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Document Contact	Kimberly Cole: Lab Quality Coord
Area	Laboratory-Operations
Applicability	Dearborn

TempTrak® Temperature Monitoring - Dearborn

Procedure

I. PURPOSE AND OBJECTIVE:

The purpose of this document is to provide policies and procedure relating to the Cooper-Atkins TempTrak® Monitoring System (TempTrak).

II. PRINCIPLE:

A. The Cooper-Atkins TempTrak® system (TempTrak) is used by the Laboratory to continuously monitor and record the temperatures of refrigerators, freezers, heat blocks, water baths, incubators, blood product storage devices and select department room temperature and humidity monitors.

B. The temperatures are continuously recorded by each probe and sent as packets to the TempTrak server every 15 minutes. If any of the temperature are out of range an alert will be sent to the department.

C. In addition, the Blood Bank's component storage devices are also equipped with an internal alarm that will activate if the temperature is out of range. When an alarm is activated, appropriate action must be taken as described in Response to an Alarm Condition - Dearborn Blood Bank.

III. POLICY:

A. Temperature-dependent equipment (e.g. Refrigerators, freezers, incubators) containing reagents and/or patient/client specimens along with all Blood/Components and environments must be monitored each day of use.

B. All storage devices have an internal thermometer and a TempTrak sensor/probe. These thermometers and sensors are verified at installation and calibrated yearly against a National Institute of Standards and Technology (NIST) certified thermometer.

C. Daily checking of the TempTrak system must be made to verify proper operation of the equipment and recording system

D. Appropriate action must be taken should the temperature in the storage device reach a temperature that might result in harm to the blood and components, reagents and/or patient/client specimens.

E. Monthly review and signature of temperature charts/logs are required.

IV. EQUIPMENT:

Varies in each department. May include refrigerators, incubators, freezers, heat blocks, etc.

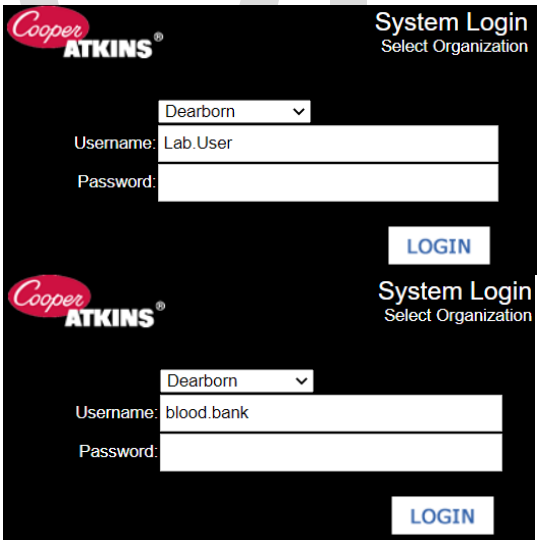
V. EQUIPMENT CALIBRATION AND MAINTENANCE:

TempTrak equipment maintained by Facilities Management. Each temperature probe/sensor is NIST certified upon installment and then calibrated against a NIST certified thermometer on a yearly basis by lab staff.

VI. PROCEDURE:

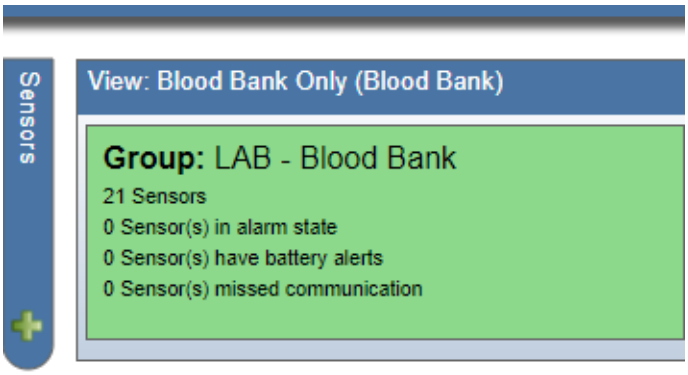
A. **Login to TempTrak**

1. On the Beaumont Intranet Home Page, Go to Departments, Facilities and Biomed, then on the right-hand side of the screen click "TempTrak". (Save link on your desktop) or directly access at TempTrak Login (beaumonthealth.org)
2. Select the Dearborn location using the drop-down arrow, enter user name and password (provided by Supervisor/Manager).
    a. General lab user name = Lab.User and Blood Bank user name = Blood.bank

