**Purpose**

To describe the steps for monitoring and maintaining storage units when the TempTrak is not transmitting the temperature data to the server for the department to monitor on a continuous basis.

**Policy**

* All HMC Transfusion Service (TSL) storage units are monitored 24/7 by staff.
* Temperature readings must agree within + 2°C.
* HMC TSL maintains an audible alarm system as a back up to the Temp Trak electronic alarm system.

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| **Step** | **Action** | **Related Documents** |
| **Out of Service – Temp Trak system is not available** |
| **Routine Temp Trak Mainte-nance** | Temp Trak requires routine maintenance, typically scheduled for third shift and for periods of 2 hours:* Access Temp Trak system prior to scheduled downtime
* Review all storage units, documenting any alarms.
* Set timer for anticipated downtime period
* Audible alarm system will notify TSL of any alarm events

At the end of 2 hours:* Access Temp Trak status
* If Temp Trak has returned to service,
* Perform a check of all units to ensure no alarm events occurred during the cache period.
* Record check in Temp Trak
* If Temp Trak has NOT returned to service, proceed with downtime storage unit monitoring.
 | Responding to Alarm EventsUsing the Temp Trak System |
| **Loss of Communication between Temp Trak and Storage Units** | * Areas in HMC may not have wireless connectivity.
* A Temp Trak pager alarm will be generated if loss of wireless connectivity occurs.
* Response is the same as Routine Temp Trak Maintenance for all storage units within audible range.
* For portable refrigerators outside of audible range, a chart recorder must be in place.
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| **Step** | **Action** | **Related Documents** |
| **Downtime Monitoring Activities to replace Temp Trak monitoring** |
| **Start****Chart Recorder** | * Due to miscommunications, chart recorders are in place for all portable refrigerators.
* Place a chart recorder on all affected equipment.
* Press and hold the Chart Change Switch (#3) for 1 second until pen begins to move to the left of the chart.
* Unscrew the knob at the center
* Choose the correct chart paper
* Position the new chart so the correct time line coincides with the time line groove on the chart plate.
* Replace the knob and hold paper while securing.
* Push the chart change switch (#3) until pen begins to move back onto the chart.
* Check that the pen is marking.
* Document change on the unit’s temperature log sheet.
* Portable 3 chart recorder:
	+ Press the pen home button: the pen begins to move to the right of the chart
	+ To replace the knob, push the pen home button: the pen begins to move back onto the chart
* Once TempTrak resumes, remove chart and adhere to corresponding Downtime Daily QC Log.
* Submit completed log sheets to be reviewed by Quality Coordinator.
 | Downtime Storage Unit Daily QC Log |
| **Record Temps** | * Fill out downtime log sheet for each corresponding piece of equipment.
* Record temperatures on log sheets of each piece of equipment. Temperatures should include digital temperature, chart recorder reading, and any internal thermometer temperatures
* All temperatures must agree within 2°C.
* Ensure chart recorder is working properly and the LED green light is steady.
* Change the chart recorder battery, as needed.
* Test the alarms and record on temperature log sheets in the alarm test column.
* Repeat once daily.
 |  Downtime Storage Unit Daily QC Log |
| **Exception** | * Humidity and Room Temperature are monitored by Temp Trak.
* It **is not** necessary to monitor Humidity when Temp Trak is not available.
* It **is** necessary to monitor Room Temperature when Temp Trak is not available.
 | Use and Maintenance of Tempcheck DeviceDowntime Tempcheck Daily QC Log |
| **Return to Service** | * Downtime monitoring will continue until Temp Trak has returned to service.
* Temp Trak will be reviewed for any alarm activities that require documentation.
 | Using the Temp Trak System |

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| **Step** | **Action** | **Related Documents** |
| **Chart Recorders Maintenance and Adjustments** |
| **Change Chart Recorder Graph Paper** | **Weekly:*** Label new paper prior to replacing with HMC TS, start date, stop date, refrigerator or freezer number, and Tech ID.
* Remove and replace chart recorder graph paper (see Step 1)
* Document change on temperature log sheet.
* Submit for review the previous week’s chart recorder data. Any deviations should be noted on graph paper.
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| **Adjust****Chart Recorder**  | * Wrong day/time recording? Reposition the paper to correct day/time.
* Pen not tracing well? Ensure that the pen is in contact with the paper. If out of ink, change the chart recorder pen.
1. Snap the plastic stylus around the outer edge of the metal pen arm.
2. Remove pen cap by gently lifting the pen arm away from the chart paper then take cap off to expose the fiber tip. Carefully place pen on the paper.
3. Adjustments can be made by slightly bending the metal pen arm in the center toward the paper.
* If chart recorder still isn’t working properly, but all other temperatures are within acceptable limits, the equipment must be monitored by documenting the temperatures every 4 hours with the Manual Refrigerator and Freezer Temperature Log.
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| **Chart Recorder needs calibration** | * Place a certified thermometer in the solution bottle with the recorder probe.
* Allow to stabilize and then compare thermometer to pen location on chart.
* If an adjustment is required, press and hold for 5 seconds either the left top button or right top button to move the pen the corresponding direction to match the thermometer temperature.
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| **Chart Recorder Battery** | * Replace chart recorder 9-volt battery as necessary. Document in the comments section of the temperature log for that equipment.
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**References:**

Standards for Blood Banks and Transfusion Services, Current Edition. American Association of Blood Banks. AABB Press, Bethesda, MD

Helmer *i* Series Refrigerator Service Manual

Helmer *i* Serier Freezer Service Manual

Jewett Refrigerator Service Manual

Helmer Platelet Incubator Operation Manual

Helmer Flatbed Agitator Operation Manual

Helmer Chart Recorder Operation Manual