210	1.22114	1.65790	1.67886	1.27631	6.96698	7.6867
15	0.05	1.50	1.28802	1.26656	1.71198	1.73344	1.32015	6.86373	7.5760
16	0.10	0.80	0.71738	0.70976	0.88262	0.89024	0.70615	4.97057	5.4450
17	0.10	0.85	0.76579	0.75797	0.93421	0.94203	0.75008	4.76055	5.2182
18	0.10	0.90	0.81414	0.80612	0.98586	0.99388	0.79398	4.57708	5.0202
19	0.10	0.95	0.86243	0.85421	1.03757	1.04579	0.83786	4.41581	4.8462
20	0.10	1.00	0.91067	0.90224	1.08933	1.09776	0.88172	4.27327	4.6925
21	0.10	1.05	0.95886	0.95021	1.14114	1.14979	0.92556	4.14664	4.5561
22	0.10	1.10	1.00701	0.99813	1.19299	1.20187	0.96937	4.03364	4.4344
23	0.10	1.15	1.05511	1.04600	1.24489	1.25400	1.01315	3.93237	4.3255
24	0.10	1.20	1.10317	1.09383	1.29683	1.30617	1.05692	3.84128	4.2275
25	0.10	1.25	1.15118	1.14161	1.34882	1.35839	1.10065	3.75903	4.1391
26	0.10	1.30	1.19916	1.18935	1.40084	1.41065	1.14437	3.68454	4.0590
27	0.10	1.35	1.24711	1.23705	1.45289	1.46295	1.18806	3.61685	3.9863
28	0.10	1.40	1.29502	1.28471	1.50498	1.51529	1.23172	3.55518	3.9201
29	0.10	1.45	1.34289	1.33234	1.55711	1.56766	1.27537	3.49883	3.8596
30	0.10	1.50	1.39074	1.37993	1.60926	1.62007	1.31898	3.44722	3.8043
31	0.15	0.80	0.74381	0.73870	0.85619	0.86130	0.70688	3.32415	3.6411
32	0.15	0.85	0.79268	0.78744	0.90732	0.91256	0.75075	3.18426	3.4900
33	0.15	0.90	0.84151	0.83613	0.95849	0.96387	0.79459	3.06206	3.3581
34	0.15	0.95	0.89030	0.88479	1.00970	1.01521	0.83839	2.95465	3.2422
35	0.15	1.00	0.93906	0.93340	1.06094	1.06660	0.88215	2.85970	3.1398
36	0.15	1.05	0.98779	0.98198	1.11221	1.11802	0.92588	2.77536	3.0489
37	0.15	1.10	1.03648	1.03053	1.16352	1.16947	0.96958	2.70009	2.9679
38	0.15	1.15	1.08515	1.07904	1.21485	1.22096	1.01323	2.63264	2.8953
39	0.15	1.20	1.13378	1.12752	1.26622	1.27248	1.05685	2.57195	2.8300
40	0.15	1.25	1.18239	1.17597	1.31761	1.32403	1.10044	2.51716	2.7711
41	0.15	1.30	1.23098	1.22439	1.36902	1.37561	1.14398	2.46753	2.7177
42	0.15	1.35	1.27954	1.27279	1.42046	1.42721	1.18750	2.42243	2.6693
43	0.15	1.40	1.32808	1.32116	1.47192	1.47884	1.23097	2.38133	2.6252
44	0.15	1.45	1.37660	1.36951	1.52340	1.53049	1.27441	2.34378	2.5849
45	0.15	1.50	1.42509	1.41783	1.57491	1.58217	1.31782	2.30938	2.5480
46	0.20	0.80	0.75705	0.75320	0.84295	0.84680	0.70762	2.50146	2.7396
47	0.20	0.85	0.80616	0.80221	0.89384	0.89779	0.75143	2.39665	2.6264

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Statistical Analysis of Test Data for APM Rod Issue

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TABLE 9

( DC - APM 9 )

( CONTINUED )

OBS	X	T	T_MIN	T_MIN_N	T_MAX	T_MAX_N	P	PCT_TO	PCT_TO_N
48	0.20	0.90	0.85523	0.85118	0.94477	0.94882	0.79520	2.30509	2.5275
49	0.20	0.95	0.90428	0.90012	0.99572	0.99988	0.83892	2.22461	2.4407
50	0.20	1.00	0.95330	0.94903	1.04670	1.05097	0.88259	2.15347	2.3640
51	0.20	1.05	1.00230	0.99792	1.09770	1.10208	0.92621	2.09027	2.2959
52	0.20	1.10	1.05127	1.04677	1.14873	1.15323	0.96979	2.03387	2.2351
53	0.20	1.15	1.10022	1.09561	1.19978	1.20439	1.01331	1.98332	2.1807
54	0.20	1.20	1.14915	1.14442	1.25085	1.25558	1.05679	1.93784	2.1318
55	0.20	1.25	1.19806	1.19321	1.30194	1.30679	1.10022	1.89677	2.0876
56	0.20	1.30	1.24695	1.24198	1.35305	1.35802	1.14360	1.85957	2.0476
57	0.20	1.35	1.29583	1.29073	1.40417	1.40927	1.18693	1.82576	2.0113
58	0.20	1.40	1.34469	1.33946	1.45531	1.46054	1.23022	1.79495	1.9782
59	0.20	1.45	1.39353	1.38817	1.50647	1.51183	1.27345	1.76679	1.9480
60	0.20	1.50	1.44235	1.43686	1.55765	1.56314	1.31664	1.74099	1.9203
61	0.25	0.80	0.76502	0.76193	0.83498	0.83807	0.70836	2.00818	2.1990
62	0.25	0.85	0.81427	0.81109	0.88573	0.88891	0.75212	1.92441	2.1085
63	0.25	0.90	0.86349	0.86023	0.93651	0.93977	0.79582	1.85124	2.0295
64	0.25	0.95	0.91270	0.90935	0.98730	0.99065	0.83945	1.78692	1.9601
65	0.25	1.00	0.96188	0.95844	1.03812	1.04156	0.88303	1.73006	1.8988
66	0.25	1.05	1.01104	1.00751	1.08896	1.09249	0.92654	1.67955	1.8443
67	0.25	1.10	1.06018	1.05656	1.13982	1.14344	0.97000	1.63446	1.7958
68	0.25	1.15	1.10931	1.10560	1.19069	1.19440	1.01339	1.59405	1.7523
69	0.25	1.20	1.15842	1.15461	1.24158	1.24539	1.05673	1.55769	1.7131
70	0.25	1.25	1.20751	1.20360	1.29249	1.29640	1.10000	1.52485	1.6778
71	0.25	1.30	1.25659	1.25258	1.34341	1.34742	1.14321	1.49510	1.6458
72	0.25	1.35	1.30566	1.30155	1.39434	1.39845	1.18636	1.46805	1.6168
73	0.25	1.40	1.35471	1.35049	1.44529	1.44951	1.22945	1.44340	1.5903
74	0.25	1.45	1.40375	1.39943	1.49625	1.50057	1.27248	1.42087	1.5661
75	0.25	1.50	1.45278	1.44835	1.54722	1.55165	1.31545	1.40022	1.5440
76	0.30	0.80	0.77036	0.76777	0.82964	0.83223	0.70911	1.67954	1.8388
77	0.30	0.85	0.81970	0.81704	0.88030	0.88296	0.75281	1.60980	1.7634
78	0.30	0.90	0.86903	0.86630	0.93097	0.93370	0.79643	1.54888	1.6977
79	0.30	0.95	0.91833	0.91553	0.98167	0.98447	0.83999	1.49532	1.6399
80	0.30	1.00	0.96763	0.96475	1.03237	1.03525	0.88347	1.44798	1.5888
81	0.30	1.05	1.01690	1.01394	1.08310	1.08606	0.92688	1.40592	1.5435
82	0.30	1.10	1.06616	1.06313	1.13384	1.13687	0.97021	1.36837	1.5030
83	0.30	1.15	1.11540	1.11229	1.18460	1.18771	1.01347	1.33471	1.4668
84	0.30	1.20	1.16464	1.16144	1.23536	1.23856	1.05666	1.30442	1.4342
85	0.30	1.25	1.21386	1.21058	1.28614	1.28942	1.09978	1.27705	1.4048
86	0.30	1.30	1.26306	1.25970	1.33694	1.34030	1.14282	1.25226	1.3781
87	0.30	1.35	1.31226	1.30881	1.38774	1.39119	1.18579	1.22972	1.3539
88	0.30	1.40	1.36144	1.35790	1.43856	1.44210	1.22869	1.20916	1.3318
89	0.30	1.45	1.41062	1.40699	1.48938	1.49301	1.27151	1.19037	1.3116
90	0.30	1.50	1.45978	1.45606	1.54022	1.54394	1.31426	1.17314	1.2932

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TABLE 10

( AC - APM 1 )

OBS	X	T	T_MIN	T_MIN_N	T_MAX	T_MAX_N	P	PCT_TO	PCT_TO_N
1	0.05	0.80	0.61752	0.60255	0.98248	0.99745	0.73970	11.1672	12.1011
2	0.05	0.85	0.66272	0.64745	1.03728	1.05255	0.78585	10.7781	11.6746
3	0.05	0.90	0.70777	0.69219	1.09223	1.10781	0.83199	10.4408	11.3048
4	0.05	0.95	0.75268	0.73677	1.14732	1.16323	0.87812	10.1466	10.9821
5	0.05	1.00	0.79745	0.78120	1.20255	1.21880	0.92423	9.8884	10.6988
6	0.05	1.05	0.84210	0.82550	1.25790	1.27450	0.97034	9.6607	10.4488
7	0.05	1.10	0.88663	0.86968	1.31337	1.33032	1.01644	9.4589	10.2272
8	0.05	1.15	0.93105	0.91374	1.36895	1.38626	1.06253	9.2792	10.0298
9	0.05	1.20	0.97533	0.95769	1.42462	1.44231	1.10861	9.1185	9.8533
10	0.05	1.25	1.01961	1.00155	1.48039	1.49845	1.15467	8.9744	9.6948
11	0.05	1.30	1.06376	1.04531	1.53624	1.55469	1.20073	8.8446	9.5521
12	0.05	1.35	1.10783	1.08898	1.59217	1.61102	1.24678	8.7273	9.4231
13	0.05	1.40	1.15182	1.13257	1.64818	1.66743	1.29282	8.6210	9.3062
14	0.05	1.45	1.19575	1.17609	1.70425	1.72391	1.33885	8.5243	9.1998
15	0.05	1.50	1.23961	1.21954	1.76039	1.78046	1.38487	8.4362	9.1029
16	0.10	0.80	0.70675	0.69924	0.89325	0.90076	0.74011	5.5974	6.0650
17	0.10	0.85	0.75423	0.74656	0.94577	0.95344	0.78619	5.4030	5.8519
18	0.10	0.90	0.80162	0.79380	0.99838	1.00620	0.83226	5.2345	5.6671
19	0.10	0.95	0.84895	0.84096	1.05105	1.05904	0.87831	5.0875	5.5058
20	0.10	1.00	0.89621	0.88805	1.10379	1.11195	0.92434	4.9585	5.3643
21	0.10	1.05	0.94340	0.93507	1.15660	1.16493	0.97035	4.8447	5.2394
22	0.10	1.10	0.99054	0.98203	1.20946	1.21797	1.01634	4.7438	5.1286
23	0.10	1.15	1.03762	1.02893	1.26238	1.27107	1.06231	4.6540	5.0300
24	0.10	1.20	1.08466	1.07577	1.31534	1.32423	1.10826	4.5738	4.9417
25	0.10	1.25	1.13165	1.12257	1.36835	1.37743	1.15419	4.5017	4.8626
26	0.10	1.30	1.17859	1.16932	1.42141	1.43068	1.20010	4.4368	4.7912
27	0.10	1.35	1.22550	1.21602	1.47450	1.48398	1.24599	4.3782	4.7267
28	0.10	1.40	1.27237	1.26269	1.52763	1.53731	1.29186	4.3250	4.6683
29	0.10	1.45	1.31920	1.30931	1.58080	1.59069	1.33771	4.2767	4.6151
30	0.10	1.50	1.36600	1.35591	1.63400	1.64409	1.38354	4.2327	4.5666
31	0.15	0.80	0.73655	0.73152	0.86345	0.86848	0.74051	3.7419	4.0540
32	0.15	0.85	0.78479	0.77966	0.91521	0.92034	0.78654	3.6124	3.9121
33	0.15	0.90	0.83297	0.82774	0.96703	0.97226	0.83254	3.5002	3.7890
34	0.15	0.95	0.88111	0.87576	1.01889	1.02424	0.87851	3.4023	3.6815
35	0.15	1.00	0.92920	0.92374	1.07080	1.07626	0.92445	3.3163	3.5872
36	0.15	1.05	0.97725	0.97167	1.12275	1.12833	0.97036	3.2406	3.5040
37	0.15	1.10	1.02527	1.01956	1.17473	1.18044	1.01624	3.1734	3.4302
38	0.15	1.15	1.07324	1.06742	1.22676	1.23258	1.06209	3.1136	3.3645
39	0.15	1.20	1.12119	1.11523	1.27881	1.28477	1.10791	3.0601	3.3057
40	0.15	1.25	1.16910	1.16301	1.33090	1.33699	1.15370	3.0121	3.2529
41	0.15	1.30	1.21698	1.21077	1.38302	1.38923	1.19946	2.9688	3.2054
42	0.15	1.35	1.26484	1.25849	1.43516	1.44151	1.24519	2.9298	3.1624
43	0.15	1.40	1.31267	1.30618	1.48733	1.49382	1.29089	2.8943	3.1235
44	0.15	1.45	1.36048	1.35385	1.53952	1.54615	1.33656	2.8621	3.0880
45	0.15	1.50	1.40827	1.40150	1.59173	1.59850	1.38220	2.8327	3.0557
46	0.20	0.80	0.75149	0.74771	0.84851	0.85229	0.74092	2.8148	3.0491
47	0.20	0.85	0.80011	0.79625	0.89989	0.90375	0.78689	2.7178	2.9428

TABLE 10

( AC - APM 1 )

( CONTINUED )

OBS	X	T	T_MIN	T_MIN_N	T_MAX	T_MAX_N	P	PCT_TO	PCT_TO_N
48	0.20	0.90	0.84870	0.84475	0.95130	0.95525	0.83282	2.6337	2.8505
49	0.20	0.95	0.89724	0.89322	1.00276	1.00678	0.87871	2.5604	2.7700
50	0.20	1.00	0.94576	0.94164	1.05424	1.05836	0.92455	2.4960	2.6993
51	0.20	1.05	0.99424	0.99004	1.10576	1.10996	0.97036	2.4392	2.6370
52	0.20	1.10	1.04269	1.03840	1.15731	1.16160	1.01613	2.3888	2.5817
53	0.20	1.15	1.09112	1.08673	1.20888	1.21327	1.06186	2.3440	2.5324
54	0.20	1.20	1.13952	1.13504	1.26048	1.26496	1.10755	2.3039	2.4884
55	0.20	1.25	1.18790	1.18332	1.31210	1.31668	1.15321	2.2679	2.4488
56	0.20	1.30	1.23626	1.23157	1.36374	1.36843	1.19882	2.2355	2.4131
57	0.20	1.35	1.28460	1.27981	1.41540	1.42019	1.24439	2.2062	2.3809
58	0.20	1.40	1.33292	1.32803	1.46708	1.47197	1.28992	2.1797	2.3517
59	0.20	1.45	1.38122	1.37622	1.51878	1.52378	1.33541	2.1555	2.3251
60	0.20	1.50	1.42951	1.42440	1.57049	1.57560	1.38086	2.1335	2.3009
61	0.25	0.80	0.76049	0.75745	0.83951	0.84255	0.74133	2.2590	2.4466
62	0.25	0.85	0.80935	0.80625	0.89065	0.89375	0.78724	2.1815	2.3616
63	0.25	0.90	0.85817	0.85500	0.94183	0.94500	0.83309	2.1143	2.2879
64	0.25	0.95	0.90697	0.90373	0.99303	0.99627	0.87890	2.0556	2.2235
65	0.25	1.00	0.95574	0.95243	1.04426	1.04757	0.92466	2.0042	2.1670
66	0.25	1.05	1.00448	1.00110	1.09552	1.09890	0.97037	1.9588	2.1172
67	0.25	1.10	1.05321	1.04975	1.14679	1.15025	1.01603	1.9185	2.0729
68	0.25	1.15	1.10191	1.09838	1.19809	1.20162	1.06164	1.8827	2.0335
69	0.25	1.20	1.15059	1.14698	1.24941	1.25302	1.10720	1.8506	1.9983
70	0.25	1.25	1.19925	1.19556	1.30075	1.30444	1.15271	1.8219	1.9667
71	0.25	1.30	1.24790	1.24413	1.35210	1.35587	1.19817	1.7959	1.9382
72	0.25	1.35	1.29653	1.29267	1.40347	1.40733	1.24358	1.7725	1.9124
73	0.25	1.40	1.34514	1.34121	1.45486	1.45879	1.28894	1.7512	1.8890
74	0.25	1.45	1.39375	1.38972	1.50625	1.51028	1.33425	1.7319	1.8677
75	0.25	1.50	1.44234	1.43822	1.55766	1.56178	1.37951	1.7142	1.8483
76	0.30	0.80	0.76652	0.76398	0.83348	0.83602	0.74174	1.8887	2.0451
77	0.30	0.85	0.81553	0.81294	0.88447	0.88706	0.78759	1.8242	1.9744
78	0.30	0.90	0.86452	0.86187	0.93548	0.93813	0.83337	1.7682	1.9130
79	0.30	0.95	0.91349	0.91078	0.98651	0.98922	0.87910	1.7194	1.8594
80	0.30	1.00	0.96243	0.95966	1.03757	1.04034	0.92477	1.6766	1.8123
81	0.30	1.05	1.01135	1.00852	1.08865	1.09148	0.97038	1.6387	1.7708
82	0.30	1.10	1.06026	1.05737	1.13974	1.14263	1.01593	1.6052	1.7340
83	0.30	1.15	1.10914	1.10619	1.19086	1.19381	1.06142	1.5754	1.7012
84	0.30	1.20	1.15801	1.15499	1.24199	1.24501	1.10685	1.5486	1.6718
85	0.30	1.25	1.20687	1.20378	1.29313	1.29622	1.15221	1.5247	1.6454
86	0.30	1.30	1.25571	1.25255	1.34429	1.34745	1.19752	1.5030	1.6217
87	0.30	1.35	1.30454	1.30131	1.39546	1.39869	1.24277	1.4835	1.6002
88	0.30	1.40	1.35336	1.35006	1.44664	1.44994	1.28796	1.4658	1.5807
89	0.30	1.45	1.40216	1.39879	1.49784	1.50121	1.33309	1.4496	1.5629
90	0.30	1.50	1.45096	1.44751	1.54904	1.55249	1.37816	1.4349	1.5467

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Statistical Analysis of Test Data for APM Rod Issue

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TABLE 11

( AC - APM 2 )

OBS	X	T	T_MIN	T_MIN_N	T_MAX	T_MAX_N	P	PCT_TO	PCT_TO_N
1	0.05	0.80	0.52996	0.51984	1.07004	1.08016	0.81512	16.5449	17.1763
2	0.05	0.85	0.57322	0.56283	1.12678	1.13717	0.86598	15.9480	16.5581
3	0.05	0.90	0.61626	0.60558	1.18374	1.19442	0.91682	15.4300	16.0217
4	0.05	0.95	0.65908	0.64812	1.24092	1.25188	0.96764	14.9776	15.5532
5	0.05	1.00	0.70171	0.69045	1.29829	1.30955	1.01846	14.5801	15.1418
6	0.05	1.05	0.74415	0.73259	1.35585	1.36741	1.06927	14.2292	14.7784
7	0.05	1.10	0.78643	0.77455	1.41357	1.42545	1.12006	13.9178	14.4561
8	0.05	1.15	0.82854	0.81635	1.47146	1.48365	1.17085	13.6403	14.1689
9	0.05	1.20	0.87051	0.85800	1.52949	1.54200	1.22162	13.3920	13.9119
10	0.05	1.25	0.91234	0.89950	1.58766	1.60050	1.27238	13.1690	13.6810
11	0.05	1.30	0.95405	0.94087	1.64595	1.65913	1.32313	12.9680	13.4730
12	0.05	1.35	0.99563	0.98212	1.70437	1.71788	1.37387	12.7862	13.2849
13	0.05	1.40	1.03710	1.02325	1.76290	1.77675	1.42460	12.6213	13.1143
14	0.05	1.45	1.07847	1.06428	1.82153	1.83572	1.47532	12.4713	12.9591
15	0.05	1.50	1.11975	1.10520	1.88025	1.89480	1.52603	12.3345	12.8175
16	0.10	0.80	0.66216	0.65708	0.93784	0.94292	0.81542	8.2920	8.6081
17	0.10	0.85	0.70862	0.70340	0.99138	0.99660	0.86619	7.9937	8.2992
18	0.10	0.90	0.75496	0.74960	1.04504	1.05040	0.91694	7.7348	8.0311
19	0.10	0.95	0.80119	0.79569	1.09881	1.10431	0.96767	7.5088	7.7970
20	0.10	1.00	0.84732	0.84167	1.15268	1.15833	1.01838	7.3101	7.5914
21	0.10	1.05	0.89337	0.88756	1.20663	1.21244	1.06907	7.1347	7.4098
22	0.10	1.10	0.93933	0.93336	1.26067	1.26664	1.11973	6.9791	7.2487
23	0.10	1.15	0.98520	0.97908	1.31480	1.32092	1.17077	6.8404	7.1051
24	0.10	1.20	1.03101	1.02472	1.36899	1.37528	1.22099	6.7163	6.9767
25	0.10	1.25	1.07675	1.07029	1.42325	1.42971	1.27159	6.6048	6.8613
26	0.10	1.30	1.12242	1.11580	1.47758	1.48420	1.32216	6.5043	6.7573
27	0.10	1.35	1.16803	1.16124	1.53197	1.53876	1.37271	6.4135	6.6632
28	0.10	1.40	1.21358	1.20662	1.58642	1.59338	1.42324	6.3310	6.5779
29	0.10	1.45	1.25909	1.25195	1.64091	1.64805	1.47375	6.2560	6.5003
30	0.10	1.50	1.30454	1.29723	1.69546	1.70277	1.52423	6.1876	6.4295
31	0.15	0.80	0.70631	0.70291	0.89369	0.89709	0.81571	5.5424	5.7534
32	0.15	0.85	0.75383	0.75034	0.94617	0.94966	0.86641	5.3437	5.5477
33	0.15	0.90	0.80128	0.79769	0.99872	1.00231	0.91707	5.1713	5.3691
34	0.15	0.95	0.84866	0.84497	1.05134	1.06503	0.96770	5.0207	5.2131
35	0.15	1.00	0.89597	0.89218	1.10403	1.10782	1.01830	4.8884	5.0761
36	0.15	1.05	0.94322	0.93933	1.15678	1.16067	1.06886	4.7715	4.9551
37	0.15	1.10	0.99042	0.98642	1.20958	1.21358	1.11940	4.6678	4.8478
38	0.15	1.15	1.03756	1.03345	1.26244	1.26655	1.16989	4.5754	4.7521
39	0.15	1.20	1.08465	1.08044	1.31535	1.31936	1.22036	4.4927	4.6665
40	0.15	1.25	1.13169	1.12737	1.36831	1.37263	1.27078	4.4184	4.5896
41	0.15	1.30	1.17870	1.17426	1.42130	1.42574	1.32118	4.3514	4.5203
42	0.15	1.35	1.22566	1.22111	1.47434	1.47889	1.37154	4.2909	4.4576
43	0.15	1.40	1.27259	1.26792	1.52741	1.53208	1.42187	4.2359	4.4007
44	0.15	1.45	1.31948	1.31469	1.58052	1.58531	1.47217	4.1859	4.3489
45	0.15	1.50	1.36634	1.36143	1.63366	1.63857	1.52243	4.1403	4.3017
46	0.20	0.80	0.72844	0.72588	0.87156	0.87412	0.81601	4.1685	4.3270
47	0.20	0.85	0.77350	0.77388	0.92350	0.92612	0.86663	4.0196	4.1727

TABLE 11

( AC - APM 2 )

( CONTINUED )