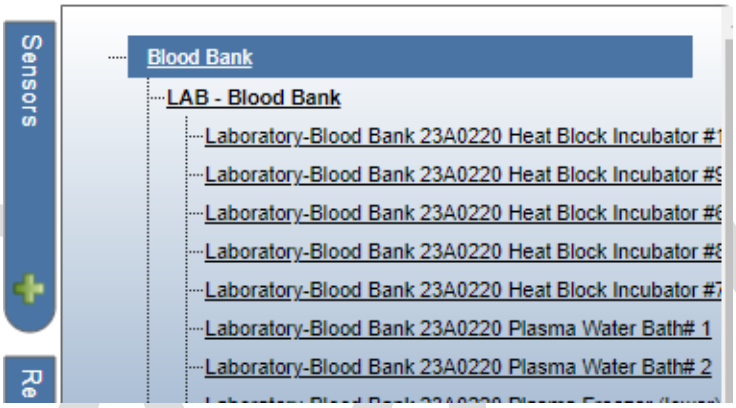


or

3. Click Login
4. Your department group should automatically open and display. Your screen will look similar to this, depending on your access.



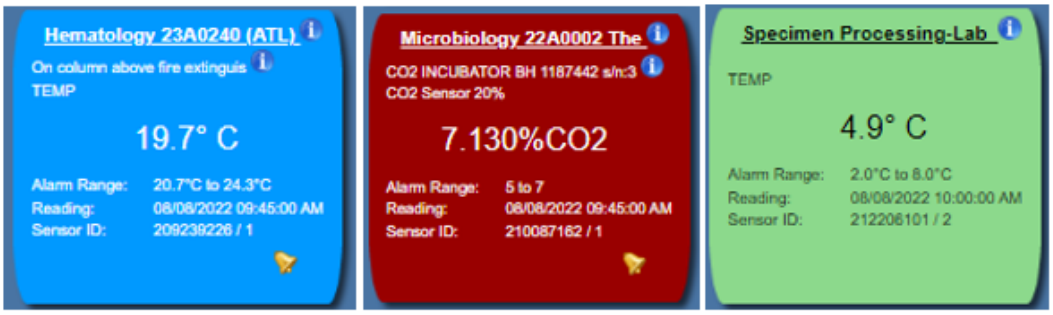
5. If the Department Group does not already open, click on the "Sensors" tab and then select your group from the main Sensor Readings screen.



6. Double click to open the group to display all of the temp trak sensors in the department.

B. **Daily Monitoring**

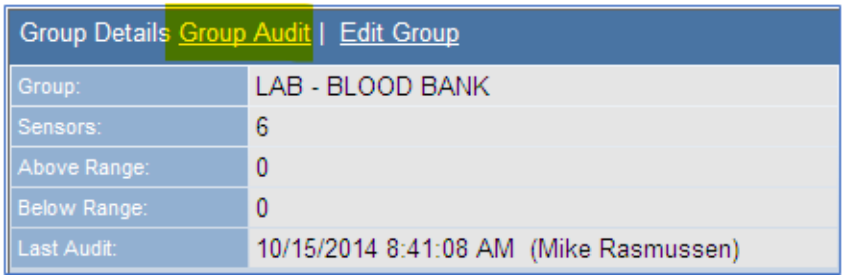
1. Verify that there are no devices out of temperature range as indicated by a red or blue box around the description of the refrigerator or freezer. **See section III C. Responding to Alarms for details on responding to an alarm**.



