ARCS SMET Datalogger and Sensor Field Calibration Form

I. Calibration information

	Calibration	Calibration Check	Field Calibration
This is a (check which):			X

Date:	GMT Begin Time:		GMT End Date:	GMT End Time:	ARCS #
8/9/1999	3:15	4:25			2

Instrument / System:	TWP OMS Part Number(s):	TWP OMS Serial Number(s):
SMET Data Logger	ZENO-3200(SMET)	300

Current Configuration Version:	New Configuration Version
V990314.00.00	

Location (eg. PNNL, Manus):	Participant(s):	Issued by:	Signature(s):
Nauru	W. Porch		
	C. Cornwall		

Reference Instrument(s):	TWP OMS Part Number(s):	TWP OMS Serial Number(s)
Fluke 8842A Voltmeter	8842A	
Anemometer Drive	18801	CA01719
Vane Angle Bracket	18212	didn't have (guessed)
T/RH Indicator / Probe	HMI41 / HMP41/45	T1210149 / T1510001
Digital Barometer	PA11A	T1450041
Humidity Calibrator	HMK11	
Reference Thermometer	YSI4600	98B101084/95H1000180
Spare T/RH Probe		
Chilled Mirror		

Verify that reference instruments' serial numbers above are correct or modified(check box if true) **YES**

Verify that SMET instruments' serial numbers below are correct or modified(check box if true) **YES**

Document(s) Referenced:	Document(s) Updated:
PRO(DAQM)-005.001	

II. Initial Values

Sensor / Element: Serial Number:	Reference: Target Actual	Reading: Actual or Range	Reference: Target Actual	Reading: Actual or Range	Reference: Target Actual	Reading: Actual or Range
SMET/WindHi	10Hz / 1ms^{-1}		40Hz / 4ms^{-1}		160Hz / 16m	
31103/58318	250 rpm	12.7	800 rpm	40.0	1600 rpm	80.0
SMET/DirectionHi	0 deg.		90 deg.		270 deg.	
31103/58318	0	2.0		95.0		274.0
SMET/WindLo	10Hz / 1ms^{-1}		40Hz / 4ms^{-1}		160Hz / 16m	
28399/55531	235 rpm	11.5	800 rpm	40.1	1600 rpm	80.0
SMET/DirectionLo	0 deg.		90 deg.		270 deg.	
28399/55531		1.0		88.0		269.0
SMET/Barometer						
??????	1010.3 to 1030.4	1010.5				
SMET/Temperature	Vaisala		Chilled Mirror		BBSS ref probe	
S3740006	28.70	28.80	29.0-291	28.80	30.40	29.90
SMET/RH						
S3740006	69.5-70.2	69.8-70.1			69.8	69.8-70.2
SMET/ORG		unscaled		Scaled		
03317-C7		3.005		178.4 - 181.5		

Were there calibration changes? (yes / no) **NO**

NOTES:
Didn't have angle braket, Wind direction done by hand and guessing.
BBSS Vaisala reference probe in Stevenson Screen seems a little warm because Screen is not ventillated.
New ventillator worked great!
Rain Rate with no rain -.008 with input scaled RR about 180 raw about 3 Volts

II. Final Values

Sensor / Element Serial Number:	Reference: Target Actual	Reading: Actual	Reference: Target Actual	Reading: Actual	Reference: Target Actual	Reading: Actual

SMET/WindHi	10Hz / 1ms^{-1}		20Hz / 2ms^{-1}		40Hz / 4ms^{-1}	
s/n:						
SMET/DirectionHi	0 deg.		90 deg.		270 deg.	
s/n:						
SMET/WindLo	10Hz / 1ms^{-1}		20Hz / 2ms^{-1}		40Hz / 4ms^{-1}	
s/n:						
SMET/DirectionLo	0 deg.		270 deg.		270 deg.	
s/n:						
SMET/Barometer						
s/n:						
SMET/Temperature						
s/n:						
SMET/RH						
s/n:						
SMET/ORG						
s/n:						

IV **Statistics**(if applicable)

No. of Samples:	Std. Dev.	CF Range %	Uncertainty %

PROBLEMS:

Initially, the YSI Precision thermometer was reading over 1.5 ^{o}C higher than the SMET temperature sensor. Put in new sensor (WHICH/WHERE?), but still 1.5 - 3 ^{o}C difference. Put a new battery in YSI therm. and reduced difference to 0.5 ^{o}C . Need to recalibrate the YSI and better understand why battery voltage might affect the output temperature.