OBS	X	T	T_MIN	T_MIN_N	T_MAX	T_MAX_N	P	PCT_TO	PCT_TO_N
48	0.20	0.90	0.82451	0.82181	0.97549	0.97819	0.91720	3.8904	4.0389
49	0.20	0.95	0.87247	0.86969	1.02753	1.03031	0.96773	3.7775	3.9220
50	0.20	1.00	0.92037	0.91752	1.07963	1.08248	1.01822	3.6784	3.8193
51	0.20	1.05	0.96823	0.96530	1.13177	1.13470	1.06866	3.5908	3.7287
52	0.20	1.10	1.01605	1.01304	1.18395	1.18696	1.11906	3.5131	3.6482
53	0.20	1.15	1.06383	1.06074	1.23617	1.23926	1.16941	3.4438	3.5765
54	0.20	1.20	1.11157	1.10840	1.28843	1.29160	1.21972	3.3818	3.5123
55	0.20	1.25	1.15928	1.15602	1.34072	1.34398	1.26998	3.3261	3.4546
56	0.20	1.30	1.20696	1.20361	1.39304	1.39639	1.32020	3.2759	3.4026
57	0.20	1.35	1.25460	1.25117	1.44540	1.44883	1.37037	3.2305	3.3556
58	0.20	1.40	1.30222	1.29870	1.49778	1.50130	1.42050	3.1892	3.3130
59	0.20	1.45	1.34981	1.34620	1.55019	1.55380	1.47058	3.1517	3.2741
60	0.20	1.50	1.39738	1.39368	1.60262	1.60632	1.52062	3.1175	3.2387
61	0.25	0.80	0.74176	0.73971	0.85824	0.86029	0.81630	3.3448	3.4716
62	0.25	0.85	0.79016	0.78805	0.90984	0.91195	0.86685	3.2257	3.3483
63	0.25	0.90	0.83851	0.83634	0.96149	0.96366	0.91733	3.1224	3.2413
64	0.25	0.95	0.88681	0.88458	1.01319	1.01542	0.96776	3.0322	3.1479
65	0.25	1.00	0.93508	0.93279	1.06492	1.06721	1.01814	2.9529	3.0658
66	0.25	1.05	0.98331	0.98096	1.11669	1.11904	1.06846	2.8829	2.9933
67	0.25	1.10	1.03151	1.02909	1.16849	1.17091	1.11872	2.8208	2.9290
68	0.25	1.15	1.07967	1.07719	1.22033	1.22281	1.16893	2.7654	2.8716
69	0.25	1.20	1.12781	1.12526	1.27219	1.27474	1.21908	2.7158	2.8203
70	0.25	1.25	1.17592	1.17330	1.32408	1.32670	1.26917	2.6712	2.7741
71	0.25	1.30	1.22401	1.22131	1.37599	1.37869	1.31921	2.6311	2.7326
72	0.25	1.35	1.27207	1.26931	1.42793	1.43069	1.36920	2.5947	2.6949
73	0.25	1.40	1.32010	1.31727	1.47990	1.48273	1.41912	2.5617	2.6608
74	0.25	1.45	1.36812	1.36522	1.53188	1.53478	1.46899	2.5317	2.6297
75	0.25	1.50	1.41612	1.41314	1.58388	1.58686	1.51881	2.5043	2.6013
76	0.30	0.80	0.75069	0.74897	0.84931	0.85103	0.81660	2.7959	2.9017
77	0.30	0.85	0.79930	0.79754	0.90070	0.90246	0.86707	2.6968	2.7990
78	0.30	0.90	0.84788	0.84607	0.95212	0.95393	0.91746	2.6108	2.7099
79	0.30	0.95	0.89642	0.89456	1.00358	1.00544	0.96779	2.5357	2.6321
80	0.30	1.00	0.94494	0.94302	1.05506	1.05698	1.01806	2.4696	2.5638
81	0.30	1.05	0.99342	0.99145	1.10658	1.10855	1.06825	2.4113	2.5034
82	0.30	1.10	1.04187	1.03985	1.15813	1.16015	1.11838	2.3595	2.4498
83	0.30	1.15	1.09030	1.08822	1.20970	1.21178	1.16844	2.3134	2.4020
84	0.30	1.20	1.13871	1.13657	1.26129	1.26343	1.21844	2.2721	2.3592
85	0.30	1.25	1.18709	1.18489	1.31291	1.31511	1.26836	2.2349	2.3207
86	0.30	1.30	1.23545	1.23320	1.36455	1.36680	1.31822	2.2014	2.2361
87	0.30	1.35	1.28379	1.28148	1.41621	1.41852	1.36801	2.1711	2.2547
88	0.30	1.40	1.33212	1.32974	1.46788	1.47026	1.41774	2.1436	2.2262
89	0.30	1.45	1.38042	1.37799	1.51958	1.52201	1.46739	2.1185	2.2003
90	0.30	1.50	1.42871	1.42622	1.57129	1.57378	1.51698	2.0956	2.1766

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**TABLE 12**

**( AC - APM 3 )**

OBS	X	T	T_MIN	T_MIN_N	T_MAX	T_MAX_N	P	PCT_TO	PCT_TO_N
1	0.05	0.80	0.68593	0.66319	0.91407	0.93681	0.80360	6.98950	8.40818
2	0.05	0.85	0.73345	0.71006	0.96655	0.98994	0.85373	6.71609	8.08932
3	0.05	0.90	0.78088	0.75682	1.01912	1.04318	0.90385	6.47806	7.81206
4	0.05	0.95	0.82822	0.80347	1.07178	1.09653	0.95397	6.26953	7.56947
5	0.05	1.00	0.87548	0.85002	1.12452	1.14998	1.00407	6.08582	7.35599
6	0.05	1.05	0.92267	0.89648	1.17733	1.20352	1.05416	5.92315	7.16716
7	0.05	1.10	0.96978	0.94286	1.23022	1.25714	1.10424	5.77843	6.99936
8	0.05	1.15	1.01684	0.98915	1.28316	1.31085	1.15431	5.64913	6.84959
9	0.05	1.20	1.06382	1.03537	1.33618	1.36463	1.20437	5.53316	6.71538
10	0.05	1.25	1.11076	1.08152	1.38924	1.41848	1.25442	5.42875	6.59468
11	0.05	1.30	1.15763	1.12761	1.44237	1.47239	1.30445	5.33444	6.48574
12	0.05	1.35	1.20446	1.17363	1.49554	1.52637	1.35448	5.24897	6.38710
13	0.05	1.40	1.25124	1.21960	1.54876	1.58040	1.40450	5.17129	6.29752
14	0.05	1.45	1.29797	1.26551	1.60203	1.63449	1.45450	5.10049	6.21594
15	0.05	1.50	1.34466	1.31138	1.65534	1.68862	1.50450	5.03579	6.14144
16	0.10	0.80	0.74179	0.73038	0.85821	0.86962	0.80390	3.50280	4.21319
17	0.10	0.85	0.79047	0.77873	0.90953	0.92127	0.85396	3.36617	4.05383
18	0.10	0.90	0.83911	0.82703	0.96089	0.97297	0.90400	3.24722	3.91526
19	0.10	0.95	0.88771	0.87528	1.01229	1.02472	0.95401	3.14301	3.79401
20	0.10	1.00	0.93627	0.92348	1.06373	1.07652	1.00401	3.05121	3.68730
21	0.10	1.05	0.98478	0.97163	1.11522	1.12837	1.05399	2.96991	3.59292
22	0.10	1.10	1.03327	1.01974	1.16673	1.18026	1.10394	2.89758	3.50905
23	0.10	1.15	1.08172	1.06781	1.21828	1.23219	1.15387	2.83296	3.43418
24	0.10	1.20	1.13014	1.11585	1.26986	1.28415	1.20378	2.77500	3.36709
25	0.10	1.25	1.17853	1.16384	1.32147	1.33616	1.25367	2.72281	3.30674
26	0.10	1.30	1.22690	1.21181	1.37310	1.38819	1.30354	2.67567	3.25227
27	0.10	1.35	1.27524	1.25974	1.42476	1.44026	1.35339	2.63294	3.20295
28	0.10	1.40	1.32355	1.30765	1.47645	1.49235	1.40321	2.59410	3.15816
29	0.10	1.45	1.37184	1.35553	1.52816	1.54447	1.45301	2.55871	3.11736
30	0.10	1.50	1.42011	1.40338	1.57989	1.59662	1.50280	2.52635	3.08010
31	0.15	0.80	0.76044	0.75280	0.83956	0.84720	0.80420	2.34117	2.81537
32	0.15	0.85	0.80951	0.80166	0.89049	0.89834	0.85418	2.25015	2.70919
33	0.15	0.90	0.85856	0.85048	0.94144	0.94952	0.90414	2.17091	2.61685
34	0.15	0.95	0.90758	0.89926	0.99242	1.00074	0.95406	2.10149	2.53606
35	0.15	1.00	0.95657	0.94801	1.04343	1.05199	1.00395	2.04032	2.46496
36	0.15	1.05	1.00554	0.99673	1.09446	1.10327	1.05381	1.98616	2.40207
37	0.15	1.10	1.05448	1.04542	1.14552	1.15458	1.10364	1.93798	2.34617
38	0.15	1.15	1.10340	1.09409	1.19660	1.20591	1.15343	1.89492	2.29628
39	0.15	1.20	1.15231	1.14273	1.24769	1.25727	1.20319	1.85630	2.25156
40	0.15	1.25	1.20119	1.19135	1.29881	1.30865	1.25292	1.82152	2.21134
41	0.15	1.30	1.25005	1.23994	1.34995	1.36006	1.30262	1.79010	2.17503
42	0.15	1.35	1.29890	1.28852	1.40110	1.41148	1.35229	1.76163	2.14215
43	0.15	1.40	1.34773	1.33707	1.45227	1.46293	1.40192	1.73574	2.11229
44	0.15	1.45	1.39655	1.38561	1.50345	1.51439	1.45152	1.71214	2.08508
45	0.15	1.50	1.44535	1.43413	1.55465	1.56587	1.50109	1.69057	2.06023
46	0.20	0.80	0.76979	0.76404	0.83021	0.83596	0.80450	1.76072	2.11677
47	0.20	0.85	0.81906	0.81315	0.88094	0.88685	0.85441	1.69251	2.03718

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TABLE 12

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( CONTINUED )

OBS	X	T	T_MIN	T_MIN_N	T_MAX	T_MAX_N	P	PCT_TO	PCT_TO_N
48	0.20	0.90	0.86831	0.86223	0.93169	0.93777	0.90428	1.63313	1.96797
49	0.20	0.95	0.91755	0.91128	0.98245	0.98872	0.95411	1.58110	1.90741
50	0.20	1.00	0.96676	0.96031	1.03324	1.03969	1.00389	1.53527	1.85412
51	0.20	1.05	1.01595	1.00932	1.08405	1.09068	1.05364	1.49468	1.80697
52	0.20	1.10	1.06513	1.05830	1.13487	1.14170	1.10334	1.45856	1.76506
53	0.20	1.15	1.11429	1.10727	1.18571	1.19273	1.15299	1.42629	1.72765
54	0.20	1.20	1.16343	1.15622	1.23657	1.24378	1.20260	1.39733	1.69413
55	0.20	1.25	1.21256	1.20515	1.28744	1.29485	1.25217	1.37126	1.66396
56	0.20	1.30	1.26168	1.25406	1.33832	1.34594	1.30170	1.34770	1.63673
57	0.20	1.35	1.31079	1.30296	1.38921	1.39704	1.35118	1.32635	1.61207
58	0.20	1.40	1.35988	1.35184	1.44012	1.44816	1.40062	1.30693	1.58967
59	0.20	1.45	1.40896	1.40071	1.49104	1.49929	1.45002	1.28923	1.56926
60	0.20	1.50	1.45803	1.44957	1.54197	1.55043	1.49937	1.27305	1.55061
61	0.25	0.80	0.77542	0.77080	0.82458	0.82920	0.80480	1.41268	1.69780
62	0.25	0.85	0.82481	0.82006	0.87519	0.87994	0.85464	1.35816	1.63417
63	0.25	0.90	0.87419	0.86930	0.92581	0.93070	0.90442	1.31069	1.57884
64	0.25	0.95	0.92355	0.91852	0.97645	0.98148	0.95416	1.26911	1.53042
65	0.25	1.00	0.97290	0.96772	1.02710	1.03228	1.00384	1.23247	1.48780
66	0.25	1.05	1.02223	1.01690	1.07777	1.08310	1.05346	1.20001	1.45010
67	0.25	1.10	1.07155	1.06606	1.12845	1.13394	1.10303	1.17114	1.41659
68	0.25	1.15	1.12085	1.11521	1.17915	1.18479	1.15255	1.14533	1.38667
69	0.25	1.20	1.17015	1.16434	1.22985	1.23566	1.20201	1.12217	1.35985
70	0.25	1.25	1.21943	1.21346	1.28057	1.28654	1.25142	1.10132	1.33572
71	0.25	1.30	1.26870	1.26257	1.33130	1.33743	1.30077	1.08247	1.31393
72	0.25	1.35	1.31796	1.31166	1.38204	1.38834	1.35007	1.06538	1.29419
73	0.25	1.40	1.36721	1.36075	1.43279	1.43925	1.39932	1.04985	1.27626
74	0.25	1.45	1.41646	1.40982	1.48354	1.49018	1.44851	1.03568	1.25992
75	0.25	1.50	1.46569	1.45888	1.53431	1.54112	1.49765	1.02272	1.24499
76	0.30	0.80	0.77918	0.77532	0.82082	0.82468	0.80510	1.18080	1.41862
77	0.30	0.85	0.82866	0.82469	0.87134	0.87531	0.85487	1.13540	1.36562
78	0.30	0.90	0.87813	0.87404	0.92187	0.92596	0.90457	1.09588	1.31954
79	0.30	0.95	0.92758	0.92336	0.97242	0.97664	0.95421	1.06124	1.27921
80	0.30	1.00	0.97701	0.97268	1.02299	1.02732	1.00378	1.03073	1.24371
81	0.30	1.05	1.02644	1.02198	1.07356	1.07802	1.05328	1.00370	1.21230
82	0.30	1.10	1.07585	1.07126	1.12415	1.12874	1.10273	0.97964	1.18437
83	0.30	1.15	1.12526	1.12053	1.17474	1.17947	1.15210	0.95814	1.15944
84	0.30	1.20	1.17465	1.16979	1.22535	1.23021	1.20141	0.93884	1.13709
85	0.30	1.25	1.22404	1.21904	1.27596	1.28096	1.25066	0.92146	1.11697
86	0.30	1.30	1.27341	1.26828	1.32659	1.33172	1.29984	0.90575	1.09881
87	0.30	1.35	1.32278	1.31750	1.37722	1.38250	1.34896	0.89150	1.08235
88	0.30	1.40	1.37214	1.36672	1.42786	1.43328	1.39801	0.87854	1.06740
89	0.30	1.45	1.42149	1.41593	1.47851	1.48407	1.44700	0.86672	1.05377
90	0.30	1.50	1.47084	1.46513	1.52916	1.53487	1.49592	0.85591	1.04131

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**TABLE 13**

**( AC - APM 4 )**

OBS	X	T	T_MIN	T_MIN_N	T_MAX	T_MAX_N	P	PCT_TO	PCT_TO_N
1	0.05	0.80	0.68351	0.66133	0.91649	0.93867	0.73212	7.13898	8.52275
2	0.05	0.85	0.73077	0.70810	0.96923	0.99190	0.77779	6.87165	8.20265
3	0.05	0.90	0.77793	0.75475	1.02207	1.04525	0.82346	6.63932	7.92442
4	0.05	0.95	0.82501	0.80130	1.07499	1.09870	0.86911	6.43612	7.68105
5	0.05	1.00	0.87200	0.84775	1.12800	1.15225	0.91475	6.25739	7.46698
6	0.05	1.05	0.91892	0.89411	1.18108	1.20589	0.96038	6.09937	7.27768
7	0.05	1.10	0.96576	0.94038	1.23424	1.25962	1.00600	5.95900	7.10952
8	0.05	1.15	1.01253	0.98657	1.28747	1.31343	1.05161	5.83377	6.95947
9	0.05	1.20	1.05924	1.03268	1.34076	1.36732	1.09721	5.72159	6.82505
10	0.05	1.25	1.10589	1.07872	1.39411	1.42128	1.14279	5.62073	6.70419
11	0.05	1.30	1.15249	1.12470	1.44751	1.47530	1.18837	5.52973	6.59514
12	0.05	1.35	1.19903	1.17061	1.50097	1.52939	1.23394	5.44737	6.49642
13	0.05	1.40	1.24552	1.21647	1.55448	1.58353	1.27950	5.37259	6.40679
14	0.05	1.45	1.29197	1.26227	1.60803	1.63773	1.32505	5.30451	6.32518
15	0.05	1.50	1.33838	1.30802	1.66162	1.69198	1.37059	5.24236	6.25068
16	0.10	0.80	0.74055	0.72941	0.85945	0.87059	0.73248	3.57815	4.27112
17	0.10	0.85	0.78910	0.77772	0.91090	0.92228	0.77809	3.44456	4.11115
18	0.10	0.90	0.83761	0.82597	0.96239	0.97403	0.82368	3.32847	3.97209
19	0.10	0.95	0.88607	0.87416	1.01393	1.02584	0.86924	3.22692	3.85047
20	0.10	1.00	0.93449	0.92231	1.06551	1.07769	0.91479	3.13761	3.74347
21	0.10	1.05	0.98287	0.97041	1.11713	1.12959	0.96031	3.05864	3.64886
22	0.10	1.10	1.03121	1.01846	1.16879	1.18154	1.00582	2.98849	3.56480
23	0.10	1.15	1.07952	1.06648	1.22048	1.23352	1.05130	2.92590	3.48980
24	0.10	1.20	1.12780	1.11445	1.27220	1.28555	1.09676	2.86983	3.42261
25	0.10	1.25	1.17605	1.16239	1.32395	1.33761	1.14221	2.81942	3.36218
26	0.10	1.30	1.22427	1.21030	1.37573	1.38970	1.18763	2.77393	3.30766
27	0.10	1.35	1.27246	1.25818	1.42754	1.44182	1.23303	2.73276	3.25831
28	0.10	1.40	1.32063	1.30602	1.47937	1.49398	1.27841	2.69537	3.21349
29	0.10	1.45	1.36878	1.35384	1.53122	1.54616	1.32377	2.66133	3.17268
30	0.10	1.50	1.41691	1.40164	1.58309	1.59836	1.36911	2.63025	3.13541
31	0.15	0.80	0.75959	0.75214	0.84041	0.84786	0.73285	2.39181	2.85442
32	0.15	0.85	0.80858	0.80096	0.89142	0.89904	0.77839	2.30282	2.74784
33	0.15	0.90	0.85754	0.84975	0.94246	0.95025	0.82390	2.22548	2.65519
34	0.15	0.95	0.90646	0.89849	0.99354	1.00151	0.86938	2.15784	2.57415
35	0.15	1.00	0.95536	0.94721	1.04464	1.05279	0.91483	2.09834	2.50286
36	0.15	1.05	1.00424	0.99589	1.09576	1.10411	0.96025	2.04573	2.43982
37	0.15	1.10	1.05308	1.04454	1.14692	1.15546	1.00563	1.99900	2.38381
38	0.15	1.15	1.10191	1.09317	1.19809	1.20683	1.05099	1.95729	2.33382
39	0.15	1.20	1.15071	1.14177	1.24929	1.25823	1.09632	1.91993	2.28904
40	0.15	1.25	1.19950	1.19035	1.30050	1.30965	1.14161	1.88634	2.24877
41	0.15	1.30	1.24827	1.23890	1.35173	1.36110	1.18688	1.85603	2.21243
42	0.15	1.35	1.29701	1.28743	1.40299	1.41257	1.23211	1.82858	2.17952
43	0.15	1.40	1.34575	1.33595	1.45425	1.46405	1.27731	1.80366	2.14965
44	0.15	1.45	1.39446	1.38444	1.50554	1.51556	1.32249	1.78097	2.12243
45	0.15	1.50	1.44317	1.43292	1.55683	1.56708	1.36763	1.76025	2.09759
46	0.20	0.80	0.76914	0.76353	0.83086	0.83647	0.73321	1.79901	2.14639
47	0.20	0.85	0.81835	0.81261	0.88165	0.88739	0.77869	1.73233	2.06650

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TABLE 13

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( CONTINUED )

OBS	X	T	T_MIN	T_MIN_N	T_MAX	T_MAX_N	P	PCT_TO	PCT_TO_N
48	0.20	0.90	0.86753	0.86166	0.93247	0.93834	0.82412	1.67437	1.99706
49	0.20	0.95	0.91669	0.91069	0.98331	0.98931	0.86952	1.62368	1.93632
50	0.20	1.00	0.96583	0.95969	1.03417	1.04031	0.91487	1.57909	1.88288
51	0.20	1.05	1.01496	1.00867	1.08504	1.09133	0.96018	1.53967	1.83563
52	0.20	1.10	1.06406	1.05762	1.13594	1.14238	1.00545	1.50464	1.79364
53	0.20	1.15	1.11314	1.10656	1.18686	1.19344	1.05068	1.47338	1.75617
54	0.20	1.20	1.16222	1.15547	1.23778	1.24453	1.09587	1.44537	1.72259
55	0.20	1.25	1.21127	1.20437	1.28873	1.29563	1.14102	1.42019	1.69239
56	0.20	1.30	1.26031	1.25325	1.33969	1.34675	1.18612	1.39746	1.66514
57	0.20	1.35	1.30934	1.30212	1.39066	1.39788	1.23119	1.37688	1.64046
58	0.20	1.40	1.35836	1.35097	1.44164	1.44903	1.27621	1.35819	1.61805
59	0.20	1.45	1.40736	1.39980	1.49264	1.50020	1.32120	1.34116	1.59764
60	0.20	1.50	1.45636	1.44863	1.54364	1.55137	1.36614	1.32562	1.57899
61	0.25	0.80	0.77489	0.77038	0.82511	0.82962	0.73358	1.44356	1.72177
62	0.25	0.85	0.82423	0.81962	0.87577	0.88038	0.77899	1.39026	1.65790
63	0.25	0.90	0.87355	0.86884	0.92645	0.93116	0.82435	1.34394	1.60239
64	0.25	0.95	0.92286	0.91803	0.97714	0.98197	0.86966	1.30342	1.55382
65	0.25	1.00	0.97214	0.96720	1.02786	1.03280	0.91491	1.26778	1.51110
66	0.25	1.05	1.02142	1.01636	1.07858	1.08364	0.96012	1.23625	1.47331
67	0.25	1.10	1.07067	1.06550	1.12933	1.13450	1.00527	1.20825	1.43973
68	0.25	1.15	1.11992	1.11462	1.18008	1.18538	1.05037	1.18325	1.40977
69	0.25	1.20	1.16915	1.16373	1.23085	1.23627	1.09542	1.16085	1.38291
70	0.25	1.25	1.21837	1.21282	1.28163	1.28718	1.14042	1.14071	1.35875
71	0.25	1.30	1.26758	1.26190	1.33242	1.33810	1.18537	1.12253	1.33695
72	0.25	1.35	1.31678	1.31097	1.38322	1.38903	1.23026	1.10606	1.31720
73	0.25	1.40	1.36597	1.36002	1.43403	1.43998	1.27511	1.09110	1.29927
74	0.25	1.45	1.41515	1.40907	1.48485	1.49093	1.31990	1.07747	1.28293
75	0.25	1.50	1.46432	1.45810	1.53568	1.54190	1.36464	1.06503	1.26800
76	0.30	0.80	0.77874	0.77497	0.82126	0.82503	0.73395	1.20674	1.43881
77	0.30	0.85	0.82817	0.82431	0.87183	0.87569	0.77929	1.16236	1.38563
78	0.30	0.90	0.87758	0.87364	0.92242	0.92636	0.82457	1.12379	1.33939
79	0.30	0.95	0.92698	0.92295	0.97302	0.97705	0.86980	1.09005	1.29894
80	0.30	1.00	0.97637	0.97224	1.02363	1.02776	0.91495	1.06036	1.26336
81	0.30	1.05	1.02575	1.02151	1.07425	1.07849	0.96005	1.03411	1.23188
82	0.30	1.10	1.07511	1.07078	1.12489	1.12922	1.00509	1.01078	1.20391
83	0.30	1.15	1.12446	1.12003	1.17554	1.17997	1.05006	0.98995	1.17894
84	0.30	1.20	1.17381	1.16926	1.22619	1.23074	1.09497	0.97129	1.15656
85	0.30	1.25	1.22314	1.21849	1.27686	1.28151	1.13982	0.95450	1.13642
86	0.30	1.30	1.27246	1.26770	1.32754	1.33230	1.18461	0.93934	1.11825
87	0.30	1.35	1.32178	1.31690	1.37822	1.38310	1.22933	0.92561	1.10178
88	0.30	1.40	1.37108	1.36610	1.42892	1.43390	1.27400	0.91313	1.08683
89	0.30	1.45	1.42038	1.41528	1.47962	1.48472	1.31860	0.90177	1.07320
90	0.30	1.50	1.46967	1.46446	1.53033	1.53554	1.36314	0.89138	1.06074

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Statistical Analysis of Test Data for APM Rod Issue

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TABLE 14

( AC - APM 5 )