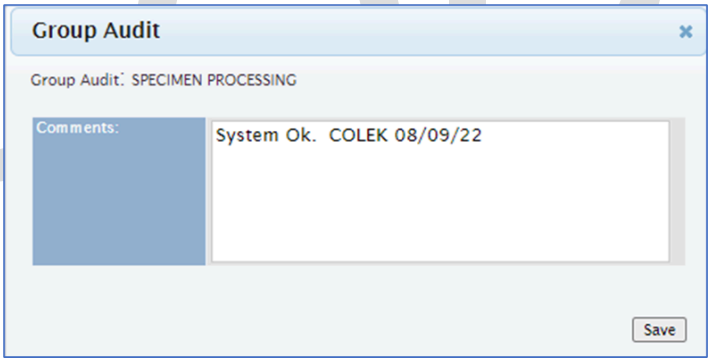
Too Cold Too Warm In Range.

2. Verify that there are no missed communications as indicated by a in the bottom right corner of the device displays. See section III D. Missed Communication if any devices are showing a missed communication.

3. If all the devices are within temperature and there are no missed communications, click on the “Group Audit” link near the top left of the display.



4. In the “Group Audit” “Comments” box, enter “System OK. All Devices within acceptable range." and your name.



5. Click on the “Save” button at the bottom.

C. **Responding to Alarms**

1. If any devices display as being out of temperature they should be investigated as to the reason.

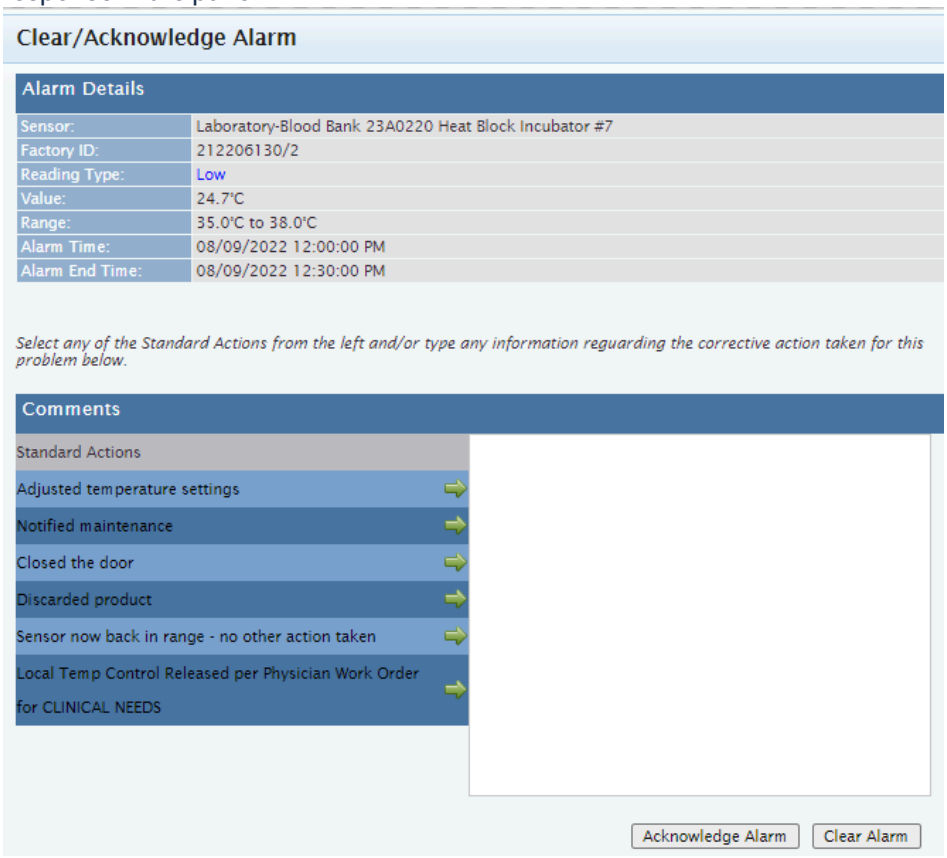
    a. View the alarm condition by clicking on the  to open and review the details of the alarm.