OBS	X	T	T_MIN	T_MIN_N	T_MAX	T_MAX_N	P	PCT_TO	PCT_TO_N
1	0.05	0.80	0.70721	0.67882	0.89279	0.92118	0.74268	5.68587	7.45702
2	0.05	0.85	0.75513	0.72607	0.94487	0.97393	0.78902	5.46709	7.17333
3	0.05	0.90	0.80297	0.77322	0.99703	1.02678	0.83534	5.27676	6.92664
4	0.05	0.95	0.85075	0.82027	1.04925	1.07973	0.88166	5.11013	6.71075
5	0.05	1.00	0.89846	0.86724	1.10154	1.13276	0.92797	4.96342	6.52076
6	0.05	1.05	0.94610	0.91413	1.15390	1.18587	0.97427	4.83358	6.35270
7	0.05	1.10	0.99369	0.96094	1.20631	1.23906	1.02056	4.71815	6.20332
8	0.05	1.15	1.04123	1.00768	1.25877	1.29232	1.06684	4.61507	6.06999
9	0.05	1.20	1.08871	1.05435	1.31129	1.34565	1.11311	4.52266	5.95051
10	0.05	1.25	1.13615	1.10096	1.36385	1.39904	1.15937	4.43952	5.84303
11	0.05	1.30	1.18354	1.14752	1.41646	1.45248	1.20562	4.36444	5.74602
12	0.05	1.35	1.23089	1.19402	1.46911	1.50598	1.25186	4.29645	5.65818
13	0.05	1.40	1.27821	1.24047	1.52179	1.55953	1.29809	4.23467	5.57840
14	0.05	1.45	1.32549	1.28687	1.57451	1.61313	1.34431	4.17839	5.50574
15	0.05	1.50	1.37273	1.33323	1.62727	1.66677	1.39053	4.12698	5.43938
16	0.10	0.80	0.75265	0.73841	0.84735	0.86159	0.74298	2.84935	3.73619
17	0.10	0.85	0.80155	0.78697	0.89845	0.91303	0.78926	2.74002	3.59440
18	0.10	0.90	0.85041	0.83548	0.94959	0.96452	0.83551	2.64491	3.47110
19	0.10	0.95	0.89924	0.88394	1.00076	1.01606	0.88175	2.56164	3.36320
20	0.10	1.00	0.94803	0.93236	1.05197	1.06764	0.92797	2.48833	3.26824
21	0.10	1.05	0.99680	0.98074	1.10320	1.11926	0.97417	2.42344	3.18423
22	0.10	1.10	1.04553	1.02908	1.15447	1.17092	1.02035	2.36575	3.10956
23	0.10	1.15	1.09424	1.07739	1.20576	1.22261	1.06651	2.31424	3.04291
24	0.10	1.20	1.14292	1.12566	1.25708	1.27434	1.11265	2.26805	2.98318
25	0.10	1.25	1.19158	1.17390	1.30842	1.32610	1.15877	2.22649	2.92944
26	0.10	1.30	1.24022	1.22211	1.35978	1.37789	1.20487	2.18897	2.88094
27	0.10	1.35	1.28883	1.27030	1.41117	1.42970	1.25095	2.15498	2.83702
28	0.10	1.40	1.33743	1.31846	1.46257	1.48154	1.29702	2.12409	2.79712
29	0.10	1.45	1.38601	1.36659	1.51399	1.53341	1.34306	2.09595	2.76078
30	0.10	1.50	1.43457	1.41471	1.56543	1.58529	1.38909	2.07025	2.72760
31	0.15	0.80	0.76782	0.75829	0.83218	0.84171	0.74329	1.90433	2.49630
32	0.15	0.85	0.81705	0.80729	0.88295	0.89271	0.78950	1.83150	2.40182
33	0.15	0.90	0.86626	0.85626	0.93374	0.94374	0.83569	1.76814	2.31966
34	0.15	0.95	0.91544	0.90520	0.98456	0.99480	0.88184	1.71267	2.24776
35	0.15	1.00	0.96459	0.95410	1.03541	1.04590	0.92797	1.66383	2.18448
36	0.15	1.05	1.01373	1.00298	1.08627	1.09702	0.97406	1.62061	2.12849
37	0.15	1.10	1.06285	1.05184	1.13715	1.14816	1.02013	1.58217	2.07873
38	0.15	1.15	1.11195	1.10067	1.18805	1.19933	1.06617	1.54785	2.03431
39	0.15	1.20	1.16104	1.14948	1.23896	1.25052	1.11218	1.51707	1.99450
40	0.15	1.25	1.21011	1.19826	1.28989	1.30174	1.15817	1.48938	1.95868
41	0.15	1.30	1.25916	1.24703	1.34084	1.35297	1.20412	1.46437	1.92635
42	0.15	1.35	1.30820	1.29578	1.39180	1.40422	1.25005	1.44172	1.89707
43	0.15	1.40	1.35723	1.34452	1.44277	1.45548	1.29594	1.42113	1.87047
44	0.15	1.45	1.40625	1.39323	1.49375	1.50677	1.34181	1.40238	1.84624
45	0.15	1.50	1.45525	1.44194	1.54475	1.55806	1.38765	1.38524	1.82411
46	0.20	0.80	0.77543	0.76826	0.82457	0.83174	0.74360	1.43212	1.87658
47	0.20	0.85	0.82482	0.81748	0.87518	0.88252	0.78975	1.37755	1.80577

TABLE 14  
 ( AC - APM 5 )  
 ( CONTINUED )

OBS	X	T	T_MIN	T_MIN_N	T_MAX	T_MAX_N	P	PCT_TO	PCT_TO_N
48	0.20	0.90	0.87420	0.86668	0.92580	0.93332	0.83586	1.33007	1.74418
49	0.20	0.95	0.92356	0.91585	0.97644	0.98415	0.88193	1.28850	1.69028
50	0.20	1.00	0.97290	0.96500	1.02710	1.03500	0.92797	1.25190	1.64284
51	0.20	1.05	1.02223	1.01413	1.07777	1.08587	0.97396	1.21950	1.60087
52	0.20	1.10	1.07155	1.06325	1.12845	1.13675	1.01992	1.19069	1.56357
53	0.20	1.15	1.12085	1.11234	1.17915	1.18766	1.06584	1.16497	1.53026
54	0.20	1.20	1.17013	1.16142	1.22987	1.23858	1.11172	1.14190	1.50041
55	0.20	1.25	1.21941	1.21049	1.28059	1.28951	1.15756	1.12114	1.47355
56	0.20	1.30	1.26868	1.25953	1.33132	1.34047	1.20337	1.10239	1.44930
57	0.20	1.35	1.31793	1.30857	1.38207	1.39143	1.24913	1.08540	1.42734
58	0.20	1.40	1.36718	1.35759	1.43282	1.44241	1.29486	1.06996	1.40738
59	0.20	1.45	1.41641	1.40660	1.48359	1.49340	1.34055	1.05589	1.38921
60	0.20	1.50	1.46564	1.45560	1.53436	1.54440	1.38620	1.04303	1.37260
61	0.25	0.80	0.78001	0.77425	0.81999	0.82575	0.74391	1.14898	1.50490
62	0.25	0.85	0.82951	0.82361	0.87049	0.87639	0.78999	1.10536	1.44828
63	0.25	0.90	0.87899	0.87294	0.92101	0.92706	0.83603	1.06741	1.39904
64	0.25	0.95	0.92846	0.92226	0.97154	0.97774	0.88202	1.03418	1.35594
65	0.25	1.00	0.97791	0.97156	1.02209	1.02844	0.92797	1.00492	1.31801
66	0.25	1.05	1.02736	1.02085	1.07264	1.07915	0.97386	0.97902	1.28445
67	0.25	1.10	1.07679	1.07012	1.12321	1.12988	1.01971	0.95599	1.25461
68	0.25	1.15	1.12621	1.11938	1.17379	1.18062	1.06550	0.93542	1.22797
69	0.25	1.20	1.17562	1.16862	1.22438	1.23138	1.11126	0.91697	1.20409
70	0.25	1.25	1.22502	1.21785	1.27498	1.28215	1.15696	0.90036	1.18260
71	0.25	1.30	1.27442	1.26707	1.32558	1.33293	1.20261	0.88536	1.16320
72	0.25	1.35	1.32380	1.31628	1.37620	1.38372	1.24822	0.87177	1.14563
73	0.25	1.40	1.37318	1.36547	1.42682	1.43453	1.29378	0.85942	1.12966
74	0.25	1.45	1.42256	1.41466	1.47744	1.48534	1.33929	0.84815	1.11511
75	0.25	1.50	1.47192	1.46384	1.52808	1.53616	1.38475	0.83786	1.10182
76	0.30	0.80	0.78307	0.77826	0.81693	0.82174	0.74422	0.96034	1.25721
77	0.30	0.85	0.83264	0.82771	0.86736	0.87229	0.79024	0.92402	1.21005
78	0.30	0.90	0.88219	0.87714	0.91781	0.92286	0.83621	0.89242	1.16904
79	0.30	0.95	0.93174	0.92656	0.96826	0.97344	0.88211	0.86475	1.13314
80	0.30	1.00	0.98127	0.97596	1.01873	1.02404	0.92796	0.84038	1.10154
81	0.30	1.05	1.03079	1.02535	1.06921	1.07465	0.97376	0.81881	1.07358
82	0.30	1.10	1.08030	1.07472	1.11970	1.12528	1.01949	0.79962	1.04872
83	0.30	1.15	1.12981	1.12409	1.17019	1.17591	1.06517	0.78248	1.02652
84	0.30	1.20	1.17930	1.17344	1.22070	1.22656	1.11079	0.76711	1.00662
85	0.30	1.25	1.22879	1.22278	1.27121	1.27722	1.15635	0.75327	0.98871
86	0.30	1.30	1.27827	1.27212	1.32173	1.32788	1.20185	0.74076	0.97254
87	0.30	1.35	1.32775	1.32144	1.37225	1.37856	1.24730	0.72943	0.95789
88	0.30	1.40	1.37722	1.37076	1.42278	1.42924	1.29269	0.71912	0.94457
89	0.30	1.45	1.42668	1.42007	1.47332	1.47993	1.33802	0.70973	0.93243
90	0.30	1.50	1.47614	1.46937	1.52386	1.53063	1.38329	0.70114	0.92134

TABLE 15

( AC - APM 6 )

OBS	X	T	T_MIN	T_MIN_N	T_MAX	T_MAX_N	P	PCT_TO	PCT_TO_N
1	0.05	0.80	0.68140	0.65929	0.91860	0.94071	0.79127	7.26635	8.64555
2	0.05	0.85	0.72858	0.70590	0.97142	0.99410	0.84063	6.99608	8.32781
3	0.05	0.90	0.77566	0.75238	1.02434	1.04762	0.88998	6.76125	8.05186
4	0.05	0.95	0.82265	0.79876	1.07735	1.10124	0.93932	6.55592	7.81068
5	0.05	1.00	0.86956	0.84503	1.13044	1.15497	0.98865	6.37536	7.59869
6	0.05	1.05	0.91638	0.89121	1.18362	1.20879	1.03796	6.21576	7.41138
7	0.05	1.10	0.96313	0.93730	1.23687	1.26270	1.08727	6.07402	7.24509
8	0.05	1.15	1.00982	0.98331	1.29018	1.31669	1.13657	5.94759	7.09682
9	0.05	1.20	1.05643	1.02924	1.34357	1.37076	1.18585	5.83436	6.96408
10	0.05	1.25	1.10299	1.07510	1.39701	1.42490	1.23512	5.73257	6.84480
11	0.05	1.30	1.14949	1.12089	1.45051	1.47911	1.28439	5.64076	6.73723
12	0.05	1.35	1.19594	1.16662	1.50406	1.53338	1.33364	5.55767	6.63991
13	0.05	1.40	1.24233	1.21229	1.55767	1.58771	1.38288	5.48224	6.55160
14	0.05	1.45	1.28869	1.25791	1.61131	1.64209	1.43211	5.41358	6.47123
15	0.05	1.50	1.33499	1.30347	1.66501	1.69653	1.48132	5.35091	6.39788
16	0.10	0.80	0.73946	0.72837	0.86054	0.87163	0.79154	3.64181	4.33246
17	0.10	0.85	0.78798	0.77659	0.91202	0.92341	0.84083	3.50675	4.17366
18	0.10	0.90	0.83644	0.82475	0.96356	0.97525	0.89009	3.38940	4.03575
19	0.10	0.95	0.88486	0.87286	1.01514	1.02714	0.93933	3.28679	3.91520
20	0.10	1.00	0.93323	0.92091	1.06677	1.07909	0.98855	3.19656	3.80924
21	0.10	1.05	0.98156	0.96892	1.11844	1.13108	1.03774	3.11680	3.71562
22	0.10	1.10	1.02986	1.01688	1.17014	1.18312	1.08692	3.04595	3.63250
23	0.10	1.15	1.07812	1.06481	1.22188	1.23519	1.13607	2.98276	3.55838
24	0.10	1.20	1.12635	1.11269	1.27365	1.28731	1.18520	2.92616	3.49201
25	0.10	1.25	1.17455	1.16054	1.32545	1.33946	1.23431	2.87529	3.43237
26	0.10	1.30	1.22272	1.20835	1.37728	1.39165	1.28339	2.82939	3.37859
27	0.10	1.35	1.27087	1.25613	1.42913	1.44387	1.33246	2.78784	3.32993
28	0.10	1.40	1.31899	1.30388	1.48101	1.49612	1.38150	2.75013	3.28576
29	0.10	1.45	1.36708	1.35161	1.53292	1.54839	1.43052	2.71580	3.24557
30	0.10	1.50	1.41516	1.39931	1.58484	1.60069	1.47952	2.68446	3.20888
31	0.15	0.80	0.75885	0.75143	0.84115	0.84857	0.79182	2.43426	2.89530
32	0.15	0.85	0.80781	0.80019	0.89219	0.89981	0.84102	2.34429	2.78950
33	0.15	0.90	0.85674	0.84891	0.94326	0.95109	0.89020	2.26611	2.69760
34	0.15	0.95	0.90563	0.89760	0.99437	1.00240	0.93934	2.19776	2.61728
35	0.15	1.00	0.95450	0.94625	1.04550	1.05375	0.98845	2.13764	2.54668
36	0.15	1.05	1.00334	0.99487	1.09666	1.10513	1.03752	2.08450	2.48429
37	0.15	1.10	1.05216	1.04346	1.14784	1.15654	1.08656	2.03730	2.42889
38	0.15	1.15	1.10095	1.09203	1.19905	1.20797	1.13557	1.99519	2.37949
39	0.15	1.20	1.14972	1.14057	1.25028	1.25943	1.18455	1.95748	2.33526
40	0.15	1.25	1.19847	1.18908	1.30153	1.31092	1.23349	1.92357	2.29551
41	0.15	1.30	1.24720	1.23757	1.35280	1.36243	1.28240	1.89298	2.25966
42	0.15	1.35	1.29592	1.28604	1.40408	1.41396	1.33128	1.86529	2.22721
43	0.15	1.40	1.34462	1.33449	1.45538	1.46551	1.38012	1.84015	2.19777
44	0.15	1.45	1.39330	1.38292	1.50670	1.51708	1.42893	1.81726	2.17096
45	0.15	1.50	1.44197	1.43134	1.55803	1.56866	1.47771	1.79636	2.14650
46	0.20	0.80	0.76857	0.76298	0.83143	0.83702	0.79209	1.83087	2.17705
47	0.20	0.85	0.81776	0.81202	0.88224	0.88798	0.84122	1.76345	2.09774

TABLE 15

( AC - APM 6 )

( CONTINUED )

OBS	X	T	T_MIN	T_MIN_N	T_MAX	T_MAX_N	P	PCT_TO	PCT_TO_N
48	0.20	0.90	0.86692	0.86102	0.93308	0.93898	0.89031	1.70486	2.02887
49	0.20	0.95	0.91605	0.91000	0.98395	0.99000	0.93935	1.65364	1.96866
50	0.20	1.00	0.96517	0.95896	1.03483	1.04104	0.98835	1.60858	1.91573
51	0.20	1.05	1.01427	1.00789	1.08573	1.09211	1.03730	1.56876	1.86896
52	0.20	1.10	1.06335	1.05679	1.13665	1.14321	1.08621	1.53338	1.82743
53	0.20	1.15	1.11241	1.10568	1.18759	1.19432	1.13507	1.50181	1.79040
54	0.20	1.20	1.16145	1.15455	1.23855	1.24545	1.18389	1.47354	1.75723
55	0.20	1.25	1.21048	1.20340	1.28952	1.29660	1.23267	1.44812	1.72742
56	0.20	1.30	1.25950	1.25223	1.34050	1.34777	1.28140	1.42518	1.70053
57	0.20	1.35	1.30850	1.30105	1.39150	1.39895	1.33009	1.40441	1.67619
58	0.20	1.40	1.35749	1.34985	1.44251	1.45015	1.37873	1.38556	1.65410
59	0.20	1.45	1.40647	1.39864	1.49353	1.50136	1.42733	1.36838	1.63399
60	0.20	1.50	1.45544	1.44741	1.54456	1.55259	1.47589	1.35270	1.61563
61	0.25	0.80	0.77442	0.76993	0.82558	0.83007	0.79237	1.46908	1.74630
62	0.25	0.85	0.82374	0.81914	0.87626	0.88086	0.84142	1.41518	1.68290
63	0.25	0.90	0.87305	0.86831	0.92695	0.93169	0.89042	1.36836	1.62783
64	0.25	0.95	0.92233	0.91747	0.97767	0.98253	0.93936	1.32741	1.57969
65	0.25	1.00	0.97160	0.96661	1.02840	1.03339	0.98824	1.29139	1.53737
66	0.25	1.05	1.02085	1.01572	1.07915	1.08428	1.03708	1.25955	1.49997
67	0.25	1.10	1.07009	1.06482	1.12991	1.13518	1.08585	1.23126	1.46676
68	0.25	1.15	1.11931	1.11391	1.18069	1.18609	1.13457	1.20602	1.43714
69	0.25	1.20	1.16853	1.16298	1.23147	1.23702	1.18324	1.18340	1.41061
70	0.25	1.25	1.21773	1.21203	1.28227	1.28797	1.23184	1.16307	1.38676
71	0.25	1.30	1.26691	1.26107	1.33309	1.33893	1.28040	1.14471	1.36524
72	0.25	1.35	1.31609	1.31010	1.38391	1.38990	1.32890	1.12810	1.34577
73	0.25	1.40	1.36526	1.35911	1.43474	1.44089	1.37734	1.11300	1.32809
74	0.25	1.45	1.41442	1.40812	1.48558	1.49188	1.42573	1.09926	1.31199
75	0.25	1.50	1.46357	1.45711	1.53643	1.54289	1.47406	1.08670	1.29728
76	0.30	0.80	0.77834	0.77459	0.82166	0.82541	0.79265	1.22803	1.45927
77	0.30	0.85	0.82776	0.82390	0.87224	0.87610	0.84162	1.18316	1.40647
78	0.30	0.90	0.87716	0.87319	0.92284	0.92681	0.89053	1.14416	1.36060
79	0.30	0.95	0.92654	0.92247	0.97346	0.97753	0.93937	1.11006	1.32051
80	0.30	1.00	0.97591	0.97173	1.02409	1.02827	0.98814	1.08006	1.28525
81	0.30	1.05	1.02527	1.02098	1.07473	1.07902	1.03685	1.05354	1.25410
82	0.30	1.10	1.07461	1.07021	1.12539	1.12979	1.08549	1.02997	1.22642
83	0.30	1.15	1.12395	1.11942	1.17605	1.18058	1.13407	1.00894	1.20174
84	0.30	1.20	1.17327	1.16862	1.22673	1.23138	1.18257	0.99009	1.17963
85	0.30	1.25	1.22259	1.21782	1.27741	1.28218	1.23102	0.97314	1.15975
86	0.30	1.30	1.27189	1.26700	1.32811	1.33300	1.27939	0.95784	1.14181
87	0.30	1.35	1.32119	1.31617	1.37881	1.38383	1.32770	0.94398	1.12557
88	0.30	1.40	1.37048	1.36533	1.42952	1.43467	1.37594	0.93140	1.11082
89	0.30	1.45	1.41976	1.41448	1.48024	1.48552	1.42412	0.91993	1.09739
90	0.30	1.50	1.46903	1.46362	1.53097	1.53638	1.47222	0.90945	1.08513

TABLE 16

( AC - APM 7 )

OBS	X	T	T_MIN	T_MIN_N	T_MAX	T_MAX_N	P	PCT_TO	PCT_TO_N
1	0.05	0.80	0.67041	0.64954	0.92959	0.95046	0.74456	7.94069	9.24256
2	0.05	0.85	0.71733	0.69599	0.98267	1.00401	0.79102	7.64514	8.89819
3	0.05	0.90	0.76415	0.74231	1.03585	1.05769	0.83746	7.38834	8.59896
4	0.05	0.95	0.81086	0.78852	1.08914	1.11148	0.88390	7.16380	8.33730
5	0.05	1.00	0.85748	0.83462	1.14252	1.16538	0.93032	6.96635	8.10720
6	0.05	1.05	0.90402	0.88061	1.19598	1.21939	0.97674	6.79181	7.90380
7	0.05	1.10	0.95047	0.92651	1.24953	1.27349	1.02315	6.63680	7.72315
8	0.05	1.15	0.99685	0.97233	1.30315	1.32767	1.06955	6.49854	7.56201
9	0.05	1.20	1.04316	1.01806	1.35684	1.38194	1.11594	6.37471	7.41769
10	0.05	1.25	1.08940	1.06371	1.41060	1.43629	1.16232	6.26339	7.28795
11	0.05	1.30	1.13558	1.10930	1.46442	1.49070	1.20869	6.16298	7.17091
12	0.05	1.35	1.18170	1.15481	1.51830	1.54519	1.25505	6.07211	7.06500
13	0.05	1.40	1.22777	1.20027	1.57223	1.59973	1.30140	5.98962	6.96885
14	0.05	1.45	1.27379	1.24566	1.62621	1.65434	1.34774	5.91453	6.88132
15	0.05	1.50	1.31976	1.29100	1.68024	1.70900	1.39408	5.84599	6.80143
16	0.10	0.80	0.73386	0.72340	0.86614	0.87660	0.74492	3.97937	4.63120
17	0.10	0.85	0.78224	0.77153	0.91776	0.92847	0.79132	3.83168	4.45910
18	0.10	0.90	0.83057	0.81961	0.96943	0.98039	0.83770	3.70336	4.30956
19	0.10	0.95	0.87884	0.86762	1.02116	1.03238	0.88406	3.59116	4.17879
20	0.10	1.00	0.92707	0.91558	1.07293	1.08442	0.93040	3.49249	4.06380
21	0.10	1.05	0.97525	0.96350	1.12475	1.13650	0.97672	3.40527	3.96214
22	0.10	1.10	1.02339	1.01136	1.17661	1.18864	1.02303	3.32781	3.87185
23	0.10	1.15	1.07150	1.05918	1.22850	1.24082	1.06931	3.25871	3.79130
24	0.10	1.20	1.11957	1.10696	1.28043	1.29304	1.11558	3.19682	3.71916
25	0.10	1.25	1.16760	1.15470	1.33240	1.34530	1.16182	3.14118	3.65431
26	0.10	1.30	1.21561	1.20240	1.38439	1.39760	1.20805	3.09099	3.59580
27	0.10	1.35	1.26358	1.25007	1.43642	1.44993	1.25426	3.04557	3.54285
28	0.10	1.40	1.31153	1.29771	1.48847	1.50229	1.30045	3.00433	3.49477
29	0.10	1.45	1.35946	1.34532	1.54054	1.55468	1.34662	2.96679	3.45101
30	0.10	1.50	1.40736	1.39290	1.59264	1.60710	1.39277	2.93252	3.41105
31	0.15	0.80	0.75505	0.74805	0.84495	0.85195	0.74529	2.65962	3.09468
32	0.15	0.85	0.80392	0.79675	0.89608	0.90325	0.79163	2.56124	2.98002
33	0.15	0.90	0.85275	0.84542	0.94725	0.95458	0.83794	2.47576	2.88039
34	0.15	0.95	0.90155	0.89404	0.99845	1.00596	0.88422	2.40102	2.79327
35	0.15	1.00	0.95031	0.94263	1.04969	1.05737	0.93048	2.33529	2.71665
36	0.15	1.05	0.99905	0.99118	1.10095	1.10882	0.97670	2.27719	2.64891
37	0.15	1.10	1.04776	1.03970	1.15224	1.16030	1.02290	2.22558	2.58875
38	0.15	1.15	1.09644	1.08819	1.20356	1.21181	1.06907	2.17954	2.53508
39	0.15	1.20	1.14510	1.13666	1.25490	1.26334	1.11521	2.13831	2.48700
40	0.15	1.25	1.19374	1.18510	1.30626	1.31490	1.16132	2.10123	2.44378
41	0.15	1.30	1.24236	1.23351	1.35764	1.36649	1.20741	2.06779	2.40478
42	0.15	1.35	1.29096	1.28190	1.40904	1.41810	1.25346	2.03751	2.36949
43	0.15	1.40	1.33954	1.33028	1.46046	1.46972	1.29949	2.01003	2.33744
44	0.15	1.45	1.38810	1.37863	1.51190	1.52137	1.34549	1.98500	2.30826
45	0.15	1.50	1.43665	1.42696	1.56335	1.57304	1.39146	1.96216	2.28162
46	0.20	0.80	0.76568	0.76041	0.83432	0.83959	0.74565	2.00016	2.32679
47	0.20	0.85	0.81479	0.80940	0.88521	0.89060	0.79193	1.92644	2.24085

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**TABLE 16**

**( AC - APM 7 )**

**( CONTINUED )**

OBS	X	T	T_MIN	T_MIN_N	T_MAX	T_MAX_N	P	PCT_TO	PCT_TO_N
48	0.20	0.90	0.86388	0.85835	0.93612	0.94165	0.83818	1.86239	2.16618
49	0.20	0.95	0.91294	0.90728	0.98706	0.99272	0.88438	1.80638	2.10088
50	0.20	1.00	0.96197	0.95619	1.03803	1.04381	0.93055	1.75713	2.04345
51	0.20	1.05	1.01099	1.00506	1.08901	1.09494	0.97668	1.71358	1.99268
52	0.20	1.10	1.05999	1.05392	1.14001	1.14608	1.02277	1.67491	1.94758
53	0.20	1.15	1.10896	1.10275	1.19104	1.19725	1.06883	1.64040	1.90735
54	0.20	1.20	1.15792	1.15156	1.24208	1.24844	1.11484	1.60949	1.87130
55	0.20	1.25	1.20687	1.20035	1.29313	1.29965	1.16082	1.58170	1.83890
56	0.20	1.30	1.25579	1.24912	1.34421	1.35088	1.20676	1.55662	1.80965
57	0.20	1.35	1.30471	1.29788	1.39529	1.40212	1.25267	1.53392	1.78318
58	0.20	1.40	1.35361	1.34662	1.44639	1.45338	1.29853	1.51331	1.75915
59	0.20	1.45	1.40250	1.39535	1.49750	1.50465	1.34436	1.49453	1.73726
60	0.20	1.50	1.45137	1.44406	1.54863	1.55594	1.39015	1.47739	1.71727
61	0.25	0.80	0.77207	0.76784	0.82793	0.83216	0.74602	1.60475	1.86628
62	0.25	0.85	0.82134	0.81701	0.87866	0.88299	0.79224	1.54583	1.79758
63	0.25	0.90	0.87058	0.86614	0.92942	0.93386	0.83842	1.49464	1.73789
64	0.25	0.95	0.91980	0.91526	0.98020	0.98474	0.88455	1.44987	1.68568
65	0.25	1.00	0.96900	0.96435	1.03100	1.03565	0.93063	1.41049	1.63977
66	0.25	1.05	1.01819	1.01343	1.08181	1.08657	0.97666	1.37568	1.59917
67	0.25	1.10	1.06736	1.06248	1.13264	1.13752	1.02265	1.34476	1.56311
68	0.25	1.15	1.11651	1.11152	1.18349	1.18848	1.06859	1.31717	1.53093
69	0.25	1.20	1.16566	1.16054	1.23434	1.23946	1.11448	1.29245	1.50210
70	0.25	1.25	1.21479	1.20955	1.28521	1.29045	1.16032	1.27022	1.47618
71	0.25	1.30	1.26390	1.25854	1.33610	1.34146	1.20612	1.25016	1.45278
72	0.25	1.35	1.31301	1.30752	1.38699	1.39248	1.25187	1.23199	1.43160
73	0.25	1.40	1.36210	1.35648	1.43790	1.44352	1.29757	1.21550	1.41237
74	0.25	1.45	1.41119	1.40544	1.48881	1.49456	1.34322	1.20047	1.39485
75	0.25	1.50	1.46026	1.45438	1.53974	1.54562	1.38883	1.18675	1.37885
76	0.30	0.80	0.77636	0.77282	0.82364	0.82718	0.74639	1.34131	1.55942
77	0.30	0.85	0.82572	0.82210	0.87428	0.87790	0.79255	1.29225	1.50221
78	0.30	0.90	0.87507	0.87136	0.92493	0.92864	0.83866	1.24962	1.45249
79	0.30	0.95	0.92440	0.92060	0.97560	0.97940	0.88471	1.21234	1.40902
80	0.30	1.00	0.97371	0.96982	1.02629	1.03018	0.93070	1.17955	1.37077
81	0.30	1.05	1.02302	1.01903	1.07698	1.08097	0.97664	1.15056	1.33696
82	0.30	1.10	1.07231	1.06822	1.12769	1.13178	1.02252	1.12480	1.30691
83	0.30	1.15	1.12158	1.11740	1.17842	1.18260	1.06834	1.10181	1.28010
84	0.30	1.20	1.17085	1.16656	1.22915	1.23344	1.11411	1.08121	1.25608
85	0.30	1.25	1.22010	1.21571	1.27990	1.28429	1.15982	1.06268	1.23447
86	0.30	1.30	1.26935	1.26485	1.33065	1.33515	1.20547	1.04596	1.21497
87	0.30	1.35	1.31858	1.31398	1.38142	1.38602	1.25106	1.03081	1.19731
88	0.30	1.40	1.36781	1.36310	1.43219	1.43690	1.29660	1.01706	1.18127
89	0.30	1.45	1.41703	1.41221	1.48297	1.48779	1.34208	1.00452	1.16666
90	0.30	1.50	1.46624	1.46131	1.53376	1.53869	1.38750	0.99307	1.15331

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TABLE 17

( AC - APM 8 )

OBS	X	T	T_MIN	T_MIN_N	T_MAX	T_MAX_N	P	PCT_TO	PCT_TO_N
1	0.05	0.80	0.55695	0.54485	1.04305	1.05515	0.72908	14.8946	15.6496
2	0.05	0.85	0.60150	0.58912	1.09850	1.11088	0.77457	14.3217	15.0484
3	0.05	0.90	0.64585	0.63318	1.15415	1.16682	0.82005	13.8232	14.5254
4	0.05	0.95	0.69001	0.67705	1.20999	1.22295	0.86552	13.3869	14.0675
5	0.05	1.00	0.73401	0.72074	1.26599	1.27926	0.91099	13.0027	13.6644
6	0.05	1.05	0.77784	0.76426	1.32216	1.33574	0.95645	12.6627	13.3077
7	0.05	1.10	0.82152	0.80762	1.37848	1.39238	1.00189	12.3604	12.9906
8	0.05	1.15	0.86506	0.85084	1.43494	1.44916	1.04733	12.0905	12.7075
9	0.05	1.20	0.90847	0.89391	1.49153	1.50609	1.09276	11.8485	12.4536
10	0.05	1.25	0.95176	0.93686	1.54824	1.56314	1.13818	11.6308	12.2252
11	0.05	1.30	0.99493	0.97968	1.60507	1.62032	1.18359	11.4342	12.0191
12	0.05	1.35	1.03800	1.02239	1.66200	1.67761	1.22899	11.2561	11.8323
13	0.05	1.40	1.08096	1.06500	1.71904	1.73500	1.27439	11.0944	11.6626
14	0.05	1.45	1.12382	1.10750	1.77618	1.79250	1.31977	10.9470	11.5081
15	0.05	1.50	1.16660	1.14991	1.83340	1.85009	1.36514	10.8124	11.3669
16	0.10	0.80	0.67599	0.66992	0.92401	0.93008	0.72939	7.4636	7.8416
17	0.10	0.85	0.72311	0.71690	0.97689	0.98310	0.77482	7.1773	7.5412
18	0.10	0.90	0.77012	0.76377	1.02988	1.03623	0.82024	6.9282	7.2798
19	0.10	0.95	0.81705	0.81055	1.08295	1.08945	0.86564	6.7102	7.0510
20	0.10	1.00	0.86389	0.85724	1.13611	1.14276	0.91102	6.5182	6.8495
21	0.10	1.05	0.91066	0.90384	1.18934	1.19616	0.95638	6.3483	6.6713
22	0.10	1.10	0.95734	0.95036	1.24266	1.24964	1.00173	6.1972	6.5128
23	0.10	1.15	1.00396	0.99681	1.29604	1.30319	1.04706	6.0623	6.3713
24	0.10	1.20	1.05051	1.04319	1.34949	1.35681	1.09237	5.9414	6.2444
25	0.10	1.25	1.09699	1.08951	1.40301	1.41049	1.13766	5.8326	6.1302
26	0.10	1.30	1.14342	1.13576	1.45658	1.46424	1.18293	5.7343	6.0272
27	0.10	1.35	1.18980	1.18196	1.51020	1.51804	1.22819	5.6453	5.9338
28	0.10	1.40	1.23612	1.22810	1.56388	1.57190	1.27343	5.5644	5.8490
29	0.10	1.45	1.28240	1.27420	1.61760	1.62580	1.31865	5.4908	5.7717
30	0.10	1.50	1.32863	1.32024	1.67137	1.67976	1.36385	5.4235	5.7011
31	0.15	0.80	0.71574	0.71168	0.88426	0.88832	0.72970	4.9879	5.2401
32	0.15	0.85	0.76372	0.75956	0.93628	0.94044	0.77508	4.7972	5.0400
33	0.15	0.90	0.81163	0.80738	0.98837	0.99262	0.82043	4.6313	4.8659
34	0.15	0.95	0.85949	0.85514	1.04051	1.04486	0.86576	4.4860	4.7134
35	0.15	1.00	0.90729	0.90283	1.09271	1.09717	0.91105	4.3581	4.5792
36	0.15	1.05	0.95503	0.95047	1.14497	1.14953	0.95632	4.2449	4.4605
37	0.15	1.10	1.00273	0.99805	1.19727	1.20195	1.00157	4.1443	4.3549
38	0.15	1.15	1.05037	1.04559	1.24963	1.25441	1.04678	4.0544	4.2606
39	0.15	1.20	1.09798	1.09308	1.30202	1.30692	1.09197	3.9738	4.1760
40	0.15	1.25	1.14554	1.14053	1.35446	1.35947	1.13714	3.9013	4.1000
41	0.15	1.30	1.19307	1.18793	1.40693	1.41207	1.18227	3.8358	4.0313
42	0.15	1.35	1.24055	1.23530	1.45945	1.46470	1.22738	3.7765	3.9691
43	0.15	1.40	1.28801	1.28264	1.51199	1.51736	1.27246	3.7226	3.9125
44	0.15	1.45	1.33543	1.32994	1.56457	1.57006	1.31752	3.6735	3.8610
45	0.15	1.50	1.38283	1.37720	1.61717	1.62280	1.36254	3.6286	3.8139
46	0.20	0.80	0.73566	0.73261	0.86434	0.86739	0.73002	3.7508	3.9402
47	0.20	0.85	0.78408	0.78096	0.91592	0.91904	0.77534	3.6079	3.7902

TABLE 17

( AC - APM 8 )

( CONTINUED )

OBS	X	T	T_MIN	T_MIN_N	T_MAX	T_MAX_N	P	PCT_TO	PCT_TO_N
48	0.20	0.90	0.83245	0.82925	0.96755	0.97075	0.82062	3.4836	3.6597
49	0.20	0.95	0.88078	0.87750	1.01922	1.02250	0.86587	3.3747	3.5454
50	0.20	1.00	0.92906	0.92570	1.07094	1.07430	0.91109	3.2789	3.4449
51	0.20	1.05	0.97730	0.97386	1.12270	1.12614	0.95626	3.1940	3.3558
52	0.20	1.10	1.02551	1.02199	1.17449	1.17801	1.00140	3.1186	3.2767
53	0.20	1.15	1.07368	1.07007	1.22632	1.22993	1.04651	3.0512	3.2060
54	0.20	1.20	1.12181	1.11812	1.27819	1.28188	1.09158	2.9908	3.1426
55	0.20	1.25	1.16992	1.16614	1.33008	1.33386	1.13661	2.9365	3.0856
56	0.20	1.30	1.21800	1.21413	1.38200	1.38587	1.18161	2.8874	3.0341
57	0.20	1.35	1.26605	1.26209	1.43395	1.43791	1.22657	2.8429	2.9874
58	0.20	1.40	1.31408	1.31003	1.48592	1.48997	1.27149	2.8025	2.9450
59	0.20	1.45	1.36208	1.35794	1.53792	1.54206	1.31638	2.7656	2.9064
60	0.20	1.50	1.41006	1.40582	1.58994	1.59418	1.36124	2.7320	2.8711
61	0.25	0.80	0.74766	0.74521	0.85234	0.85479	0.73033	3.0091	3.1606
62	0.25	0.85	0.79635	0.79384	0.90365	0.90616	0.77560	2.8948	3.0407
63	0.25	0.90	0.84499	0.84242	0.95501	0.95758	0.82082	2.7954	2.9364
64	0.25	0.95	0.89360	0.89097	1.00640	1.00903	0.86599	2.7084	2.8451
65	0.25	1.00	0.94218	0.93948	1.05782	1.06052	0.91112	2.6318	2.7647
66	0.25	1.05	0.99072	0.98796	1.10928	1.11204	0.95620	2.5640	2.6935
67	0.25	1.10	1.03924	1.03641	1.16076	1.16359	1.00124	2.5037	2.6302
68	0.25	1.15	1.08773	1.08483	1.21227	1.21517	1.04623	2.4498	2.5737
69	0.25	1.20	1.13619	1.13323	1.26381	1.26677	1.09118	2.4015	2.5230
70	0.25	1.25	1.18463	1.18159	1.31537	1.31841	1.13608	2.3580	2.4774
71	0.25	1.30	1.23305	1.22994	1.36695	1.37006	1.18094	2.3187	2.4362
72	0.25	1.35	1.28144	1.27826	1.41856	1.42174	1.22575	2.2832	2.3989
73	0.25	1.40	1.32982	1.32656	1.47018	1.47344	1.27052	2.2508	2.3650
74	0.25	1.45	1.37817	1.37484	1.52183	1.52516	1.31525	2.2213	2.3340
75	0.25	1.50	1.42651	1.42310	1.57349	1.57690	1.35992	2.1944	2.3058
76	0.30	0.80	0.75570	0.75365	0.84430	0.84635	0.73065	2.5149	2.6412
77	0.30	0.85	0.80456	0.80246	0.89544	0.89754	0.77586	2.4197	2.5414
78	0.30	0.90	0.85340	0.85125	0.94660	0.94875	0.82101	2.3370	2.4545
79	0.30	0.95	0.90220	0.90000	0.99780	1.00000	0.86611	2.2645	2.3785
80	0.30	1.00	0.95098	0.94872	1.04902	1.05128	0.91115	2.2007	2.3115
81	0.30	1.05	0.99973	0.99742	1.10027	1.10258	0.95614	2.1442	2.2522
82	0.30	1.10	1.04845	1.04609	1.15155	1.15391	1.00107	2.0940	2.1995
83	0.30	1.15	1.09716	1.09473	1.20284	1.20527	1.04595	2.0491	2.1524
84	0.30	1.20	1.14584	1.14336	1.25416	1.25664	1.09078	2.0088	2.1102
85	0.30	1.25	1.19451	1.19196	1.30549	1.30804	1.13555	1.9726	2.0722
86	0.30	1.30	1.24315	1.24055	1.35685	1.35945	1.18027	1.9399	2.0378
87	0.30	1.35	1.29178	1.28911	1.40822	1.41089	1.22494	1.9102	2.0067
88	0.30	1.40	1.34039	1.33766	1.45961	1.46234	1.26955	1.8832	1.9784
89	0.30	1.45	1.38899	1.38619	1.51101	1.51381	1.31410	1.8586	1.9526
90	0.30	1.50	1.43757	1.43471	1.56243	1.56529	1.35861	1.8361	1.9290

TABLE 18

( AC - APM 9 )

OBS	X	T	T_MIN	T_MIN_N	T_MAX	T_MAX_N	P	PCT_TO	PCT_TO_N
1	0.05	0.80	0.67951	0.65909	0.92049	0.94091	0.77121	7.38409	8.65773
2	0.05	0.85	0.72665	0.70572	0.97335	0.99428	0.81931	7.10889	8.33712
3	0.05	0.90	0.77370	0.75224	1.02630	1.04776	0.86739	6.86975	8.05860
4	0.05	0.95	0.82065	0.79866	1.07935	1.10134	0.91547	6.66064	7.81511
5	0.05	1.00	0.86751	0.84497	1.13249	1.15503	0.96353	6.47674	7.60102
6	0.05	1.05	0.91430	0.89118	1.18570	1.20882	1.01159	6.31417	7.41181
7	0.05	1.10	0.96100	0.93731	1.23900	1.26269	1.05963	6.16978	7.24379
8	0.05	1.15	1.00764	0.98335	1.29236	1.31665	1.10765	6.04098	7.09393
9	0.05	1.20	1.05421	1.02932	1.34579	1.37068	1.15567	5.92562	6.95974
10	0.05	1.25	1.10072	1.07521	1.39928	1.42479	1.20367	5.82191	6.83913
11	0.05	1.30	1.14718	1.12104	1.45282	1.47896	1.25167	5.72835	6.73034
12	0.05	1.35	1.19358	1.16680	1.50642	1.53320	1.29965	5.64368	6.63190
13	0.05	1.40	1.23993	1.21251	1.56007	1.58749	1.34762	5.56681	6.54255
14	0.05	1.45	1.28623	1.25816	1.61377	1.64184	1.39557	5.49684	6.46122
15	0.05	1.50	1.33249	1.30375	1.66751	1.69625	1.44352	5.43296	6.38699
16	0.10	0.80	0.73849	0.72824	0.86151	0.87176	0.77161	3.70170	4.33966
17	0.10	0.85	0.78698	0.77647	0.91302	0.92353	0.81963	3.56418	4.17944
18	0.10	0.90	0.83543	0.82465	0.96457	0.97535	0.86763	3.44469	4.04024
19	0.10	0.95	0.88382	0.87277	1.01618	1.02723	0.91560	3.34019	3.91855
20	0.10	1.00	0.93217	0.92084	1.06783	1.07916	0.96356	3.24829	3.81155
21	0.10	1.05	0.98048	0.96887	1.11952	1.13113	1.01148	3.16704	3.71697
22	0.10	1.10	1.02876	1.01685	1.17124	1.18315	1.05939	3.09488	3.63299
23	0.10	1.15	1.07700	1.06478	1.22300	1.23522	1.10727	3.03051	3.55808
24	0.10	1.20	1.12520	1.11268	1.27480	1.28732	1.15512	2.97284	3.49100
25	0.10	1.25	1.17338	1.16054	1.32662	1.33946	1.20295	2.92100	3.43070
26	0.10	1.30	1.22152	1.20837	1.37848	1.39163	1.25076	2.87423	3.37631
27	0.10	1.35	1.26964	1.25617	1.43036	1.44383	1.29855	2.83190	3.32709
28	0.10	1.40	1.31773	1.30393	1.48227	1.49607	1.34631	2.79347	3.28241
29	0.10	1.45	1.36580	1.35167	1.53420	1.54833	1.39405	2.75848	3.24173
30	0.10	1.50	1.41385	1.39939	1.58615	1.60061	1.44176	2.72653	3.20460
31	0.15	0.80	0.75819	0.75132	0.84181	0.84868	0.77201	2.47485	2.90084
32	0.15	0.85	0.80713	0.80009	0.89287	0.89991	0.81995	2.38325	2.79409
33	0.15	0.90	0.85604	0.84883	0.94396	0.95117	0.86786	2.30364	2.70135
34	0.15	0.95	0.90492	0.89752	0.99508	1.00248	0.91574	2.23403	2.62026
35	0.15	1.00	0.95377	0.94618	1.04623	1.05382	0.96358	2.17281	2.54897
36	0.15	1.05	1.00260	0.99481	1.09740	1.10519	1.01138	2.11868	2.48595
37	0.15	1.10	1.05140	1.04341	1.14860	1.15659	1.05915	2.07060	2.42999
38	0.15	1.15	1.10017	1.09198	1.19983	1.20802	1.10688	2.02771	2.38007
39	0.15	1.20	1.14892	1.14053	1.25108	1.25947	1.15457	1.98928	2.33536
40	0.15	1.25	1.19766	1.18905	1.30234	1.31095	1.20223	1.95474	2.29517
41	0.15	1.30	1.24637	1.23755	1.35363	1.36245	1.24985	1.92357	2.25891
42	0.15	1.35	1.29506	1.28603	1.40494	1.41397	1.29744	1.89535	2.22609
43	0.15	1.40	1.34374	1.33449	1.45626	1.46551	1.34499	1.86973	2.19630
44	0.15	1.45	1.39240	1.38292	1.50760	1.51708	1.39251	1.84640	2.16918
45	0.15	1.50	1.44105	1.43135	1.55895	1.56865	1.43999	1.82510	2.14442
46	0.20	0.80	0.76806	0.76289	0.83194	0.83711	0.77241	1.86180	2.18175
47	0.20	0.85	0.81723	0.81193	0.88277	0.88807	0.82028	1.79316	2.10174

TABLE 18

( AC - APM 9 )

( CONTINUED )

OBS	X	T	T_MIN	T_MIN_N	T_MAX	T_MAX_N	P	PCT_TO	PCT_TO_N
48	0.20	0.90	0.86638	0.86094	0.93362	0.93906	0.86810	1.73351	2.03223
49	0.20	0.95	0.91550	0.90993	0.98450	0.99007	0.91587	1.68134	1.97146
50	0.20	1.00	0.96461	0.95889	1.03539	1.04111	0.96360	1.63546	1.91802
51	0.20	1.05	1.01369	1.00782	1.08631	1.09218	1.01128	1.59489	1.87078
52	0.20	1.10	1.06275	1.05673	1.13725	1.14327	1.05890	1.55886	1.82883
53	0.20	1.15	1.11180	1.10563	1.18820	1.19437	1.10649	1.52670	1.79140
54	0.20	1.20	1.16083	1.15450	1.23917	1.24550	1.15402	1.49790	1.75788
55	0.20	1.25	1.20984	1.20335	1.29016	1.29665	1.20150	1.47200	1.72774
56	0.20	1.30	1.25884	1.25219	1.34116	1.34781	1.24894	1.44862	1.70055
57	0.20	1.35	1.30783	1.30101	1.39217	1.39899	1.29633	1.42746	1.67593
58	0.20	1.40	1.35680	1.34982	1.44320	1.45018	1.34367	1.40824	1.65359
59	0.20	1.45	1.40577	1.39861	1.49423	1.50139	1.39097	1.39074	1.63324
60	0.20	1.50	1.45472	1.44739	1.54528	1.55261	1.43821	1.37476	1.61466
61	0.25	0.80	0.77400	0.76985	0.82600	0.83015	0.77282	1.49421	1.75050
62	0.25	0.85	0.82331	0.81905	0.87669	0.88095	0.82061	1.43934	1.68654
63	0.25	0.90	0.87261	0.86824	0.92739	0.93176	0.86834	1.39166	1.63097
64	0.25	0.95	0.92188	0.91740	0.97812	0.98260	0.91601	1.34996	1.58239
65	0.25	1.00	0.97114	0.96653	1.02886	1.03347	0.96362	1.31328	1.53966
66	0.25	1.05	1.02038	1.01566	1.07962	1.08434	1.01117	1.28085	1.50188
67	0.25	1.10	1.06960	1.06476	1.13040	1.13524	1.05866	1.25204	1.46833
68	0.25	1.15	1.11881	1.11384	1.18119	1.18616	1.10609	1.22633	1.43840
69	0.25	1.20	1.16801	1.16291	1.23199	1.23709	1.15346	1.20329	1.41159
70	0.25	1.25	1.21720	1.21197	1.28280	1.28803	1.20077	1.18257	1.38748
71	0.25	1.30	1.26637	1.26101	1.33363	1.33899	1.24802	1.16387	1.36572
72	0.25	1.35	1.31553	1.31004	1.38447	1.38996	1.29521	1.14694	1.34602
73	0.25	1.40	1.36469	1.35906	1.43531	1.44094	1.34234	1.13156	1.32814
74	0.25	1.45	1.41383	1.40807	1.48617	1.49193	1.38941	1.11754	1.31185
75	0.25	1.50	1.46297	1.45706	1.53703	1.54294	1.43642	1.10475	1.29697
76	0.30	0.80	0.77798	0.77450	0.82202	0.82550	0.77322	1.24929	1.46313
77	0.30	0.85	0.82739	0.82382	0.87261	0.87618	0.82094	1.20361	1.40987
78	0.30	0.90	0.87678	0.87312	0.92322	0.92688	0.86858	1.16391	1.36359
79	0.30	0.95	0.92615	0.92240	0.97385	0.97760	0.91615	1.12918	1.32312
80	0.30	1.00	0.97551	0.97166	1.02449	1.02834	0.96364	1.09863	1.28753
81	0.30	1.05	1.02486	1.02090	1.07514	1.07910	1.01107	1.07162	1.25607
82	0.30	1.10	1.07419	1.07013	1.12581	1.12987	1.05842	1.04762	1.22812
83	0.30	1.15	1.12351	1.11935	1.17649	1.18065	1.10570	1.02619	1.20317
84	0.30	1.20	1.17283	1.16856	1.22717	1.23144	1.15290	1.00700	1.18083
85	0.30	1.25	1.22213	1.21775	1.27787	1.28225	1.20004	0.98973	1.16073
86	0.30	1.30	1.27142	1.26693	1.32858	1.33307	1.24710	0.97414	1.14259
87	0.30	1.35	1.32071	1.31610	1.37929	1.38390	1.29409	0.96002	1.12617
88	0.30	1.40	1.36998	1.36526	1.43002	1.43474	1.34101	0.94719	1.11125
89	0.30	1.45	1.41925	1.41441	1.48075	1.48559	1.38786	0.93550	1.09766
90	0.30	1.50	1.46851	1.46356	1.53149	1.53644	1.43463	0.92482	1.08525