b. Verify that the sensor is properly in place or check for an open door or other mechanical issue.

c. Check the thermometer or digital read-out for the device to make sure that it is acceptable. Refer to Lab Policy, Temperature of Laboratory Refrigerators, Freezers, and Storage Devices and Transfusion Medicine Policies, Response to Alarm Condition - Dearborn Blood Bank and Manual Temperature Monitoring if there is an actual temperature problem.

d. Notify Facilities if the temperature in TempTrak remains out of range but the internal temperature is acceptable. If TempTrak continues to show an unacceptable temperature but the device is within the temperature range and the internal alarm not sounding, then temperatures will either need to be taken every four hours using the attached *Manual Temperature Monitor* form or chart recorder installed.

e. Click on *Clear/Acknowledge* to document alarm response. You can choose one of the standard actions by clicking on the  or entering a custom response in the pane.



i. Choose one of the standard action by clicking on the  or entering a custom response in the window.

ii. Click Acknowledge Alarm or Clear Alarm

a. Clear Alarm - Clears the Alarm and can generate new alarms if the devices goes back out of range.

b. Acknowledge Alarm - Only adds a note and does NOT

permanently resolve the alarm but stops alarm notifications. Once the condition causing the alarm is resolved it must be documented and the alarm cleared. Example: Equipment taken out of service for repair.

D. **Missed Communication**

1. The missed communication is indicated by a  in the bottom right corner of the device display. Each sensor has been programmed to send a temperature data packet to the TempTrak server every 15 minutes via Wi-Fi. If the expected packet is not received by the server for 30 minutes, a Missed Communication message appears. Failure to receive a data packet may be due to a network outage but is more likely to be caused by a random network error. Once communication is re-established, the data from the missing packets will be sent to the server.
2. If a missed communication error is displayed during daily monitoring, check the system again after several minutes have passed to make sure communication does occur. **If a missed communication should last for 2 hours notify Facilities of the problem.** In addition, manual temperatures will either need to be taken every four hours or a chart recorder installed. For Blood Bank refer to Transfusion Medicine policy, Manual Temperature Monitoring - Dearborn Blood Bank .
3. Document corrective action steps taken. Click on *Clear/Acknowledge* to document alarm response.

E. Battery Life

1. The TempTrak system will alarm when the sensor battery needs replacement. This is indicated by a  in the bottom right corner of the device display.
    a. Open a Service Request with Facilities for replacement.

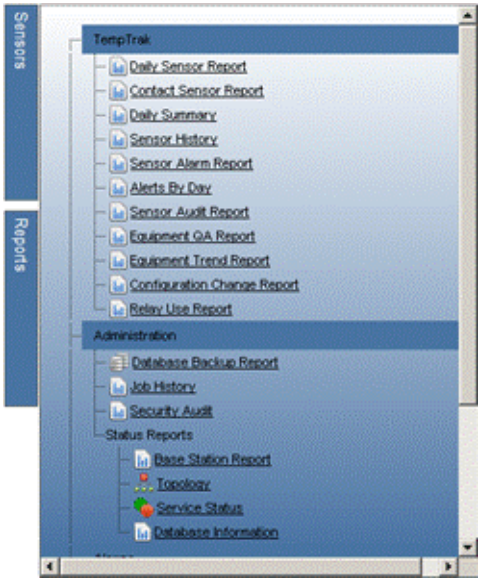
F. **Downtime**

1. If either an individual sensor or the TempTrak system goes down temperatures will either need to be taken every four hours or a chart recorder installed. For Blood Bank refer to Transfusion Medicine policy, Manual Temperature Monitoring - Dearborn Blood Bank. For other departments use department designated temperature charts.

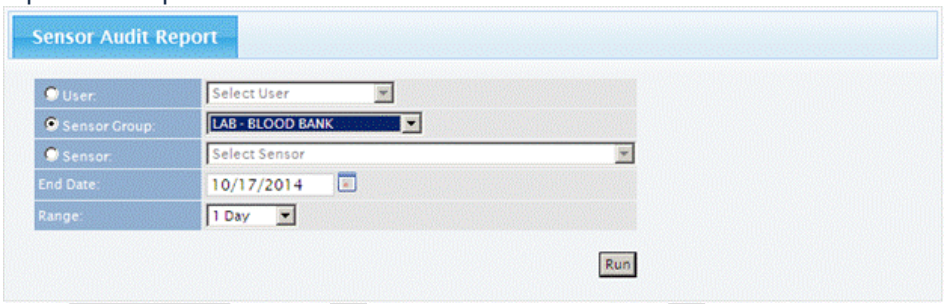
G. **Reports**

There are several types of reports available. The reports can be configured by the system administrator to be sent automatically to management emails or generated manually as described below. Click on the "Reports" tab and then Click on the report you want to generate.

1. **Sensor Audit Report**
   The Sensor Audit Report displays the daily reviews that are performed and can be run for periods of 1 Day, 2 Days, 1 Week, 2 Weeks, 1 Month, 3 Months, 6 Months, and 1 year. The report is run as follows:
    a. From the main TempTrak screen, select the Reports tab and then Sensor Audit Report.



b. Select the Sensor Group button and choose your sensor group from the drop-down menu. Enter an End Date and Range and click on Run to generate the report. Example: Lab-Blood Bank



2. **Sensor History Report**
The Sensor History Report will show a graph and a list of all temperatures recorded over a selected time-frame for an individual sensor. The report can be run for periods of 1 Day, 2 Days, 1 Week, 2 Weeks, 1 Month, 3 Months, 6 Months, and 1 year. The report is run as follows:

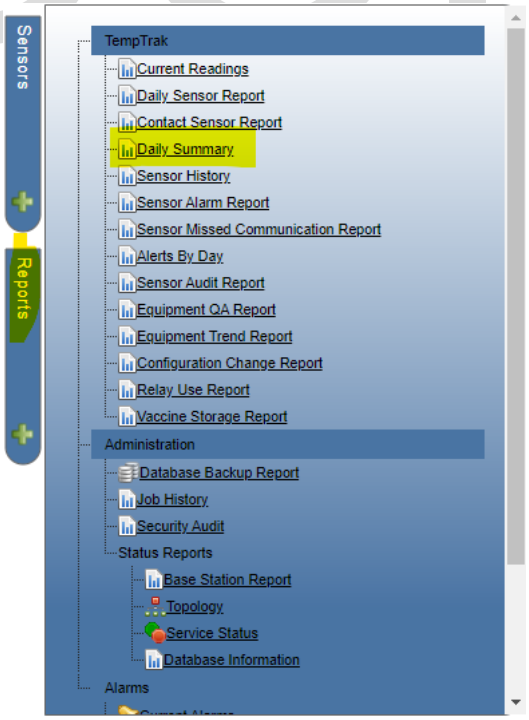
    a. From the main TempTrak screen, select the Reports tab and then Sensor History Report.

    b. Select the desired device, enter an End Date and Range and click on Run to generate the report.

H. **Daily Summary Report**

CAP (College of American Pathologists) requires monthly review of temperature charts. Each Department using Temp Trak must print a **"Daily Summary" Report** at the end of each month for department review. These reports are to be reviewed and signed each month and retained in the department. (These records of review need to be retained for a minimum of 8 years.)