## **11.0 Appendices**

**APPENDIX 1: DC - APM 1, DC - APM 2 DATA**

**APPENDIX 2: DC - APM 3, DC - APM 4 DATA**

**APPENDIX 3: DC - APM 5, DC - APM 6 DATA**

**APPENDIX 4: DC - APM 7, DC - APM 8 DATA**

**APPENDIX 5: DC - APM 9 DATA**

**APPENDIX 6: AC - APM 1, AC - APM 2 DATA**

**APPENDIX 7: AC - APM 3, AC - APM 4 DATA**

**APPENDIX 8: AC - APM 5, AC - APM 6 DATA**

**APPENDIX 9: AC - APM 7, AC - APM 8 DATA**

**APPENDIX 10: AC - APM 9 DATA**

**X = POWER IN WATTS/GRAM**

**Y2 = SENSOR 2 (MV)**

**Y6 = SENSOR 6 (MV)**

**APPENDIX 11: DC REGRESSION STATISTICS FROM SAS PROGRAM**

**APPENDIX 12: AC REGRESSION STATISTICS FROM SAS PROGRAM**

**APPENDIX 13: SAS PROGRAM FOR APM CALIBRATION**

**APPENDIX 14: METHOD OF PROPAGATION OF ERRORS**

APPENDIX 1DC - APM 1DC - APM 2

OBS	X	Y2	Y6	X	Y2	Y6
1	0.00000	0.00518	0.00437	0.07366	0.18134	0.18812
2	0.00000	0.00750	0.00821	0.07366	0.18115	0.18873
3	0.00000	0.00528	0.00343	0.07366	0.18195	0.18914
4	0.00000	0.00491	0.00424	0.07366	0.18164	0.18833
5	0.00000	0.00564	0.00506	0.07366	0.18062	0.18801
6	0.00000	0.00546	0.00442	0.07366	0.18030	0.18838
7	0.00000	0.00535	0.00445	0.07366	0.18063	0.18835
8	0.00000	0.00738	0.00761	0.07366	0.17966	0.18889
9	0.00000	0.00516	0.00436	0.07366	0.17759	0.18844
10	0.00000	0.00559	0.00462	0.07366	0.17778	0.18845
11	0.00000	0.00515	0.00433	0.07366	0.17917	0.18876
12	0.00000	0.00572	0.00421	0.07366	0.18027	0.18851
13	0.00000	0.00557	0.00464	0.07366	0.18106	0.18900
14	0.00000	0.00509	0.00487	0.07366	0.18136	0.18804
15	0.00000	0.00511	0.00461	0.07366	0.18215	0.18813
16	0.00000	0.00522	0.00438	0.07366	0.18091	0.18829
17	0.00000	0.00515	0.00462	0.07366	0.18044	0.18810
18	0.00000	0.00512	0.00411	0.07366	0.18067	0.18871
19	0.00000	0.00813	0.00927	0.07366	0.17976	0.18929
20	0.00000	0.00494	0.00480	0.07366	0.18009	0.18971
21	0.00000	0.00520	0.00462	0.07366	0.18221	0.18937
22	0.00000	0.00508	0.00461	0.07366	0.18238	0.18896
23	0.00000	0.00547	0.00440	0.07366	0.18227	0.18876
24	0.00934	0.02680	0.03001	0.07366	0.18277	0.18845
25	0.00934	0.02662	0.03043	0.07366	0.18152	0.18805
26	0.00934	0.02703	0.03043	0.07366	0.18170	0.18893
27	0.00934	0.02733	0.03012	0.00934	0.02623	0.02723
28	0.00934	0.02666	0.03024	0.00934	0.02644	0.02718
29	0.00934	0.02947	0.03475	0.00934	0.02580	0.02728
30	0.00934	0.02667	0.02993	0.00934	0.02578	0.02666
31	0.00934	0.02669	0.03017	0.00934	0.02637	0.02749
32	0.00934	0.02643	0.03023	0.00934	0.02626	0.02771
33	0.00934	0.02639	0.03021	0.00934	0.02630	0.02767
34	0.00934	0.02594	0.03029	0.00934	0.02590	0.02626
35	0.00934	0.02584	0.03029	0.00934	0.02601	0.02759
36	0.00934	0.02671	0.03034	0.00934	0.02642	0.02810
37	0.00934	0.02984	0.03442	0.00934	0.02614	0.02798
38	0.00934	0.02720	0.03030	0.00934	0.02571	0.02666
39	0.00934	0.02729	0.03032	0.00934	0.02583	0.02724
40	0.00934	0.02720	0.03046	0.00934	0.02668	0.02760
41	0.00934	0.02953	0.03448	0.00934	0.02644	0.02787
42	0.00934	0.02637	0.02991	0.00934	0.02618	0.02731
43	0.00934	0.02614	0.02976	0.00934	0.02608	0.02743
44	0.00934	0.02692	0.03045	0.00934	0.02643	0.02741
45	0.00934	0.02680	0.03031	0.00934	0.02638	0.02788
46	0.00934	0.02691	0.03044	0.00934	0.02663	0.02799
47	0.06968	0.16516	0.19895	0.00934	0.02612	0.02711
48	0.06968	0.16739	0.19964	0.00934	0.02669	0.02829

APPENDIX 1

( CONTINUED )

<u>OBS</u>	<u>DC - APM 1</u>	<u>DC - APM 2</u>				
	<u>X</u>	<u>Y2</u>	<u>Y6</u>	<u>X</u>	<u>Y2</u>	<u>Y6</u>
49	0.06968	0.16741	0.19966	0.00934	0.02621	0.02766
50	0.06968	0.17005	0.20245	0.00934	0.02688	0.02800
51	0.06968	0.16822	0.19910	0.00934	0.02633	0.02771
52	0.06968	0.16681	0.19878	0.00934	0.02583	0.02665
53	0.06968	0.16622	0.19953	0.06968	0.17174	0.17974
54	0.06968	0.16606	0.19960	0.06968	0.17201	0.17983
55	0.06968	0.16680	0.19944	0.06968	0.17210	0.17977
56	0.06968	0.16917	0.19904	0.06968	0.17204	0.18017
57	0.06968	0.17125	0.19919	0.06968	0.17066	0.18037
58	0.06968	0.17339	0.20402	0.06968	0.17031	0.18038
59	0.06968	0.17209	0.19930	0.06968	0.17277	0.18063
60	0.06968	0.16940	0.19861	0.06968	0.17367	0.18043
61	0.06968	0.16960	0.19918	0.06968	0.17411	0.18041
62	0.06968	0.17057	0.20236	0.06968	0.17388	0.18071
63	0.06968	0.16789	0.19902	0.06968	0.17203	0.17994
64	0.06968	0.16795	0.19971	0.06968	0.17253	0.18023
65	0.06968	0.16488	0.19952	0.06968	0.17241	0.18008
66	0.06968	0.16877	0.20347	0.06968	0.17259	0.18042
67	0.06968	0.16869	0.19929	0.06968	0.17256	0.18039
68	0.06968	0.16757	0.19963	0.06968	0.17156	0.17977
69	0.06968	0.16825	0.19978	0.06968	0.17118	0.18079
70	0.06968	0.17144	0.20435	0.06968	0.17231	0.18061
71	0.06968	0.16930	0.19901	0.06968	0.17132	0.18033
72	0.11197	0.26712	0.31725	0.06968	0.17258	0.18024
73	0.11197	0.27172	0.32224	0.06968	0.17313	0.18072
74	0.11197	0.27003	0.31725	0.06968	0.17169	0.18048
75	0.11197	0.26954	0.31753	0.06968	0.17255	0.18038
76	0.11197	0.27123	0.31765	0.06968	0.17419	0.18055
77	0.11197	0.27225	0.31695	0.06968	0.17419	0.18077
78	0.11197	0.26996	0.31696	0.10949	0.26712	0.27974
79	0.11197	0.26874	0.31657	0.10949	0.26518	0.27826
80	0.11197	0.26994	0.31701	0.10949	0.26435	0.27871
81	0.11197	0.27045	0.31631	0.10949	0.26559	0.27867
82	0.11197	0.26740	0.31647	0.10949	0.26771	0.27944
83	0.11197	0.26902	0.32007	0.10949	0.26655	0.27967
84	0.11197	0.26603	0.31679	0.10949	0.26811	0.27914
85	0.11197	0.26605	0.31711	0.10949	0.26708	0.27924
86	0.11197	0.26632	0.31771	0.10949	0.26969	0.28029
87	0.11197	0.27171	0.32094	0.10949	0.27065	0.28016
88	0.11197	0.26808	0.31673	0.10949	0.27143	0.27824
89	0.11197	0.26326	0.31614	0.10949	0.27000	0.27774
90	0.11197	0.26158	0.31652	0.10949	0.26755	0.27771
91	0.11197	0.26739	0.32057	0.10949	0.26580	0.27772
92	0.11197	0.26658	0.31655	0.10949	0.26589	0.27838
93	0.11197	0.26647	0.31617	0.10949	0.26422	0.27866
94	0.11197	0.26649	0.31631	0.10949	0.26624	0.27966

APPENDIX 1

( CONTINUED )

DC - APM 1DC - APM 2

OBS	X	Y2	Y6	X	Y2	Y6
95	0.11197	0.26544	0.32061	0.10949	0.26934	0.27919
96	0.11197	0.26677	0.31661	0.10949	0.26841	0.27847
97	0.11197	0.26522	0.31661	0.10949	0.26711	0.27798
98	0.16726	0.38755	0.46089	0.10949	0.26716	0.27796
99	0.16726	0.39030	0.46085	0.10949	0.26662	0.27872
100	0.16726	0.38360	0.46152	0.10949	0.26699	0.27887
101	0.16726	0.39163	0.46549	0.10949	0.26622	0.27895
102	0.16726	0.39093	0.46121	0.10949	0.26599	0.27842
103	0.16726	0.39114	0.46168	0.10949	0.26497	0.27865
104	0.16726	0.38304	0.46078	0.16423	0.39973	0.41702
105	0.16726	0.38166	0.46086	0.16423	0.40038	0.41625
106	0.16726	0.38077	0.46098	0.16423	0.40011	0.41661
107	0.16726	0.38102	0.46198	0.16423	0.39906	0.41658
108	0.16726	0.38573	0.46589	0.16423	0.40110	0.41589
109	0.16726	0.38785	0.46243	0.16423	0.40182	0.41645
110	0.16726	0.39353	0.46311	0.16423	0.39982	0.41663
111	0.16726	0.39445	0.46242	0.16423	0.39899	0.41655
112	0.16726	0.39233	0.46508	0.16423	0.39867	0.41633
113	0.16726	0.39131	0.46179	0.16423	0.39976	0.41659
114	0.16726	0.39372	0.46166	0.16423	0.39688	0.41608
115	0.16726	0.39768	0.46169	0.16423	0.39723	0.41616
116	0.16726	0.39804	0.46422	0.16423	0.39533	0.41778
117	0.16726	0.39443	0.46020	0.16423	0.39714	0.41812
118	0.16726	0.38837	0.46086	0.16423	0.40109	0.41869
119	0.16726	0.38720	0.46081	0.16423	0.40130	0.41629
120	0.16726	0.38900	0.46115	0.16423	0.40171	0.41694
121	0.16726	0.39149	0.46060	0.16423	0.40293	0.41533
122	0.16726	0.39252	0.46024	0.16423	0.39846	0.41565
123	0.23722	0.56281	0.66114	0.16423	0.40097	0.41622
124	0.23722	0.56155	0.65876	0.16423	0.40100	0.41613
125	0.23722	0.55962	0.66222	0.16423	0.40089	0.41676
126	0.23722	0.56335	0.65843	0.16423	0.40242	0.41704
127	0.23722	0.56292	0.65728	0.16423	0.40201	0.41758
128	0.23722	0.55572	0.65627	0.16423	0.39893	0.41662
129	0.23722	0.55113	0.65666	0.25945	0.62493	0.65197
130	0.23722	0.55586	0.66158	0.25945	0.62964	0.65593
131	0.23722	0.54786	0.65706	0.25945	0.63407	0.65481
132	0.23722	0.55396	0.65715	0.25945	0.62751	0.65390
133	0.23722	0.54956	0.65694	0.25945	0.62902	0.65243
134	0.23722	0.55193	0.65593	0.25945	0.63086	0.65320
135	0.23722	0.55314	0.65493	0.25945	0.63267	0.65438
136	0.23722	0.55395	0.65515	0.25945	0.63470	0.65425
137	0.23722	0.55277	0.65806	0.25945	0.63421	0.65300
138	0.23722	0.54591	0.65527	0.25945	0.62839	0.65427
139	0.23722	0.54507	0.65545	0.25945	0.62865	0.65499
140	0.27482	0.62195	0.75204	0.25945	0.62914	0.65588

APPENDIX 1

( CONTINUED )

OBS	DC - APM 1			DC - APM 2		
	X	Y2	Y6	X	Y2	Y6
141	0.27482	0.63655	0.75212	0.25945	0.63370	0.65835
142	0.27482	0.63088	0.75225	0.25945	0.63285	0.65625
143	0.27482	0.65040	0.75135	0.25945	0.63495	0.65539
144	0.27482	0.63486	0.74992	0.25945	0.63536	0.65256
145	0.27482	0.62379	0.74856	0.25945	0.63739	0.65219
146	0.27482	0.62363	0.75045	0.25945	0.63209	0.65101
147	0.27482	0.63292	0.75351	0.25945	0.62939	0.65124
148	0.27482	0.63724	0.75042	0.25945	0.62550	0.65055
149	0.27482	0.63851	0.74976	0.25945	0.62634	0.65229
150	0.27482	0.62557	0.75137	0.25945	0.62663	0.65225
151	0.27482	0.62720	0.75625	0.25945	0.63041	0.65500
152	0.27482	0.62628	0.75248	0.25945	0.63057	0.65386
153	0.27482	0.62885	0.75258	0.25945	0.63280	0.65186
154	0.27482	0.62784	0.75230	0.25945	0.62954	0.65077
155	0.27482	0.63936	0.75195	0.25945	0.62711	0.65151
156	0.27482	0.64037	0.75243	0.27093	0.64740	0.68480
157	0.27482	0.63778	0.75163	0.27093	0.65133	0.68415
158	0.27482	0.64120	0.75151	0.27093	0.66364	0.68153
159	0.27482	0.63458	0.75195	0.27093	0.66296	0.68078
160	0.27482	0.63127	0.75200	0.27093	0.65835	0.68107
161	0.27482	0.63753	0.75243	0.27093	0.65919	0.68083
162	0.27482	0.63289	0.75182	0.27093	0.66075	0.68222
163	0.27482	0.64038	0.75192	0.27093	0.65865	0.68318
164	0.27482	0.62920	0.75179	0.27093	0.65870	0.68241
165	0.31102	0.72221	0.85372	0.27093	0.65639	0.68212
166	0.31102	0.73521	0.85380	0.27093	0.65802	0.68323
167	0.31102	0.72090	0.85375	0.27093	0.65687	0.68250
168	0.31102	0.72548	0.85704	0.27093	0.65700	0.68046
169	0.31102	0.72143	0.85275	0.27093	0.65905	0.67978
170	0.31102	0.72243	0.85121	0.27093	0.65819	0.68137
171	0.31102	0.72179	0.85067	0.27093	0.65703	0.68178
172	0.31102	0.71646	0.85068	0.27093	0.65578	0.68210
173	0.31102	0.71203	0.85079	0.27093	0.65695	0.68341
174	0.31102	0.71068	0.85230	0.27093	0.65904	0.68305
175	0.31102	0.71572	0.85631	0.27093	0.65680	0.68371
176	0.31102	0.72044	0.85327	0.27093	0.65744	0.68440
177	0.31102	0.72231	0.85291	0.27093	0.65803	0.68155
178	0.31102	0.72383	0.85429	0.27093	0.65791	0.67992
179	0.31102	0.72301	0.85320	0.27093	0.65677	0.68215
180	0.31102	0.72362	0.85522	0.27093	0.65731	0.68222
181	0.31102	0.71996	0.85185	0.27093	0.65841	0.68103
182	0.31102	0.72330	0.85307	0.31102	0.74594	0.77397
183	0.31102	0.72790	0.85278	0.31102	0.75038	0.77498
184	0.31102	0.73474	0.85452	0.31102	0.74760	0.77038
185	0.31102	0.72768	0.85105	0.31102	0.74665	0.77152
186	0.31102	0.71780	0.85090	0.31102	0.74119	0.77370

APPENDIX 1

( CONTINUED )

<u>OBS</u>	<u>DC - APM 1</u>	<u>DC - APM 2</u>				
	X	Y2	Y6	X	Y2	Y6
187	0.31102	0.71167	0.85092	0.31102	0.74148	0.77539
188	0.31102	0.72346	0.85502	0.31102	0.73660	0.77694
189	0.31102	0.71670	0.85063	0.31102	0.73858	0.77351
190	.	.	.	0.31102	0.74484	0.77301
191	.	.	.	0.31102	0.73938	0.77173
192	.	.	.	0.31102	0.74367	0.77327
193	.	.	.	0.31102	0.74398	0.77380
194	.	.	.	0.31102	0.75142	0.77410
195	.	.	.	0.31102	0.75200	0.77440
196	.	.	.	0.31102	0.75184	0.77371
197	.	.	.	0.31102	0.74673	0.77489
198	.	.	.	0.31102	0.74572	0.77404
199	.	.	.	0.31102	0.75116	0.77301
200	.	.	.	0.31102	0.74928	0.77408
201	.	.	.	0.31102	0.74677	0.77335
202	.	.	.	0.31102	0.75167	0.77340
203	.	.	.	0.31102	0.74805	0.77214
204	.	.	.	0.31102	0.74522	0.77265
205	.	.	.	0.31102	0.74345	0.77495
206	.	.	.	0.31102	0.74528	0.77545
207	.	.	.	0.31102	0.74626	0.77214
208	.	.	.	0.31102	0.74695	0.77302

APPENDIX 2DC - APM 3DC - APM 4

OBS	X	Y2	Y6	X	Y2	Y6
1	0.00000	0.00347	0.00442	0.00000	0.00423	0.00546
2	0.00000	0.00450	0.00396	0.00000	0.00470	0.00510
3	0.00000	0.00414	0.00401	0.00000	0.00437	0.00493
4	0.00000	0.00394	0.00404	0.00000	0.00434	0.00546
5	0.00000	0.00402	0.00377	0.00000	0.00451	0.00506
6	0.00000	0.00486	0.00488	0.00000	0.00438	0.00531
7	0.00000	0.00416	0.00394	0.00000	0.00447	0.00473
8	0.00000	0.00371	0.00352	0.00000	0.00479	0.00505
9	0.00000	0.00388	0.00364	0.00000	0.00455	0.00509
10	0.00000	0.00404	0.00414	0.00000	0.00452	0.00492
11	0.00000	0.00388	0.00331	0.00000	0.00422	0.00484
12	0.00000	0.00424	0.00399	0.00000	0.00417	0.00455
13	0.00000	0.00353	0.00391	0.00000	0.00391	0.00488
14	0.00000	0.00380	0.00370	0.00000	0.00410	0.00507
15	0.00000	0.00387	0.00350	0.00000	0.00475	0.00491
16	0.00000	0.00421	0.00418	0.00000	0.00455	0.00530
17	0.00000	0.00397	0.00394	0.00000	0.00481	0.00489
18	0.00000	0.00438	0.00416	0.00000	0.00425	0.00473
19	0.00000	0.00442	0.00404	0.00000	0.00380	0.00512
20	0.00000	0.00419	0.00381	0.00000	0.00453	0.00503
21	0.00000	0.00398	0.00318	0.00000	0.00414	0.00551
22	0.00000	0.00410	0.00376	0.00000	0.00417	0.00488
23	0.00000	0.00367	0.00303	0.00000	0.00428	0.00501
24	0.00000	0.00404	0.00367	0.00000	0.00490	0.00530
25	0.00000	0.00372	0.00332	0.00000	0.00464	0.00502
26	0.00864	0.02553	0.02772	0.00000	0.00419	0.00529
27	0.00864	0.02593	0.02786	0.00000	0.00446	0.00510
28	0.00864	0.02506	0.02748	0.00864	0.02485	0.02887
29	0.00864	0.02469	0.02763	0.00864	0.02438	0.02875
30	0.00864	0.02495	0.02747	0.00864	0.02460	0.02875
31	0.00864	0.02563	0.02787	0.00864	0.02442	0.02878
32	0.00864	0.02511	0.02752	0.00864	0.02497	0.02865
33	0.00864	0.02527	0.02788	0.00864	0.02476	0.02891
34	0.00864	0.02494	0.02750	0.00864	0.02456	0.02915
35	0.00864	0.02514	0.02784	0.00864	0.02490	0.02889
36	0.00864	0.02517	0.02769	0.00864	0.02444	0.02935
37	0.00864	0.02507	0.02750	0.00864	0.02498	0.02906
38	0.00864	0.02512	0.02756	0.00864	0.02477	0.02861
39	0.00864	0.02526	0.02768	0.00864	0.02438	0.02873
40	0.00864	0.02560	0.02777	0.00864	0.02563	0.02890
41	0.00864	0.02550	0.02753	0.00864	0.02483	0.02930
42	0.00864	0.02548	0.02815	0.00864	0.02470	0.02897
43	0.00864	0.02555	0.02807	0.00864	0.02484	0.02918
44	0.00864	0.02538	0.02767	0.00864	0.02474	0.02890
45	0.00864	0.02565	0.02786	0.00864	0.02474	0.02907
46	0.00864	0.02533	0.02696	0.00864	0.02397	0.02871
47	0.00864	0.02549	0.02783	0.00864	0.02436	0.02906
48	0.00864	0.02554	0.02730	0.00864	0.02467	0.02920

APPENDIX 2

( CONTINUED )

DC - APM 3DC - APM 4

OBS	X	Y2	Y6	X	Y2	Y6
49	0.00864	0.02517	0.02764	0.00864	0.02477	0.02927
50	0.00864	0.02549	0.02810	0.00864	0.02435	0.02898
51	0.00864	0.02569	0.02763	0.00864	0.02471	0.02915
52	0.00864	0.02571	0.02784	0.00864	0.02513	0.02931
53	0.06581	0.16469	0.18111	0.06773	0.15668	0.18559
54	0.06581	0.16352	0.18155	0.06773	0.15775	0.18616
55	0.06581	0.16020	0.18127	0.06773	0.15781	0.18620
56	0.06581	0.15988	0.18164	0.06773	0.15729	0.18611
57	0.06581	0.16084	0.18186	0.06773	0.15787	0.18621
58	0.06581	0.16511	0.18264	0.06773	0.15699	0.18621
59	0.06581	0.16733	0.18188	0.06773	0.15705	0.18615
60	0.06581	0.16714	0.18090	0.06773	0.15759	0.18649
61	0.06581	0.16666	0.18139	0.06773	0.15913	0.18652
62	0.06581	0.16690	0.18137	0.06773	0.15976	0.18641
63	0.06581	0.16433	0.18077	0.06773	0.16052	0.18657
64	0.06581	0.16328	0.18133	0.06773	0.16017	0.18590
65	0.06581	0.16100	0.18078	0.06773	0.15949	0.18618
66	0.06581	0.16276	0.18099	0.06773	0.15803	0.18627
67	0.06581	0.16788	0.18131	0.06773	0.15893	0.18596
68	0.06581	0.16275	0.18104	0.06773	0.15943	0.18649
69	0.06581	0.16388	0.18218	0.06773	0.15878	0.18662
70	0.06581	0.16243	0.18135	0.06773	0.15825	0.18695
71	0.06581	0.16129	0.18200	0.06773	0.15941	0.18688
72	0.06581	0.16007	0.18081	0.06773	0.15849	0.18662
73	0.06581	0.16064	0.18167	0.06773	0.15761	0.18609
74	0.06581	0.16115	0.18164	0.06773	0.15815	0.18605
75	0.06581	0.16109	0.18250	0.06773	0.15842	0.18634
76	0.06581	0.16088	0.18219	0.06773	0.15789	0.18623
77	0.06581	0.16160	0.18324	0.06773	0.15772	0.18601
78	0.06581	0.16227	0.18221	0.06773	0.15742	0.18682
79	0.06581	0.16296	0.18194	0.10949	0.25081	0.29827
80	0.11197	0.26999	0.29915	0.10949	0.25213	0.29799
81	0.11197	0.26877	0.29884	0.10949	0.25234	0.29762
82	0.11197	0.26743	0.30072	0.10949	0.25133	0.29837
83	0.11197	0.27174	0.30024	0.10949	0.25305	0.29789
84	0.11197	0.27165	0.30037	0.10949	0.25363	0.29849
85	0.11197	0.27176	0.29986	0.10949	0.25211	0.29838
86	0.11197	0.27095	0.29907	0.10949	0.25355	0.29790
87	0.11197	0.27080	0.29889	0.10949	0.25332	0.29827
88	0.11197	0.27324	0.29957	0.10949	0.25314	0.29737
89	0.11197	0.27244	0.29867	0.10949	0.25196	0.29807
90	0.11197	0.27019	0.30007	0.10949	0.25318	0.29754
91	0.11197	0.26837	0.30002	0.10949	0.25303	0.29745
92	0.11197	0.26881	0.29985	0.10949	0.25334	0.29754
93	0.11197	0.26567	0.29974	0.10949	0.25403	0.29799
94	0.11197	0.26671	0.29948	0.10949	0.25268	0.29680

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Statistical Analysis of Test Data for APM Rod Issue

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APPENDIX 2

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<u>OBS</u>	<u>DC - APM 3</u>	<u>DC - APM 4</u>				
	X	Y2	Y6	X	Y2	Y6
95	0.11197	0.26892	0.30049	0.10949	0.25557	0.29699
96	0.11197	0.26908	0.29924	0.10949	0.25267	0.29727
97	0.11197	0.27058	0.29976	0.10949	0.25072	0.29706
98	0.11197	0.26865	0.29919	0.10949	0.25069	0.29755
99	0.11197	0.26803	0.30030	0.10949	0.25173	0.29812
100	0.11197	0.26899	0.30049	0.10949	0.25283	0.29960
101	0.11197	0.26866	0.30119	0.10949	0.25216	0.29828
102	0.11197	0.27316	0.30150	0.10949	0.25577	0.29782
103	0.11197	0.27850	0.30057	0.10949	0.25569	0.29764
104	0.11197	0.27652	0.30055	0.10949	0.25374	0.29650
105	0.16726	0.39708	0.44191	0.16423	0.37860	0.44607
106	0.16726	0.39870	0.44309	0.16423	0.38015	0.44641
107	0.16726	0.40693	0.44262	0.16423	0.37951	0.44717
108	0.16726	0.40167	0.44290	0.16423	0.38136	0.44675
109	0.16726	0.39949	0.44259	0.16423	0.38130	0.44583
110	0.16726	0.39713	0.44337	0.16423	0.37985	0.44581
111	0.16726	0.39335	0.44301	0.16423	0.38083	0.44723
112	0.16726	0.39169	0.44309	0.16423	0.38311	0.44656
113	0.16726	0.39232	0.44417	0.16423	0.38083	0.44641
114	0.16726	0.39352	0.44503	0.16423	0.38227	0.44676
115	0.16726	0.39852	0.44442	0.16423	0.38105	0.44641
116	0.16726	0.39923	0.44487	0.16423	0.37962	0.44630
117	0.16726	0.40100	0.44443	0.16423	0.37781	0.44653
118	0.16726	0.40575	0.44470	0.16423	0.37586	0.44783
119	0.16726	0.40475	0.44387	0.16423	0.37839	0.44801
120	0.16726	0.39996	0.44396	0.16423	0.37953	0.44805
121	0.16726	0.39968	0.44418	0.16423	0.38230	0.44866
122	0.16726	0.40233	0.44487	0.16423	0.38310	0.44761
123	0.16726	0.40125	0.44414	0.16423	0.38388	0.44842
124	0.16726	0.40174	0.44456	0.16423	0.38253	0.44768
125	0.16726	0.40140	0.44484	0.16423	0.38165	0.44780
126	0.16726	0.40141	0.44536	0.16423	0.38259	0.44855
127	0.16726	0.39615	0.44434	0.16423	0.38141	0.44802
128	0.16726	0.40138	0.44473	0.16423	0.38154	0.44713
129	0.16726	0.40727	0.44444	0.16423	0.38084	0.44725
130	0.23361	0.54886	0.61835	0.16423	0.37883	0.44741
131	0.23361	0.54729	0.61947	0.16423	0.38228	0.44849
132	0.23361	0.54990	0.61933	0.23003	0.52588	0.61620
133	0.23361	0.55455	0.61903	0.23003	0.51979	0.61658
134	0.23361	0.55794	0.62021	0.23003	0.52236	0.61640
135	0.23361	0.55881	0.62104	0.23003	0.52786	0.61649
136	0.23361	0.55650	0.62090	0.23003	0.52401	0.61754
137	0.23361	0.55946	0.62053	0.23003	0.52334	0.61643
138	0.23361	0.56390	0.62011	0.23003	0.52320	0.61536
139	0.23361	0.56326	0.61932	0.23003	0.52242	0.61617
140	0.23361	0.56315	0.61811	0.23003	0.52010	0.61561

APPENDIX 2

( CONTINUED )

OBS	DC - APM 3			DC - APM 4		
	X	Y2	Y6	X	Y2	Y6
141	0.23361	0.55740	0.61892	0.23003	0.51754	0.61354
142	0.23361	0.55604	0.61804	0.23003	0.51795	0.61554
143	0.23361	0.55040	0.61949	0.23003	0.52215	0.61709
144	0.23361	0.54793	0.61786	0.23003	0.52763	0.61845
145	0.23361	0.55049	0.61960	0.23003	0.53086	0.61777
146	0.23361	0.55225	0.62109	0.23003	0.53050	0.61775
147	0.23361	0.55993	0.62079	0.23003	0.53087	0.61548
148	0.23361	0.55709	0.62063	0.23003	0.52842	0.61549
149	0.23361	0.55979	0.62112	0.23003	0.52609	0.61452
150	0.23361	0.55735	0.61791	0.23003	0.52012	0.61450
151	0.23361	0.56106	0.61823	0.23003	0.51399	0.61279
152	0.23361	0.56033	0.61782	0.23003	0.51497	0.61485
153	0.23361	0.56235	0.61909	0.23003	0.51723	0.61546
154	0.23361	0.56694	0.61856	0.23003	0.52285	0.61730
155	0.27093	0.63493	0.71422	0.23003	0.52116	0.61657
156	0.27093	0.63854	0.71513	0.23003	0.52547	0.61676
157	0.27093	0.64508	0.71574	0.23003	0.53069	0.61663
158	0.27093	0.65402	0.71613	0.27482	0.62757	0.73556
159	0.27093	0.65560	0.71489	0.27482	0.62994	0.73419
160	0.27093	0.64408	0.71516	0.27482	0.62904	0.73501
161	0.27093	0.63819	0.71403	0.27482	0.62676	0.73497
162	0.27093	0.63965	0.71524	0.27482	0.63050	0.73648
163	0.27093	0.64478	0.71430	0.27482	0.62979	0.73609
164	0.27093	0.64672	0.71643	0.27482	0.62747	0.73517
165	0.27093	0.64620	0.71615	0.27482	0.62769	0.73580
166	0.27093	0.65110	0.71615	0.27482	0.62650	0.73518
167	0.27093	0.64564	0.71664	0.27482	0.62883	0.73599
168	0.27093	0.63798	0.71685	0.27482	0.63122	0.73550
169	0.27093	0.63296	0.71700	0.27482	0.62788	0.73532
170	0.27093	0.63479	0.71721	0.27482	0.62264	0.73581
171	0.27093	0.63472	0.71729	0.27482	0.62139	0.73600
172	0.27093	0.63788	0.71885	0.27482	0.62233	0.73421
173	0.27093	0.63909	0.71899	0.27482	0.62247	0.73611
174	0.27093	0.64086	0.71945	0.27482	0.62353	0.73633
175	0.27093	0.64426	0.71832	0.27482	0.62333	0.73701
176	0.27093	0.64901	0.71878	0.27482	0.62442	0.73746
177	0.27093	0.64741	0.71666	0.27482	0.62439	0.73747
178	0.27093	0.64849	0.71758	0.27482	0.62641	0.73585
179	0.27093	0.64797	0.71666	0.27482	0.62323	0.73511
180	0.27093	0.64776	0.71788	0.27482	0.62150	0.73435
181	0.27093	0.64724	0.71800	0.27482	0.62093	0.73480
182	0.30689	0.73816	0.80529	0.27482	0.62558	0.73711
183	0.30689	0.73093	0.80600	0.27482	0.62656	0.73740
184	0.30689	0.72247	0.80574	0.27482	0.62637	0.73710
185	0.30689	0.70892	0.80776	0.30689	0.69610	0.82093
186	0.30689	0.71340	0.80901	0.30689	0.70232	0.82250

APPENDIX 2

( CONTINUED )

DC - APM 3DC - APM 4

OBS	X	Y2	Y6	X	Y2	Y6
187	0.30689	0.72130	0.80835	0.30689	0.69735	0.82383
188	0.30689	0.74645	0.80778	0.30689	0.69945	0.82383
189	0.30689	0.74914	0.80753	0.30689	0.69914	0.82362
190	0.30689	0.74520	0.80575	0.30689	0.69790	0.82276
191	0.30689	0.74375	0.80531	0.30689	0.70201	0.82410
192	0.30689	0.73357	0.80546	0.30689	0.70099	0.82416
193	0.30689	0.74182	0.80775	0.30689	0.69984	0.82277
194	0.30689	0.75691	0.81130	0.30689	0.69647	0.82274
195	0.30689	0.75018	0.81059	0.30689	0.69411	0.82236
196	0.30689	0.73838	0.80556	0.30689	0.69570	0.82394
197	0.30689	0.72213	0.79822	0.30689	0.69547	0.82403
198	0.30689	0.71977	0.79488	0.30689	0.69860	0.82382
199	0.30689	0.72255	0.79504	0.30689	0.70009	0.82261
200	0.30689	0.73268	0.79472	0.30689	0.70114	0.82282
201	0.30689	0.73061	0.79646	0.30689	0.70042	0.82284
202	0.30689	0.71808	0.79849	0.30689	0.70301	0.82282
203	0.30689	0.72078	0.80007	0.30689	0.69934	0.82193
204	0.30689	0.72457	0.80007	0.30689	0.69976	0.82301
205	0.30689	0.72991	0.80280	0.30689	0.69542	0.82280
206	0.30689	0.73253	0.80156	0.30689	0.69603	0.82427
207	0.30689	0.72577	0.80287	0.30689	0.69811	0.82451
208	0.30689	0.71482	0.80247	0.30689	0.69448	0.82432
209	.	.	.	0.30689	0.69330	0.82455
210	.	.	.	0.30689	0.69254	0.82396
211	.	.	.	0.30689	0.70535	0.82526
212	.	.	.	0.30689	0.70517	0.82570

APPENDIX 3DC - APM 5DC - APM 6

OBS	X	Y2	Y6	X	Y2	Y6
1	0.00000	0.00620	0.00531	0.00000	0.00475	0.00784
2	0.00000	0.00596	0.00508	0.00000	0.00492	0.00819
3	0.00000	0.00595	0.00746	0.00000	0.00513	0.00815
4	0.00000	0.00565	0.00500	0.00000	0.00532	0.00855
5	0.00000	0.00681	0.00730	0.00000	0.00553	0.00838
6	0.00934	0.02729	0.02998	0.00796	0.02419	0.02755
7	0.00934	0.02784	0.03178	0.00796	0.02390	0.02710
8	0.00934	0.02783	0.03186	0.00796	0.02324	0.02643
9	0.00934	0.02752	0.02999	0.00796	0.02457	0.02739
10	0.00934	0.02677	0.02959	0.00796	0.02325	0.02615
11	0.06580	0.15007	0.17313	0.07165	0.17636	0.17726
12	0.06580	0.15101	0.17362	0.07165	0.17516	0.17703
13	0.06580	0.14995	0.17312	0.07165	0.17588	0.17726
14	0.06580	0.15059	0.17317	0.07165	0.17479	0.17770
15	0.06580	0.15050	0.17329	0.07165	0.17515	0.17724
16	0.11195	0.25001	0.29011	0.10948	0.26581	0.26791
17	0.11195	0.25016	0.28966	0.10948	0.26687	0.26884
18	0.11195	0.25067	0.29035	0.10948	0.26845	0.27011
19	0.11195	0.24997	0.28912	0.10948	0.26840	0.26908
20	0.11195	0.24946	0.28979	0.10948	0.26780	0.26925
21	0.17029	0.37551	0.43715	0.16421	0.39411	0.39426
22	0.17029	0.37798	0.43693	0.16421	0.39532	0.39576
23	0.17029	0.37630	0.43613	0.16421	0.39440	0.39493
24	0.17029	0.37652	0.43640	0.16421	0.39454	0.39679
25	0.17029	0.37780	0.43582	0.16421	0.39426	0.39450
26	0.17029	0.37811	0.43695	0.23000	0.55192	0.55027
27	0.24082	0.52932	0.61484	0.23000	0.54927	0.54998
28	0.24082	0.53071	0.61184	0.23000	0.55263	0.54902
29	0.24082	0.53156	0.61539	0.23000	0.55259	0.54942
30	0.24082	0.52788	0.61337	0.23000	0.55052	0.55035
31	0.24082	0.53137	0.61803	0.27089	0.65256	0.64467
32	0.24082	0.53164	0.61630	0.27089	0.64183	0.64046
33	0.27089	0.59267	0.68884	0.27089	0.64962	0.64682
34	0.27089	0.59284	0.68782	0.27089	0.64833	0.64222
35	0.27089	0.59255	0.68917	0.27089	0.65106	0.64319
36	0.27089	0.59060	0.68742	0.31932	0.76910	0.76608
37	0.27089	0.59493	0.68949	0.31932	0.77124	0.76801
38	0.30684	0.67497	0.78430	0.31932	0.77522	0.76827
39	0.30684	0.67368	0.78672	0.31932	0.77678	0.76990
40	0.30684	0.67376	0.78405	0.31932	0.77731	0.76879
41	0.30684	0.67598	0.78889	0.35825	0.86028	0.84609
42	0.30684	0.67750	0.78519	0.35825	0.85566	0.84450
43	0.34941	0.76482	0.88811	0.35825	0.85786	0.84594
44	0.34941	0.76422	0.88619	0.35825	0.86184	0.84990
45	0.34941	0.76187	0.88563	0.35825	0.85714	0.84891
46	0.34941	0.75178	0.88452	0.39943	0.95749	0.95118
47	0.34941	0.76769	0.88926	0.39943	0.96194	0.94912
48	0.40414	0.88723	1.03139	0.39943	0.95437	0.94661

APPENDIX 3

( CONTINUED )

<u>OR8</u>	<u>X</u>	<u>Y2</u>	<u>Y6</u>	<u>X</u>	<u>Y2</u>	<u>Y6</u>
49	0.40414	0.88824	1.03169	0.39943	0.95969	0.94953
50	0.40414	0.88618	1.03018	0.39943	0.95364	0.94858
51	0.40414	0.88398	1.03315	0.45781	1.09820	1.08291
52	0.40414	0.88990	1.03397	0.45781	1.09899	1.08125
53	0.45279	0.98759	1.14382	0.45781	1.09628	1.08064
54	0.45279	0.98479	1.14445	0.45781	1.10100	1.08270
55	0.45279	0.98228	1.14275	0.45781	1.09615	1.08237
56	0.45279	0.98343	1.14430	0.50420	1.19189	1.17710
57	0.45279	0.98581	1.14645	0.50420	1.19484	1.17781
58	0.50420	1.08666	1.26977	0.50420	1.19582	1.17857
59	0.50420	1.09138	1.26960	0.50420	1.19490	1.18464
60	0.50420	1.09789	1.26754	0.50420	1.19910	1.18409
61	0.50420	1.09493	1.26730	0.55838	1.32938	1.30861
62	0.50420	1.09130	1.26635	0.55838	1.33382	1.31096
63	0.55284	1.20080	1.39043	0.55838	1.33366	1.30764
64	0.55284	1.19013	1.38809	0.55838	1.32927	1.30960
65	0.55284	1.19009	1.39776	0.55838	1.32666	1.30611
66	0.55284	1.19124	1.39814	0.87074	2.06612	2.00795
67	0.55284	1.19577	1.39504	0.87074	2.06299	2.00439
68	0.86381	1.83276	2.14581	0.87074	2.04776	2.00792
69	0.86381	1.83459	2.14259	0.87074	2.05883	2.00633
70	0.86381	1.83802	2.14545	0.87074	2.07661	2.00819
71	0.86381	1.84601	2.14177	1.26053	2.94699	2.82165
72	0.86381	1.84086	2.14492	1.26053	2.94886	2.83010
73	0.86381	1.84285	2.1473	1.26053	2.94202	2.82124
74	1.23561	2.55584	2.96771	1.26053	2.96692	2.81831
75	1.23561	2.56121	2.96960	1.26053	3.00291	2.82312
76	1.23561	2.55404	2.96983	1.68341	3.57901	3.69446
7	1.23561	2.56571	2.96752	1.68341	3.58024	3.70589
78	1.23561	2.55308	2.96655	1.68341	3.61266	3.70421
79	1.68341	3.41497	3.95386	1.68341	3.53696	3.70506
80	1.68341	3.42239	3.95740	1.68341	3.59720	3.70754
81	1.68341	3.40258	3.96001	1.89210	3.95112	4.12145
82	1.68341	3.42311	3.96077	1.89210	4.01159	4.12044
83	1.68341	3.41838	3.95353	1.89210	4.04103	4.12354
84	1.91261	3.81664	4.42269	1.89210	4.00440	4.12859
85	1.91261	3.80478	4.41580	1.89210	4.00596	4.13046
86	1.91261	3.80862	4.42247	.	.	.
87	1.91261	3.81222	4.42519	.	.	.
88	1.91261	3.81201	4.42293	.	.	.

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APPENDIX 4

OBS	DC - APM 7			DC - APM 8		
	X	Y2	Y6	X	Y2	Y6
1	0.00000	0.00558	0.00579	0.00000	0.00710	0.00681
2	0.00000	0.00562	0.00581	0.00000	0.00732	0.00576
3	0.00000	0.00609	0.00607	0.00000	0.00800	0.00715
4	0.00000	0.00610	0.00607	0.00000	0.00701	0.00621
5	0.00000	0.00625	0.00604	0.00000	0.00746	0.00693
6	0.00796	0.02365	0.02709	0.00934	0.02795	0.03139
7	0.00796	0.02481	0.02771	0.00934	0.02794	0.03170
8	0.00796	0.02352	0.02625	0.00934	0.02810	0.03196
9	0.00796	0.02389	0.02738	0.00934	0.02843	0.03195
10	0.00796	0.02346	0.02646	0.00934	0.02792	0.03182
11	0.06967	0.16037	0.18610	0.06967	0.15988	0.19521
12	0.06967	0.16168	0.18670	0.06967	0.16103	0.19386
13	0.06967	0.15976	0.18518	0.06967	0.16036	0.19361
14	0.06967	0.16064	0.18561	0.06967	0.15999	0.19200
15	0.06967	0.16040	0.18579	0.06967	0.16091	0.19465
16	0.11195	0.25254	0.29454	0.11195	0.25241	0.30757
17	0.11195	0.25528	0.29591	0.11195	0.25474	0.30735
18	0.11195	0.25549	0.29622	0.11195	0.25426	0.30772
19	0.11195	0.25295	0.29670	0.11195	0.25429	0.30773
20	0.11195	0.25477	0.29560	0.11195	0.25247	0.30806
21	0.16421	0.37066	0.43125	0.17029	0.38092	0.46603
22	0.16421	0.36836	0.43059	0.17029	0.38186	0.46622
23	0.16421	0.36991	0.42802	0.17029	0.38387	0.46673
24	0.16421	0.37391	0.43068	0.17029	0.38298	0.46381
25	0.16421	0.37217	0.43031	0.17029	0.37829	0.46465
26	0.23718	0.52786	0.61233	0.23718	0.52617	0.64685
27	0.23718	0.53013	0.61405	0.23718	0.52793	0.64732
28	0.23718	0.53072	0.61569	0.23718	0.52982	0.64637
29	0.23718	0.53150	0.61376	0.23718	0.52757	0.64658
30	0.23718	0.52996	0.61347	0.23718	0.52682	0.64618
31	0.26321	0.59603	0.68702	0.27089	0.60443	0.73927
32	0.26321	0.58976	0.68691	0.27089	0.59976	0.73719
33	0.26321	0.59327	0.68788	0.27089	0.60426	0.73855
34	0.26321	0.59322	0.68616	0.27089	0.60529	0.73870
35	0.26321	0.59433	0.68799	0.27089	0.60572	0.73921
36	0.31513	0.70721	0.81447	0.31097	0.68934	0.84175
37	0.31513	0.70690	0.81482	0.31097	0.68769	0.83941
38	0.31513	0.70859	0.81617	0.31097	0.69073	0.83796
39	0.31513	0.70443	0.81500	0.31097	0.68284	0.83476
40	0.31513	0.70704	0.81410	0.31097	0.68310	0.83527
41	0.35825	0.79110	0.91927	0.31097	0.68334	0.83889
42	0.35825	0.79450	0.92047	0.34941	0.77252	0.94356
43	0.35825	0.79410	0.92011	0.34941	0.77354	0.94157
44	0.35825	0.79272	0.91977	0.34941	0.77013	0.94135
45	0.35825	0.79830	0.92206	0.34941	0.76918	0.94523
46	0.40414	0.90312	1.04202	0.34941	0.77217	0.94308
47	0.40414	0.89164	1.03942	0.39943	0.87757	1.07170
48	0.40414	0.90090	1.04054	0.39943	0.87060	1.07351

APPENDIX 4

( CONTINUED )

OBS	DC - APM 7			DC - APM 8		
	X	Y2	Y6	X	Y2	Y6
49	0.40414	0.90362	1.03997	0.39943	0.86956	1.07253
50	0.40414	0.90518	1.04220	0.39943	0.87172	1.07197
51	0.45279	1.00129	1.15863	0.39943	0.87909	1.07629
52	0.45279	1.00036	1.16138	0.45279	1.00007	1.21290
53	0.45279	1.00360	1.16215	0.45279	0.99667	1.21355
54	0.45279	1.01280	1.16165	0.45279	0.98347	1.21005
55	0.45279	1.00417	1.15772	0.46792	0.99367	1.21202
56	0.49894	1.10910	1.28123	0.45279	0.99325	1.21331
57	0.49894	1.11278	1.27802	0.50420	1.09472	1.33500
58	0.49894	1.10742	1.27334	0.50420	1.09655	1.33489
59	0.49894	1.10502	1.27140	0.50420	1.09528	1.33283
60	0.49894	1.09992	1.27401	0.50420	1.08911	1.33209
61	0.56955	1.25166	1.44116	0.50420	1.08735	1.33423
62	0.56955	1.24438	1.44384	0.55284	1.20544	1.46925
63	0.56955	1.25300	1.44826	0.55284	1.19760	1.46792
64	0.56955	1.25556	1.44583	0.55284	1.19793	1.46811
65	0.56955	1.24957	1.44147	0.55284	1.20906	1.46573
66	0.87074	1.89014	2.17866	0.55284	1.20149	1.46463
67	0.87074	1.89473	2.16761	0.87074	1.85343	2.24310
68	0.87074	1.88765	2.16493	0.87074	1.84837	2.24585
69	0.87074	1.88606	2.16339	0.87074	1.85687	2.25111
70	0.87074	1.88626	2.16019	0.87074	1.84790	2.24696
71	1.23561	2.63147	3.01605	0.87074	1.85034	2.24919
72	1.23561	2.62092	3.00887	1.24389	2.62202	3.14586
73	1.23561	2.61450	3.01033	1.24389	2.61140	3.14607
74	1.23561	2.62847	3.01765	1.24389	2.60849	3.14736
75	1.23561	2.62589	3.01016	1.24389	2.60659	3.14606
76	1.68341	3.49188	3.99702	1.24389	2.60640	3.14897
77	1.68341	3.51910	3.99970	1.68341	3.44707	4.11594
78	1.68341	3.50880	3.99580	1.68341	3.43265	4.09511
79	1.68341	3.48162	4.00024	1.68341	3.41206	4.10355
80	1.68341	3.50224	4.00473	1.68341	3.41817	4.09903
81	1.90234	3.88907	4.43395	1.68341	3.44198	4.10858
82	1.90234	3.87732	4.42399	1.89210	3.82323	4.54115
83	1.90234	3.89218	4.43224	1.89210	3.83202	4.54815
84	1.90234	3.88243	4.42820	1.89210	3.81414	4.53484
85	1.90234	3.87527	4.44026	1.89210	3.81767	4.54003
86	.	.	.	1.89210	3.80246	4.53352