1. From the main TempTrak screen, select the Reports tab and then Daily Summary Report.

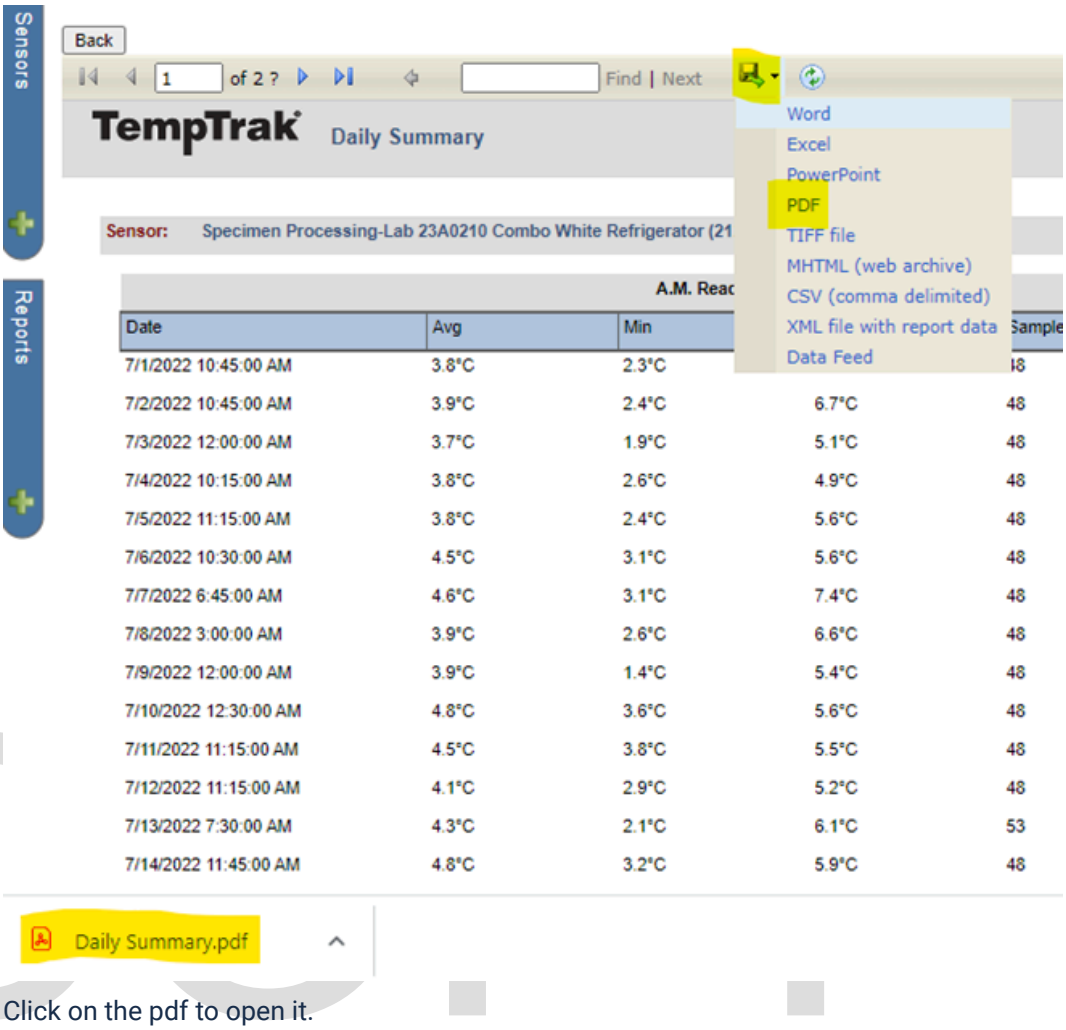


2. Locate the Sensor and click “Select”. You can only generate one sensor report at a time.

Sensor	Factory ID	
Microbiology 22A0070 Store Room H	213123089/2	Select
Microbiology 22A0070 Store Room T	213123089/1	Select
Microbiology 22A0345 Lab Line CO2 Incubator - CO2	210087059/1	Select
Microbiology 22A0345 Lab Line CO2 Incubator - TEMP	212206204/2	Select
Microbiology 22A0345 Lab-Line Non-CO2 Incubator TEMP	035040185/2	Select
Microbiology 22A0345 Victory Refrigerator	212206104/2	Select
Pharmacy OR Anasthesia Workroom Refrigerator	211207038/2	Select
Specimen Processing Lab 23A0210 Small Silver Refrigerator	202092148/2	Select
Specimen Processing-Lab 23A0210 Combo White Freezer	212206109/2	Select
Specimen Processing-Lab 23A0210 Combo White Refrigerator	212206101/2	Select
Specimen Processing-Lab 23A0210 Incubator	212206113/2	Select

3. Select the Start and End Date for the previous month's data that you want and click Run.

4. Once the report is generated click on the Export Icon and select PDF.



5. Click on the pdf to open it.
6. Print and submit to the department manager/supervisor for review and signature.
7. Store in department designated binder, file, cabinet, etc.

I. **Annual Sensor Calibration Verification**

1. For equipment that is monitored by Temp Trak, the NIST should be used to calibrate both the internal thermometer and the Temp Trak sensor. Refer to department specific thermometer calibration procedures.
2. **Sensor Calibration**
    a. To calibrate Temp Trak sensors, the NIST thermometer /probe should be placed near the Temp Trak sensor in a freezer, refrigerator, or any Temp Trak monitored unit to obtain comparable readings and allow sufficient time for the thermometer to equilibrate. It may be necessary to allow a significant time for the thermometers to equilibrate at a given temperature. For example, the NIST thermometers in a freezer may need to equilibrate overnight, while the NIST thermometer may require only 30 minutes to equilibrate in a refrigerator.
        i. In a freezer, the NIST thermometer should be placed inside near the Temp Trak sensor.
        ii. In a refrigerator, the NIST thermometer should be placed into a bottle

of liquid near the Temp Trak sensor and allowed to equilibrate inside the refrigerator.

iii. At room temperature or a room temperature unit reading, position the NIST thermometer near the Temp Trak sensor to get satisfactory readings.

b. Observe and record the TempTrak reading from the website at the same time that the NIST temperature is read.

c. Record all temperatures on the *TempTrak Sensor Calibration* Form.

d. Determine the calibration status of the sensor. Verify the thermometers being calibrated and the NIST-Certified thermometer is in agreement within 1˚C.

i. If the readings are acceptable document the calibration as Pass (Y) on the *TempTrak Sensor Calibration* Form.

ii. If the readings are not acceptable document the calibration as Pass (N) on the *TempTrak Sensor Calibration* Form.

a. Notify Facilities Department and remove the sensor from service until an investigation is completed and resolved.

b. Temperatures will either need to be taken every four hours using the attached *Manual Temperature Monitor* form or chart recorder installed.

e. Submit the *TempTrak Sensor Calibration* form for review to department manager/supervisor or designee.

3. **Acceptance Criteria**

a. The NIST thermometer must agree to within 1 C° of the normal thermometer or the Temp Trak sensor being calibrated, and must have a satisfactory visual inspection to be considered acceptable. If the readings vary by more than one degree:

i. For normal thermometers, notify the Supervisor to determine whether to label the thermometer with a correction factor, to discard it, or to return it to the distributor (if newly purchased).

ii. Temp Trak sensors that do not meet acceptance criteria must be reported and investigated by facilities management.

iii. Thermometers and Temp Trak sensors that do not meet acceptance criteria require additional investigation. This investigation must be documented according to departmental policies.

VII. REFERENCES:

A. AABB, *Standards for Blood Banks and Transfusion Services*, current edition

B. AABB *Technical Manual*, current edition

C. College of American Pathologists, *Transfusion Medicine Checklist*, current edition.

D. TempTrak General User Guide, Cooper-Atkins Corp., Revision A; March 2015

Attachments

Manual Temperature Monitor Form

Temp Trak Sensor Calibration Form

Approval Signatures

Step Description	Approver	Date
Medical Director	Jeremy Powers: Chief, Pathology	9/1/2022
Policy and Forms Steering Committee Approval (if needed)	Gail Juleff: Project Mgr Policy	8/25/2022
Policy and Forms Steering Committee Approval (if needed)	Kimberly Cole: Lab Quality Coord	8/25/2022
	Kimberly Geck: Dir, Lab Operations B	8/25/2022
	Jennie Green: Mgr, Division Laboratory	8/23/2022
	Kimberly Cole: Lab Quality Coord	8/23/2022