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**APPENDIX 5**

**DC - APM 9**

OBS	X	Y2	Y6
1	0.00000	0.00586	0.01130
2	0.00000	0.00622	0.01120
3	0.00000	0.00645	0.01161
4	0.00000	0.00627	0.01145
5	0.00000	0.00607	0.01099
6	0.00796	0.02417	0.03234
7	0.00796	0.02449	0.03163
8	0.00796	0.02389	0.03193
9	0.00796	0.02417	0.03204
10	0.00796	0.02409	0.03203
11	0.06772	0.16372	0.18963
12	0.06772	0.16259	0.18942
13	0.06772	0.16250	0.18954
14	0.06772	0.16327	0.18995
15	0.11195	0.26394	0.30353
16	0.11195	0.26166	0.30298
17	0.11195	0.26151	0.30142
18	0.11195	0.26247	0.30434
19	0.11195	0.26356	0.30395
20	0.17029	0.39900	0.45601
21	0.17029	0.39997	0.45816
22	0.17029	0.40008	0.45868
23	0.17029	0.39982	0.45712
24	0.17029	0.39907	0.45708
25	0.23718	0.55313	0.63002
26	0.23718	0.55374	0.63023
27	0.23718	0.55230	0.62685
28	0.23718	0.55093	0.62745
29	0.23718	0.55514	0.62832
30	0.27477	0.63501	0.72010
31	0.27477	0.63596	0.71998
32	0.27477	0.63491	0.72200
33	0.27477	0.63413	0.71705
34	0.27477	0.62904	0.71627
35	0.30273	0.69012	0.78657
36	0.30273	0.69345	0.78848
37	0.30273	0.69345	0.79004
38	0.30273	0.69602	0.78762
39	0.30273	0.69258	0.78690
40	0.34941	0.80761	0.91302
41	0.34941	0.80308	0.91264
42	0.34941	0.80069	0.91183
43	0.34941	0.80114	0.91213
44	0.34941	0.80892	0.91121
45	0.40414	0.92906	1.05072
46	0.40414	0.92949	1.05353
47	0.40414	0.93259	1.05304
48	0.40414	0.92760	1.05261

APPENDIX 5

( CONTINUED )

DC - APM 9

OBS	X	Y2	Y6
49	0.40414	0.92561	1.05101
50	0.40414	0.92730	1.05430
51	0.44780	1.01755	1.16030
52	0.44780	1.02409	1.16277
53	0.44780	1.02829	1.16286
54	0.44780	1.03046	1.15988
55	0.44780	1.02264	1.15776
56	0.50420	1.14966	1.29813
57	0.50420	1.14966	1.30562
58	0.50420	1.15575	1.29805
59	0.50420	1.14361	1.29757
60	0.50420	1.14283	1.29961
61	0.55838	1.27094	1.42880
62	0.55838	1.26784	1.42413
63	0.55838	1.26564	1.42882
64	0.55838	1.27965	1.43733
65	0.55838	1.26527	1.42885
66	0.86381	1.92814	2.17860
67	0.86381	1.93205	2.17430
68	0.86381	1.93533	2.17530
69	0.86381	1.95389	2.18773
70	0.86381	1.94665	2.18708
71	1.25220	2.75355	3.07376
72	1.25220	2.74452	3.06501
73	1.25220	2.73224	3.07074
74	1.25220	2.75372	3.08532
75	1.25220	2.77423	3.07988
76	1.69307	3.60446	4.01812
77	1.69307	3.62651	4.03858
78	1.69307	3.61010	4.01441
79	1.69307	3.61389	4.02586
80	1.69307	3.62974	4.04058
81	1.89210	4.01217	4.44370
82	1.89210	3.96435	4.43734
83	1.89210	3.97758	4.42909
84	1.89210	3.99025	4.45426
85	1.89210	3.99245	4.44472

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APPENDIX 6AC - APM 1AC - APM 2

OBS	X	Y2	Y6	X	Y2	Y6
1	0.00000	0.01860	0.02696	0.00000	0.00342	0.00366
2	0.00000	0.00493	0.00426	0.00000	0.00373	0.00407
3	0.00000	0.00539	0.00432	0.00000	0.00361	0.00356
4	0.00000	0.00475	0.00393	0.00000	0.00370	0.00399
5	0.00000	0.00519	0.00477	0.00000	0.00378	0.00375
6	0.00864	0.02514	0.02610	0.00864	0.02532	0.02573
7	0.00864	0.02525	0.02612	0.00864	0.02588	0.02510
8	0.00864	0.02535	0.02605	0.00864	0.02515	0.02464
9	0.00864	0.02516	0.02625	0.00864	0.02566	0.02552
10	0.00864	0.02502	0.02594	0.00864	0.02607	0.02577
11	0.06772	0.15338	0.16452	0.06772	0.16190	0.15961
12	0.06772	0.15440	0.16574	0.06772	0.16195	0.15953
13	0.06772	0.15632	0.16712	0.06772	0.16223	0.15958
14	0.06772	0.15557	0.16744	0.06772	0.16202	0.15944
15	0.06772	0.15488	0.16760	0.06772	0.16218	0.15991
16	0.11195	0.25852	0.27813	0.11195	0.27024	0.26591
17	0.11195	0.25776	0.27719	0.11195	0.26988	0.26516
18	0.11195	0.25813	0.27727	0.11195	0.27075	0.26602
19	0.11195	0.27118	0.29998	0.11195	0.26947	0.26552
20	0.11195	0.25956	0.27869	0.11195	0.26949	0.26523
21	0.13821	0.31275	0.33704	0.14099	0.33567	0.33036
22	0.13821	0.31346	0.33754	0.14099	0.33504	0.32983
23	0.13821	0.31403	0.33728	0.14099	0.33415	0.32918
24	0.13821	0.32690	0.36020	0.14099	0.33610	0.33074
25	0.13821	0.31339	0.33618	0.14099	0.33525	0.33016
26	0.23358	0.53136	0.57489	0.23718	0.59352	0.58394
27	0.23358	0.53342	0.57427	0.23718	0.59657	0.58651
28	0.23358	0.52962	0.57248	0.23718	0.59623	0.58537
29	0.23358	0.54325	0.59580	0.23718	0.59158	0.58284
30	0.23358	0.53464	0.57499	0.23718	0.59594	0.58647
31	0.27089	0.61408	0.66131	0.27089	0.63762	0.62788
32	0.27089	0.60936	0.65969	0.27089	0.64034	0.62971
33	0.27089	0.61607	0.66433	0.27089	0.63934	0.62875
34	0.27089	0.61278	0.66334	0.27089	0.64379	0.63142
35	0.27089	0.61430	0.66279	0.27089	0.64050	0.63043
36	0.27089	0.61600	0.66235	0.31097	0.72484	0.71203
37	0.31097	0.69652	0.75321	0.31097	0.72559	0.71350
38	0.31097	0.71504	0.77695	0.31097	0.72452	0.71336
39	0.31097	0.70007	0.75281	0.31097	0.72472	0.71327
40	0.31097	0.69777	0.75161	0.31097	0.72659	0.71478
41	0.31097	0.69668	0.75058	0.35382	0.83174	0.81733
42	0.35382	0.79095	0.85418	0.35382	0.83262	0.81818
43	0.35382	0.79476	0.85694	0.35382	0.83346	0.81882
44	0.35382	0.79478	0.85580	0.35382	0.82879	0.81566
45	0.35382	0.80454	0.87516	0.35382	0.82932	0.81645
46	0.35382	0.78938	0.85203	0.39474	0.91926	0.90349
47	0.39474	0.88093	0.94818	0.39474	0.91677	0.90130
48	0.39474	0.88650	0.96550	0.39474	0.91997	0.90419

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**APPENDIX 6**

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**AC - APM 1**

**AC - APM 2**

OBS	X	Y2	Y6	X	Y2	Y6
49	0.39474	0.87495	0.94689	0.39474	0.91951	0.90241
50	0.39474	0.87769	0.95076	0.39474	0.91881	0.90217
51	0.39474	0.88581	0.95437	0.45279	1.05211	1.03459
52	0.44780	1.00241	1.08176	0.45279	1.05166	1.03295
53	0.44780	1.00021	1.08141	0.45279	1.05299	1.03424
54	0.44780	1.00950	1.08656	0.45279	1.05391	1.03522
55	0.44780	0.99640	1.07903	0.45279	1.05299	1.03500
56	0.44780	1.00063	1.08139	0.49894	1.13943	1.11961
57	0.55284	1.21454	1.31295	0.49894	1.13966	1.11874
58	0.55284	1.21200	1.31335	0.49894	1.13598	1.11670
59	0.55284	1.21579	1.31573	0.49894	1.13613	1.11847
60	0.55284	1.21592	1.31404	0.49894	1.14113	1.12149
61	0.55284	1.21666	1.31519	0.55838	1.29840	1.27458
62	0.86381	1.88111	2.03873	0.55838	1.29454	1.26883
63	0.86381	1.89013	2.04036	0.55838	1.29502	1.27429
64	0.86381	1.88411	2.03917	0.55838	1.29822	1.27418
65	0.86381	1.88951	2.04214	0.55838	1.29387	1.27090
66	0.86381	1.89360	2.04494	0.86381	1.97280	1.94070
67	1.23561	2.65723	2.86931	0.86381	1.97463	1.94408
68	1.23561	2.64293	2.84799	0.86381	1.98063	1.94915
69	1.23561	2.64675	2.85115	0.86381	1.98158	1.94758
70	1.23561	2.64809	2.85335	0.86381	1.98408	1.94880
71	1.23561	2.65953	2.87854	1.23561	2.79280	2.75145
72	1.69307	3.56336	3.84814	1.23561	2.79557	2.74824
73	1.69307	3.55909	3.84073	1.23561	2.79045	2.74352
74	1.69307	3.57587	3.85009	1.23561	2.80623	2.75149
75	1.69307	3.58543	3.84832	1.23561	2.79452	2.74659
76	1.69307	3.58562	3.85010	1.69307	3.71941	3.66354
77	1.89210	3.95488	4.26038	1.69307	3.72698	3.66977
78	1.89210	3.95593	4.25856	1.69307	3.72930	3.66580
79	1.89210	3.95138	4.25962	1.69307	3.72870	3.67296
80	1.89210	3.95090	4.25289	1.69307	3.72892	3.67277
81	1.89210	3.94222	4.25687	1.90234	4.14961	4.08760
82	.	.	.	1.90234	4.16781	4.09760
83	.	.	.	1.90234	4.17151	4.10110
84	.	.	.	1.90234	4.14346	4.09339
85	.	.	.	1.90234	4.14823	4.09418

APPENDIX 7

OBS	AC - APM 3			AC - APM 4		
	X	Y2	Y6	X	Y2	Y6
1	0.00000	0.00473	0.00418	0.00000	0.00444	0.00534
2	0.00000	0.00476	0.00416	0.00000	0.00490	0.00522
3	0.00000	0.00490	0.00433	0.00000	0.00459	0.00519
4	0.00000	0.00464	0.00397	0.00000	0.00457	0.00511
5	0.00000	0.00432	0.00405	0.00000	0.00443	0.00443
6	0.00864	0.02454	0.02432	0.00864	0.02354	0.02613
7	0.00864	0.02489	0.02418	0.00864	0.02422	0.02651
8	0.00864	0.02474	0.02415	0.00864	0.02470	0.02666
9	0.00864	0.02455	0.02434	0.00864	0.02434	0.02653
10	0.00864	0.02484	0.02464	0.00864	0.02444	0.02673
11	0.06580	0.15724	0.15651	0.06580	0.15091	0.16469
12	0.06580	0.15677	0.15653	0.06580	0.15190	0.16601
13	0.06580	0.15693	0.15528	0.06580	0.15131	0.16486
14	0.06580	0.15743	0.15679	0.06580	0.15124	0.16576
15	0.06580	0.15743	0.15624	0.06580	0.15186	0.16573
16	0.11195	0.26720	0.26624	0.11195	0.25800	0.28198
17	0.11195	0.26681	0.26583	0.11195	0.25772	0.28172
18	0.11195	0.26754	0.26606	0.11195	0.25756	0.28182
19	0.11195	0.26673	0.26576	0.11195	0.25815	0.28135
20	0.11195	0.26718	0.26613	0.11195	0.25815	0.28243
21	0.13821	0.32358	0.32228	0.13821	0.31147	0.34145
22	0.13821	0.32336	0.32125	0.13821	0.31319	0.34228
23	0.13821	0.32372	0.32210	0.13821	0.31256	0.34205
24	0.13821	0.32206	0.32035	0.13821	0.31227	0.34133
25	0.13821	0.32240	0.32074	0.13821	0.31122	0.34063
26	0.23358	0.54571	0.54384	0.23718	0.52735	0.57566
27	0.23358	0.54600	0.54417	0.23718	0.52732	0.57576
28	0.23358	0.54646	0.54499	0.23718	0.52696	0.57634
29	0.23358	0.54760	0.54476	0.23718	0.52601	0.57594
30	0.23358	0.54731	0.54407	0.23718	0.52726	0.57613
31	0.27089	0.62416	0.62169	0.27089	0.61708	0.67300
32	0.27089	0.62582	0.62226	0.27089	0.61676	0.67286
33	0.27089	0.62265	0.62189	0.27089	0.61653	0.67375
34	0.27089	0.62428	0.62250	0.27089	0.61763	0.67315
35	0.27089	0.62666	0.62265	0.27089	0.61804	0.67432
36	0.30684	0.70966	0.70569	0.31513	0.70795	0.77300
37	0.30684	0.70747	0.70585	0.31513	0.70659	0.77258
38	0.30684	0.71092	0.70757	0.31513	0.70871	0.77218
39	0.30684	0.70955	0.70695	0.31513	0.70684	0.77261
40	0.30684	0.71132	0.70802	0.31513	0.70340	0.77022
41	0.35825	0.81895	0.81580	0.35382	0.78220	0.85656
42	0.35825	0.81848	0.81529	0.35382	0.78259	0.85729
43	0.35825	0.81757	0.81555	0.35382	0.78810	0.85880
44	0.35825	0.82061	0.81674	0.35382	0.78641	0.85579
45	0.35825	0.81985	0.81729	0.35382	0.78594	0.85560
46	0.40414	0.92649	0.92108	0.39943	0.88387	0.96670
47	0.40414	0.92656	0.92023	0.39943	0.88224	0.96563
48	0.40414	0.92226	0.91900	0.39943	0.88495	0.96635

APPENDIX 7

( CONTINUED )

OBS	<u>AC - APM 3</u>			<u>AC - APM 4</u>		
	X	Y2	Y6	X	Y2	Y6
49	0.40414	0.92249	0.91955	0.39943	0.88708	0.96749
50	0.40414	0.92441	0.92128	0.39943	0.88326	0.96648
51	0.44780	1.02527	1.01973	0.44284	0.97706	1.06800
52	0.44780	1.02257	1.01779	0.44284	0.97976	1.07008
53	0.44780	1.02338	1.01796	0.44284	0.98038	1.07074
54	0.44780	1.02549	1.02053	0.44284	0.97944	1.07145
55	0.44780	1.02520	1.02065	0.44284	0.98026	1.07213
56	0.49370	1.12650	1.12441	0.50420	1.11667	1.21931
57	0.49370	1.12891	1.12778	0.50420	1.11490	1.21699
58	0.49370	1.13718	1.12975	0.50420	1.11512	1.21685
59	0.49370	1.13060	1.12433	0.50420	1.11508	1.21705
60	0.49370	1.12685	1.12404	0.50420	1.11614	1.21865
61	0.55838	1.27777	1.27203	0.55284	1.21700	1.33308
62	0.55838	1.27659	1.27149	0.55284	1.22520	1.33627
63	0.55838	1.27571	1.27187	0.55284	1.21893	1.33682
64	0.55838	1.27955	1.27387	0.55284	1.22492	1.33788
65	0.55838	1.27966	1.27459	0.55284	1.22636	1.33983
66	0.87074	1.95004	1.94573	0.55284	1.22625	1.33801
67	0.87074	1.94822	1.94662	0.86381	1.87865	2.05844
68	0.87074	1.95724	1.95251	0.86381	1.88181	2.05822
69	0.87074	1.95441	1.94708	0.86381	1.88083	2.05699
70	0.87074	1.94737	1.94370	0.86381	1.88303	2.05638
71	1.25220	2.77351	2.76995	0.86381	1.88168	2.05105
72	1.25220	2.77525	2.76982	1.24389	2.66785	2.91396
73	1.25220	2.77563	2.76823	1.24389	2.66912	2.91439
74	1.25220	2.77720	2.76834	1.24389	2.67874	2.91668
75	1.25220	2.77263	2.76960	1.24389	2.66450	2.91573
76	1.70276	3.70019	3.69095	1.24389	2.66961	2.91738
77	1.70276	3.69803	3.68565	1.69307	3.54171	3.86986
78	1.70276	3.69136	3.68505	1.69307	3.54131	3.87212
79	1.70276	3.68832	3.68551	1.69307	3.55740	3.87749
80	1.70276	3.70415	3.68986	1.69307	3.55007	3.87737
81	1.89210	4.05605	4.05437	1.69307	3.54940	3.86912
82	1.89210	4.06404	4.05600	1.90234	3.94642	4.31083
83	1.89210	4.07139	4.05390	1.90234	3.95235	4.31034
84	1.89210	4.05490	4.04918	1.90234	3.94138	4.30461
85	1.89210	4.05750	4.05666	1.90234	3.94598	4.30190
86	.	.	.	1.90234	3.94143	4.29531

APPENDIX 8AC - APM 5AC - APM 6

OBS	X	Y2	Y6	X	Y2	Y6
1	0.00000	0.00637	0.00596	0.00000	0.00642	0.00609
2	0.00000	0.00598	0.00519	0.00000	0.00554	0.00513
3	0.00000	0.00596	0.00508	0.00000	0.00642	0.00621
4	0.00000	0.00581	0.00526	0.00000	0.00565	0.00541
5	0.00000	0.00593	0.00532	0.00000	0.00590	0.00568
6	0.00000	0.00592	0.00553	0.00864	0.02582	0.02540
7	0.00934	0.02615	0.02659	0.00864	0.02555	0.02547
8	0.00934	0.02691	0.02794	0.00864	0.02597	0.02598
9	0.00934	0.02664	0.02719	0.00864	0.02588	0.02576
10	0.00934	0.02655	0.02742	0.06967	0.16378	0.16530
11	0.00934	0.02629	0.02752	0.06967	0.16359	0.16552
12	0.06967	0.15820	0.17018	0.06967	0.16379	0.16514
13	0.06967	0.15849	0.17017	0.06967	0.16312	0.16524
14	0.06967	0.15896	0.17037	0.11445	0.26524	0.26874
15	0.06967	0.15864	0.16995	0.11445	0.26539	0.26871
16	0.06967	0.15896	0.17061	0.11445	0.26638	0.26905
17	0.11445	0.25188	0.27007	0.11445	0.26516	0.26780
18	0.11445	0.25176	0.27111	0.11445	0.26497	0.26828
19	0.11445	0.25206	0.27063	0.13821	0.32007	0.32322
20	0.11445	0.25209	0.27058	0.13821	0.32017	0.32383
21	0.11445	0.25176	0.27102	0.13821	0.32038	0.32404
22	0.13821	0.30549	0.32825	0.13821	0.32004	0.32394
23	0.13821	0.30480	0.32820	0.13821	0.32052	0.32460
24	0.13821	0.30619	0.32954	0.23358	0.54082	0.54811
25	0.13821	0.30522	0.32870	0.23358	0.54149	0.54780
26	0.13821	0.30516	0.32881	0.23358	0.54080	0.54728
27	0.23000	0.50021	0.53933	0.23358	0.54128	0.54793
28	0.23000	0.50183	0.53976	0.23358	0.54317	0.54886
29	0.23000	0.50033	0.53853	0.27089	0.61840	0.62566
30	0.23000	0.49952	0.53953	0.27089	0.61794	0.62643
31	0.23000	0.50061	0.53994	0.27089	0.61880	0.62649
32	0.27089	0.59331	0.63840	0.27089	0.61834	0.62504
33	0.27089	0.59238	0.63809	0.27089	0.61764	0.62477
34	0.27089	0.59201	0.63991	0.30684	0.69730	0.70629
35	0.27089	0.59372	0.63934	0.30684	0.69967	0.70786
36	0.27089	0.59444	0.63913	0.30684	0.69878	0.70754
37	0.31513	0.68495	0.73706	0.30684	0.69916	0.70722
38	0.31513	0.68354	0.73681	0.30684	0.69875	0.70685
39	0.31513	0.68226	0.73730	0.30684	0.69907	0.70769
40	0.31513	0.68371	0.73848	0.35382	0.80623	0.81628
41	0.31513	0.68468	0.73843	0.35382	0.80588	0.81630
42	0.35382	0.76838	0.82919	0.35382	0.80669	0.81609
43	0.35382	0.76788	0.82842	0.35382	0.80742	0.81819
44	0.35382	0.76906	0.82972	0.35382	0.80869	0.81760
45	0.35382	0.77065	0.83021	0.39943	0.91169	0.92325
46	0.35382	0.77041	0.83032	0.39943	0.91093	0.92200
47	0.39943	0.86306	0.92980	0.39943	0.90918	0.92168
48	0.39943	0.86317	0.92925	0.39943	0.91080	0.92172

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APPENDIX 8

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AC - APM 5

AC - APM 6

OBS	X	Y2	Y6	X	Y2	Y6
49	0.39943	0.86168	0.93033	0.39943	0.91059	0.92195
50	0.39943	0.86191	0.93022	0.44780	1.00820	1.02077
51	0.39943	0.86140	0.93091	0.44780	1.00689	1.02053
52	0.44284	0.95790	1.03397	0.44780	1.00770	1.02002
53	0.44284	0.95896	1.03402	0.44780	1.00968	1.02114
54	0.44284	0.95837	1.03418	0.44780	1.00938	1.02200
55	0.44284	0.95965	1.03433	0.49370	1.11326	1.12881
56	0.44284	0.95915	1.03437	0.49370	1.11453	1.12789
57	0.49370	1.06340	1.14485	0.49370	1.11307	1.12705
58	0.49370	1.06143	1.14574	0.49370	1.11141	1.12627
59	0.49370	1.06365	1.14549	0.49370	1.11137	1.12539
60	0.49370	1.06077	1.14500	0.55284	1.24420	1.25947
61	0.49370	1.06261	1.14441	0.55284	1.24341	1.25880
62	0.54732	1.17120	1.26127	0.55284	1.24409	1.26014
63	0.54732	1.17232	1.26056	0.55284	1.24576	1.26204
64	0.54732	1.16774	1.25869	0.55284	1.24480	1.26063
65	0.54732	1.17001	1.25912	0.87074	1.94246	1.96904
66	0.54732	1.16686	1.25765	0.87074	1.94713	1.97113
67	0.86381	1.82518	1.96973	0.87074	1.94600	1.97077
68	0.86381	1.82542	1.97043	0.87074	1.94585	1.96982
69	0.86381	1.82766	1.97167	0.87074	1.94835	1.97317
70	0.86381	1.83209	1.97192	1.24389	2.73024	2.76984
71	0.86381	1.83109	1.97124	1.24389	2.73419	2.77028
72	1.23561	2.57371	2.77288	1.24389	2.73496	2.77399
73	1.23561	2.57919	2.77858	1.24389	2.73103	2.77044
74	1.23561	2.57848	2.78353	1.24389	2.73452	2.77128
75	1.23561	2.58437	2.78047	1.70276	3.65275	3.71036
76	1.23561	2.57917	2.77587	1.70276	3.65021	3.70800
77	1.70276	3.49159	3.75786	1.70276	3.65181	3.70562
78	1.70276	3.49042	3.75523	1.70276	3.65056	3.70424
79	1.70276	3.48663	3.75258	1.70276	3.65361	3.70775
80	1.70276	3.48043	3.75263	1.89210	4.00517	4.07103
81	1.70276	3.48380	3.75735	1.89210	4.00802	4.07136
82	1.89210	3.83565	4.13017	1.89210	4.00943	4.07489
83	1.89210	3.83083	4.13790	1.89210	4.02234	4.07915
84	1.89210	3.83587	4.13717	1.89210	4.01344	4.07488
85	1.89210	3.83373	4.13198	:	:	:
86	1.89210	3.83299	4.13061	:	:	:

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APPENDIX 9AC - APM 7AC - APM 8

OBS	X	Y2	Y6	X	Y2	Y6
1	0.00000	0.00573	0.00638	0.00000	0.00744	0.00667
2	0.00000	0.00584	0.00631	0.00000	0.00706	0.00607
3	0.00000	0.00611	0.00627	0.00000	0.00753	0.00667
4	0.00000	0.00574	0.00556	0.00000	0.00675	0.00584
5	0.00000	0.00636	0.00702	0.00000	0.00671	0.00573
6	0.00864	0.02593	0.02782	0.00796	0.02503	0.02578
7	0.00864	0.02573	0.02712	0.00796	0.02528	0.02584
8	0.00864	0.02594	0.02739	0.00796	0.02506	0.02562
9	0.00864	0.02586	0.02737	0.00796	0.02496	0.02568
10	0.00864	0.02611	0.02772	0.00796	0.02478	0.02422
11	0.06772	0.15495	0.16683	0.06772	0.15672	0.17198
12	0.06772	0.15580	0.16765	0.06772	0.15643	0.17064
13	0.06772	0.15573	0.16739	0.06772	0.15734	0.17112
14	0.06772	0.15592	0.16764	0.06772	0.15675	0.17215
15	0.06772	0.15579	0.16698	0.06772	0.15700	0.17133
16	0.10948	0.24805	0.26630	0.11195	0.24842	0.27145
17	0.10948	0.24765	0.26585	0.11195	0.24885	0.27162
18	0.10948	0.24793	0.26590	0.11195	0.24868	0.27097
19	0.10948	0.24756	0.26638	0.11195	0.24888	0.27169
20	0.10948	0.24764	0.26603	0.11195	0.24902	0.27183
21	0.13821	0.31324	0.33634	0.13546	0.30103	0.32995
22	0.13821	0.31322	0.33663	0.13546	0.30187	0.33004
23	0.13821	0.31352	0.33613	0.13546	0.30189	0.33044
24	0.13821	0.31311	0.33579	0.13546	0.30006	0.32965
25	0.13821	0.31295	0.33540	0.13546	0.30138	0.32955
26	0.23358	0.51890	0.55717	0.23358	0.51461	0.56554
27	0.23358	0.52034	0.55766	0.23358	0.51554	0.56554
28	0.23358	0.51978	0.55750	0.23358	0.51684	0.56641
29	0.23358	0.51924	0.55772	0.23358	0.51541	0.56412
30	0.23358	0.51945	0.55850	0.23358	0.51421	0.56405
31	0.27477	0.60941	0.65312	0.27089	0.58679	0.64669
32	0.27477	0.60717	0.65370	0.27089	0.59026	0.64814
33	0.27477	0.61021	0.65521	0.27089	0.59020	0.64713
34	0.27477	0.61073	0.65583	0.27089	0.59190	0.64727
35	0.27477	0.60788	0.65445	0.27089	0.58758	0.64660
36	0.31097	0.69419	0.74572	0.31097	0.68391	0.75028
37	0.31097	0.69313	0.74431	0.31097	0.68626	0.74998
38	0.31097	0.69569	0.74711	0.31097	0.68454	0.74875
39	0.31097	0.69533	0.74625	0.31097	0.68333	0.74760
40	0.31097	0.69315	0.74475	0.31097	0.68178	0.74771
41	0.35825	0.79057	0.85012	0.35382	0.76921	0.84654
42	0.35825	0.79134	0.84987	0.35382	0.76963	0.84807
43	0.35825	0.79155	0.85069	0.35382	0.77022	0.84775
44	0.35825	0.79026	0.85003	0.35382	0.77399	0.84749
45	0.35825	0.79198	0.84961	0.35382	0.77144	0.84460
46	0.39943	0.87565	0.94222	0.39943	0.85539	0.94098
47	0.39943	0.87689	0.94042	0.39943	0.85466	0.94011
48	0.39943	0.87404	0.93926	0.39943	0.85784	0.94274

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APPENDIX 9

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AC - APM 7

AC - APM 8

OBS	X	Y2	Y6	X	Y2	Y6
49	0.39943	0.87155	0.93799	0.39943	0.85929	0.94119
50	0.39943	0.87565	0.94106	0.39943	0.85983	0.93968
51	0.44284	0.98108	1.05290	0.45279	0.96413	1.05861
52	0.44284	0.98060	1.05305	0.45279	0.96434	1.05620
53	0.44284	0.97844	1.05004	0.45279	0.96458	1.05662
54	0.44284	0.97890	1.05153	0.45279	0.96398	1.05631
55	0.44284	0.97986	1.05142	0.45279	0.96337	1.05599
56	0.49370	1.08221	1.16031	0.50420	1.06150	1.16666
57	0.49370	1.07955	1.15962	0.50420	1.06256	1.16535
58	0.49370	1.08082	1.16107	0.50420	1.06235	1.16615
59	0.49370	1.08123	1.16259	0.50420	1.05983	1.16572
60	0.49370	1.07974	1.16190	0.50420	1.06242	1.16579
61	0.55838	1.22228	1.31441	0.55284	1.19775	1.31342
62	0.55838	1.21879	1.31040	0.55284	1.19838	1.31266
63	0.55838	1.21776	1.31169	0.55284	1.18905	1.30761
64	0.55838	1.21995	1.31185	0.55284	1.19080	1.30962
65	0.55838	1.22122	1.31071	0.55284	1.19615	1.31295
66	0.87074	1.87435	2.01347	0.87074	1.84916	2.02927
67	0.87074	1.88101	2.01823	0.87074	1.85486	2.03207
68	0.87074	1.88074	2.01831	0.87074	1.85347	2.03146
69	0.87074	1.87909	2.01586	0.87074	1.85224	2.03264
70	0.87074	1.88184	2.01727	0.87074	1.84170	2.03012
71	1.24389	2.66134	2.85603	1.25220	2.60995	2.86268
72	1.24389	2.65826	2.85467	1.25220	2.61422	2.86156
73	1.24389	2.66738	2.85670	1.25220	2.61454	2.86126
74	1.24389	2.66625	2.85683	1.25220	2.60001	2.85885
75	1.24389	2.66184	2.85744	1.25220	2.59973	2.86174
76	1.69307	3.54897	3.79962	1.69307	3.48889	3.81610
77	1.69307	3.54676	3.80030	1.69307	3.48023	3.81633
78	1.69307	3.54357	3.79964	1.69307	3.48751	3.81276
79	1.69307	3.54110	3.79821	1.69307	3.49187	3.82463
80	1.69307	3.53548	3.79526	1.69307	3.47859	3.81800
81	1.89210	3.91933	4.19794	1.89210	3.84431	4.21306
82	1.89210	3.91646	4.19953	1.89210	3.83877	4.20206
83	1.89210	3.91851	4.19489	1.89210	3.82203	4.19730
84	1.89210	3.91413	4.19251	1.89210	3.83094	4.19984
85	1.89210	3.91392	4.19399	1.89210	3.82679	4.20469

APPENDIX 10AC - APM 9

OBS	X	Y2	Y
1	0.00000	0.00562	0.01165
2	0.00000	0.00549	0.01127
3	0.00000	0.00568	0.01137
4	0.00000	0.00584	0.01137
5	0.00000	0.00594	0.01148
6	0.00864	0.02519	0.03158
7	0.00864	0.02565	0.03150
8	0.00864	0.02622	0.03251
9	0.00864	0.02592	0.03270
10	0.00864	0.02628	0.03236
11	0.06772	0.16378	0.17515
12	0.06772	0.16416	0.17592
13	0.06772	0.16551	0.17603
14	0.06772	0.16568	0.17769
15	0.06772	0.16520	0.17716
16	0.11445	0.26813	0.28293
17	0.11195	0.26769	0.28343
18	0.11195	0.26921	0.28392
19	0.11195	0.26866	0.28312
20	0.11195	0.26951	0.28390
21	0.13821	0.32391	0.34086
22	0.13821	0.32505	0.34032
23	0.13821	0.32420	0.34027
24	0.13821	0.32377	0.34044
25	0.13821	0.32520	0.34049
26	0.23358	0.54991	0.57325
27	0.23358	0.54800	0.57265
28	0.23358	0.54837	0.57225
29	0.23358	0.54816	0.57187
30	0.23358	0.54878	0.57384
31	0.27089	0.62827	0.65504
32	0.27089	0.62709	0.65500
33	0.27089	0.62931	0.65686
34	0.27089	0.62989	0.65636
35	0.27089	0.62878	0.65595
36	0.30684	0.71756	0.74630
37	0.30684	0.71312	0.74291
38	0.30684	0.71230	0.74071
39	0.30684	0.71261	0.74128
40	0.30684	0.71346	0.74089
41	0.30684	0.71420	0.74200
42	0.35382	0.82060	0.85419
43	0.35382	0.82317	0.85654
44	0.35382	0.82475	0.85746
45	0.35382	0.82561	0.85748
46	0.35382	0.82518	0.85753
47	0.39943	0.92668	0.96289

APPENDIX 10

( CONTINUED )

AC - APM 9

OBS	X	Y2	Y
48	0.39943	0.92782	0.96467
49	0.39943	0.92974	0.96455
50	0.39943	0.92771	0.96365
51	0.39943	0.92762	0.96327
52	0.44284	1.02426	1.06268
53	0.44284	1.02624	1.06686
54	0.44284	1.02870	1.06847
55	0.44284	1.03026	1.06959
56	0.44284	1.02602	1.06748
57	0.50420	1.17098	1.21512
58	0.50420	1.17256	1.21416
59	0.50420	1.16960	1.21179
60	0.50420	1.16993	1.21346
61	0.50420	1.16848	1.21368
62	0.55284	1.27763	1.32935
63	0.55284	1.28306	1.33034
64	0.55284	1.28059	1.32803
65	0.55284	1.28585	1.33136
66	0.55284	1.28532	1.33126
67	0.86381	1.96198	2.03404
68	0.86381	1.96130	2.03436
69	0.86381	1.96342	2.03882
70	0.86381	1.97471	2.04520
71	0.86381	1.97014	2.03672
72	0.86381	1.97614	2.04520
73	1.25220	2.80734	2.90559
74	1.25220	2.80583	2.90328
75	1.25220	2.80093	2.90123
76	1.25220	2.80402	2.90576
77	1.25220	2.80618	2.90522
78	1.25220	2.80654	2.90720
79	1.69307	3.68873	3.82662
80	1.69307	3.70038	3.83200
81	1.69307	3.69648	3.83537
82	1.69307	3.70129	3.83445
83	1.69307	3.69378	3.83532
84	1.89210	4.07489	4.22921
85	1.89210	4.07048	4.22537
86	1.89210	4.07308	4.22633
87	1.89210	4.07044	4.22834
88	1.89210	4.08990	4.23773

APPENDIX 11

## DC REGRESSION STATISTICS FROM SAS PROGRAM ( APPENDIX 13 )

SENSOR 2

	<b>A2</b>	<b>B2</b>	<b>S2A2</b>	<b>S2B2</b>	<b>CA2B2</b>	<b>SIG_RND2</b>
			<u>VAR(A2)</u>	<u>VAR(B2)</u>	<u>COV(A2,B2)</u>	<u>RESIDUAL σ</u>
DC - APM 1	2.40218	-0.29891	.000094999	.0013399	-.00034687	.0057737
DC - APM 2	2.48180	-0.23555	.000025715	.00036247	-.000093844	.0032812
DC - APM 3	2.43333	-0.19163	.000121100	.0017587	-.00044985	.0065067
DC - APM 4	2.34244	-0.23106	.000034243	.00049490	-.00012679	.0035625
DC - APM 5	2.23200	-0.12390	.000005784	.0000024038	-.0000035164	.0057302
DC - APM 6	2.53383	-0.22031	.000281530	.00011739	-.00017191	.038773
DC - APM 7	2.27397	-0.11996	.000008475	.0000035138	-.0000051553	.0067758
DC - APM 8	2.23847	-0.11737	.000011604	.0000048487	-.0000070862	.0079245
DC - APM 9	2.35066	-0.12727	.000011617	.0000048318	-.0000070787	.0079380

SENSOR 6

	<b>A6</b>	<b>B6</b>	<b>S2A6</b>	<b>S2B6</b>	<b>CA6B6</b>	<b>SIG_RND6</b>
			<u>VAR(A6)</u>	<u>VAR(B6)</u>	<u>COV(A6,B6)</u>	<u>RESIDUAL σ</u>
DC - APM 1	2.85653	-0.39502	.000041610	.00058686	-.00015193	.0038211
DC - APM 2	2.59660	-0.32508	.000012231	.00017241	-.000044637	.0022629
DC - APM 3	2.73213	-0.35545	.000032231	.00046809	-.00011973	.0033568
DC - APM 4	2.74948	-0.24175	.000022982	.00033214	-.000085094	.0029185
DC - APM 5	2.59965	-0.15042	.000006874	.0000028569	-.0000041791	.0062469
DC - APM 6	2.41077	-0.12439	.000010075	.0000042010	-.0000061520	.0073348
DC - APM 7	2.63266	-0.15703	.000006083	.0000025224	-.0000037007	.0057409
DC - APM 8	2.75544	-0.18799	.000008838	.0000036929	-.0000053969	.0069158
DC - APM 9	2.66858	-0.17024	.000008688	.0000036139	-.0000052944	.0068650

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APPENDIX 12

AC REGRESSION STATISTICS FROM SAS PROGRAM ( APPENDIX 13 )

SENSOR 2

	A2	B2	S2A2	S2B2	CA2B2	SIG_RND2
			<u>VAR(A2)</u>	<u>VAR(B2)</u>	<u>COV(A2,B2)</u>	<u>RESIDUAL σ</u>
AC - APM 1	2.27184	-0.09700	.000012973	.0000052628	-.0000078513	.0078515
AC - APM 2	2.38079	-0.10363	.000028652	.000011794	-.000017375	.012400
AC - APM 3	2.33708	-0.09956	.0000054044	.0000022292	-.0000032841	.0053506
AC - APM 4	2.26693	-0.10099	.0000049089	.0000020296	-.0000029809	.0051885
AC - APM 5	2.19808	-0.08999	.0000031102	.0000012819	-.0000018883	.0040609
AC - APM 6	2.31787	-0.10277	.0000054123	.0000022354	-.0000032888	.0053819
AC - APM 7	2.24420	-0.09057	.0000061219	.0000025373	-.0000037276	.0056968
AC - APM 8	2.19399	-0.08586	.000021280	.0000088197	-.00001296	.010617
AC - APM 9	2.37943	-0.11714	.0000056444	.0000023887	-.0000034715	.0056194

SENSOR 6

	A6	B6	S2A6	S2B6	CA6B6	SIG_RND6
			<u>VAR(A6)</u>	<u>VAR(B6)</u>	<u>COV(A6,B6)</u>	<u>RESIDUAL σ</u>
AC - APM 1	2.45837	-0.11059	.000015748	.0000063884	-.0000095305	.0086505
AC - APM 2	2.33745	-0.09809	.000026235	.000010799	-.000015909	.011865
AC - APM 3	2.32748	-0.09648	.0000040646	.0000016765	-.0000024699	.0046402
AC - APM 4	2.47832	-0.11263	.0000050422	.0000020847	-.0000030619	.0052585
AC - APM 5	2.36870	-0.09693	.0000028760	.0000011854	-.0000017461	.0039050
AC - APM 6	2.34425	-0.09923	.0000048483	.0000020024	-.0000029460	.0050938
AC - APM 7	2.41247	-0.10123	.0000061850	.0000025634	-.0000037660	.0057260
AC - APM 8	2.40844	-0.09593	.000020439	.0000084714	-.000012448	.010405
AC - APM 9	2.46954	-0.12265	.0000052908	.0000022391	-.0000032541	.0054406

APPENDIX 13

## ( SAS PROGRAM FOR APM CALIBRATION )

```

GOPTIONS DEVICE=PS2EGA;
* *****;
* APM CALIBRATION CSA 2-SIGMA , SAS - PC RELEASE 6.04 ;
* APM CALIBRATION CSA 2-SIGMA , SAS - PC RELEASE 6.04 ;
* APM CALIBRATION CSA 2-SIGMA , SAS - PC RELEASE 6.04 ;
* APM CALIBRATION CSA 2-SIGMA , SAS - PC RELEASE 6.04 ;
* APM CALIBRATION CSA 2-SIGMA , SAS - PC RELEASE 6.04 ;
* *****;

*-----;
* SENSOR 2 SENSOR 2 SENSOR 2 SENSOR 2 SENSOR 2 SENSOR 2 SENSOR 2;
* SENSOR 2 SENSOR 2 SENSOR 2 SENSOR 2 SENSOR 2 SENSOR 2 SENSOR 2;

DATA D0;
INFILE 'D:\TOM\ROD1123.TXT';
INPUT A1-A13;
Y=A11;      * FOR SENSOR 2 (MV);
X=A10;      * WATTS/ GRAM;
           W=1;      **** FOR UNWEIGHTED REGRESSION;
X2=X*X;
DROP A1-A9    A13;
DATA D0;SET D0;
IF X LE 0.0001 THEN DELETE;
PROC PRINT DATA=D0(OBS=50) UNIFORM;
PROC REG DATA=D0 OUTEST=COEFF COVOUT;
MODEL Y=X X2/ COVB NOINT;
WEIGHT W;
DATA D1; SET COEFF; N=1;
IF _TYPE_= 'PARMS' THEN DO;
  MSE=_RMSE_**2;
  B1=X;
  B2=X2;OUTPUT;
END;
DATA D3; SET COEFF; N=1;
IF _TYPE_= 'COV' AND _NAME_= 'X' THEN DO;
  V_B1=X;
  C_12=X2;OUTPUT;
END;
DATA D4; SET COEFF; N=1;
IF _TYPE_= 'COV' AND _NAME_= 'X2' THEN DO;
  V_B2=X2;OUTPUT;
END;
DATA DZ;SET D0;N=1;IF _N_=1 THEN OUTPUT; KEEP N;
DATA STATS2; MERGE D1 D3 D4 DZ;BY N;
DROP B1    V_B1 V_B2 C_12 MSE;
ID=1;
A2=B1;
B2=B2;
S2A2=V_B1;

```

APPENDIX 13

( CONTINUED )

```

S2B2=V_B2;
CA2B2=C_12;
MSE2=MSE;
SIG_RND2=SQRT(MSE);
PROC PRINT;

*-----;
*-----;
*-----;
*-----;
* SENSOR 6 SENSOR 6 SENSOR 6 SENSOR 6 SENSOR 6 SENSOR 6 SENSOR 6;
* SENSOR 6 SENSOR 6 SENSOR 6 SENSOR 6 SENSOR 6 SENSOR 6 SENSOR 6;

DATA DO;SET DO;
Y=A12;      * FOR SENSOR 6 IN (MV);
X=A10;      * WATTS/ GRAM;
W=1;
X2=X*X;
DROP A10 A12;
DATA DO;SET DO;
IF X LE 0.0001 THEN DELETE;
PROC REG DATA=DO OUTEST=COEFF COVOUT;
  MODEL Y=X X2/ COVB NOINT;
  WEIGHT W;
DATA D1; SET COEFF; N=1;
  IF _TYPE_= 'PARMS' THEN DO;
    MSE=_RMSE_**2;
    B1=X;
    B2=X2;OUTPUT;
  END;
DATA D3; SET COEFF; N=1;
  IF _TYPE_= 'COV' AND _NAME_= 'X' THEN DO;
    V_B1=X;
    C_12=X2;OUTPUT;
  END;
DATA D4; SET COEFF; N=1;
  IF _TYPE_= 'COV' AND _NAME_= 'X2' THEN DO;
    V_B2=X2;OUTPUT;
  END;
DATA DZ;SET DO;N=1;IF _N_=1 THEN OUTPUT; KEEP N;
DATA STATS6; MERGE D1 D3 D4 DZ;BY N;
  DROP B1 B2 V_B1 V_B2 C_12 MSE;
  ID=1;
  A6=B1;
  B6=B2;
  S2A6=V_B1;
  S2B6=V_B2;
  CA6B6=C_12;
  MSE6=MSE;

```

APPENDIX 13

( CONTINUED )

```

SIG_RND6=SQRT(MSE);
PROC PRINT;
DATA STATS26;MERGE STATS2 STATS6;BY ID;
PROC PRINT;VAR A2 B2 S2A2 S2B2 CA2B2 SIG_RND2;
  TITLE 'SENSOR 2 REGRESSION STATISTICS';
PROC PRINT;VAR A6 B6 S2A6 S2B6 CA6B6 SIG_RND6;
  TITLE 'SENSOR 6 REGRESSION STATISTICS';

DATA STATS26;SET STATS26;
  TO_MIN=0.80;
  TO_MAX=1.50;
DO X= 0.05 TO 0.3 BY .05;
DO T=TO_MIN TO TO_MAX BY 0.05;

D1= (A6+B6*X)**2;
N1=S2A2*T**2 + S2B2*X*X*T**4 +CA2B2*2*(T**3)*X;

TEMP=A2*T+B2*X*T**2;
P=TEMP/(A6+B6*X);
TMP=TEMP**2;
N2=TMP*S2A6 +(X**2)*TMP*S2B6 + 2*X*TMP*CA6B6;
V_SYS= N1/D1 + N2/(D1**2);
DDD= (A2*X*T+B2*T*T*X*X)/( (A6*X+B6*X*X)**2 );
V_RND= MSE2*( 1/(A6*X+B6*X*X) )**2 + MSE6*DDD**2;
SIG_CH=0.0034;           *BOUND ON CHANNEL STANDARD DEVIATION;
V_RND_N= (MSE2+ SIG_CH**2)*( 1/(A6*X+B6*X*X) )**2 +
        (MSE6+ SIG_CH**2)*DDD**2;
V_TOT=V_SYS+V_RND;
V_TOT_N=V_SYS+V_RND_N;
S_SYS=SQRT(V_SYS);

S_RND=SQRT(V_RND);
S_RND_N=SQRT(V_RND_N);

S_TOT=SQRT(V_TOT);
S_TOT_N=SQRT(V_TOT_N);
PCT_TO=100*S_TOT/P;
PCT_TO_N=100*S_TOT_N/P;
HI=P+2*S_TOT;
LO=P-2*S_TOT;

DER= (A2+2*B2*T*X)/(A6+B6*X);
T_MIN=T - 2*(S_SYS+S_RND)/ DER;
T_MAX=T + 2*(S_SYS+S_RND)/ DER;
T_MIN_N=T - 2*(S_SYS+S_RND_N)/ DER;
T_MAX_N=T + 2*(S_SYS+S_RND_N)/ DER;
OUTPUT;END;END;

PROC PRINT UNIFORM; VAR X T T_MIN T_MIN_N T_MAX T_MAX_N P PCT_TO
                  PCT_TO_N;

```

APPENDIX 13

( CONTINUED )

```
TITLE1 '***** X= SENSOR6 WATTS PER GRAM *****';
TITLE2 '***** T= UNOBSERVED ACTUAL ROOF-TOP RATIO *****';
TITLE3 '***** T_MIN LOWER 95% CONFIDENCE BOUND ON T *****';
TITLE4 '***** T_MIN_N LOWER 95% CONFIDENCE BOUND ON T WITH CSA';
TITLE5 '***** T_MAX UPPER 95% CONFIDENCE BOUND ON T *****';
TITLE6 '***** T_MAX_N UPPER 95% CONFIDENCE BOUND ON T WITH CSA*****';
TITLE7 '***** P= OBSERVED ROOF-TOP RATIO *****';
RUN;
```

```
PROC SORT DATA=STATS26; BY DESCENDING T_MAX_N;
PROC PRINT UNIFORM; VAR X T T_MIN T_MIN_N T_MAX T_MAX_N P PCT_TO
PCT_TO_N;
TITLE1 'SORTED BY T_MAX_N';
PROC SORT DATA=STATS26; BY T_MIN_N;
PROC PRINT UNIFORM; VAR X T T_MIN T_MIN_N T_MAX T_MAX_N P PCT_TO
PCT_TO_N;
TITLE1 'SORTED BY T_MIN_N';
RUN;
```

**Appendix 14: The Method of Propagation of Errors**

The description of the method of propagation of errors provided in this appendix is from [3]. Assume that the random variables  $x_1, x_2, \dots, x_n$  have means  $\mu_1, \mu_2, \dots, \mu_n$  and variances  $\sigma_{11}, \sigma_{22}, \dots, \sigma_{nn}$ . Let the covariance between  $x_i$  and  $x_j$  be given by  $\sigma_{ij}$  and let  $u$  represent a derived value that may be expressed a function  $f$  of the  $x$ 's:

$$u = f(x_1, x_2, \dots, x_n)$$

The variance of  $u$ ,  $V(u)$ , is approximated by

$$\begin{aligned} V(u) \approx & (\partial f / \partial x_1)^2 \sigma_{11} + (\partial f / \partial x_2)^2 \sigma_{22} + \dots + (\partial f / \partial x_n)^2 \sigma_{nn} \\ & + 2 (\partial f / \partial x_1) (\partial f / \partial x_2) \sigma_{12} + \dots + 2 (\partial f / \partial x_1) (\partial f / \partial x_n) \sigma_{1n} \\ & + \dots + \\ & + 2 (\partial f / \partial x_{n-1}) (\partial f / \partial x_n) \sigma_{n-1,n} \end{aligned}$$

The partial derivatives,  $(\partial f / \partial \cdot)$ , are evaluated at the mean values of the random variables.

**END**

**DATE  
FILMED  
9/15/93**

