Wake Forest Baptist Medical Center	REES ALARM SYSTEM BB.EQUIP.1009.3	Dept:	324311
		Dept Name	Blood Bank
		Effective Date:	<7/20/09
		Revised Date:	
Name & Title: CLIA Laboratory Medical Director		Contact:	J.H. Simmons/ C. Warren
Signature: C Pompeu		Date:	2/11/2020

1. General Procedure Statement:

A. Purpose:

Refrigerators, freezers, incubators, and VIP processors that store blood, blood components, specimens, and reagents in the Transfusion Service, Bone Marrow Transplant (BMT) Lab, Operating Room, and OR Pathology Lab are connected to the REES Alarm System. The system will take temperatures on units connected continuously, recording the temperatures at specified times (currently every hour). The system ensures that alarm signals will activate at a temperature (or voltage, in some cases) that allows personnel to take proper action before blood and components reach undesirable temperatures. The following procedure and protocol describe operation of the system.

B. Responsible Department/Scope:

i. Procedure owner/Implementer: Julie H. Simmons/Christina S. Warren
ii. Procedure prepared by: Stuart Acrey
iii. Who performs procedure: Department staff/management

C. Definitions: Unit: refrigerators, incubators, freezers, processors.
REES computer locations: XM2, Large Outlook monitor, NEO/ECHO, BMT Lab Computers

D. Sections:

I. Silencing/Inhibiting Alarms
II. Actions to be taken if REES Alarm sounds
III. Printing
  A. Reports for Specific Units
  B. Temperature Reports for a Specific Unit
  C. Daily Highs, Lows, Averages Report
  D. Event Report (Alarm Exception Report)
IV. Verifying Equipment Temperatures with REES Alarm
V. Changing Alarm Sound
VI. Power Failure Procedures

E . Protocol:

A. General Guidelines

1.0 All critical equipment for storing or processing blood and blood products are identified in Blood Bank and Bone Marrow Transplant departments and are monitored by the REES Temperature Monitoring System. Both departments may be viewed together broken down by MPX buffers or viewed separately based on department.

2.0 Blood Bank may accommodate requests to monitor equipment from other departments on the REES Temperature Monitoring System as long as there are probe spaces available. *Current equipment from Operating Room, Histology, Davie Med Center Lab, and OR Pathology Lab are monitored on REES.*

3.0 Blood Bank will monitor the temperature inside the Unit (equipment) and the door of the unit. The door sensor will allow staff to detect a door ajar before affecting inside temperatures. (Unit = refrigerator, freezer, incubator, processor)

4.0 Currently the REES Temperature Monitoring System is set to record temperature every 2 hours.

5.0 Currently the REES Temperature Monitoring System is set to record temperature in ALARM every 15 minutes.

6.0 Daily first shift will review the reports below for Blood Bank and Bone Marrow Transplant lab.

a. Daily Highs, Lows, Averages Report
b. Event Report (Alarm Exception Report)

6.1 The review will include all corrective action taken and appropriate reason category will be indicated.

7.0 First shift will document on the Daily QC Checklist that the previous day's unit temperatures and event log have been reviewed and discrepancies explained.

7.1 Any event that is continuous and/or unusual needs to be reported to management.

8.0 Daily at 1800 the REES System is backed up by Avamar.

8.1 Emails of the status of the backup are sent to jhsimmons, cswarren, jjackso, langermeier, and lwaldron.

9.0 Annually the REES Temperature Monitoring System is serviced by REES Scientific. During this maintenance the input probes are calibrated against a NIST thermometer (by REES) and sensors checked.

10.0 When a Unit is in Alarm:

10.1 Temperature chart recorders with specific unit charts are available on Blood Bank refrigerators, freezers, and platelet incubators. All of these units also have data loggers.

10.2 In the BMT department, the temperature and level sensors are located in all of the LN2 freezers and take temperatures every 30 minutes continuously.

a. All LN2 freezers have digital displays except for any older units.
b. All LN2 freezers have DATA loggers
c. Only two MVE LN2 freezers also have control panel sensors
d. Temperature sensors are in vapor labeled as TEMP.
e. Level sensors are monitoring overfill LN2 but in vapor. These sensors are labeled LEVEL.
f. Control Panel sensor will detect any alarm activated on control panel and are labeled as CP.

10.3 Other sensors in BMT include:
a. Temperature/humidity of Receiving, Supply, Processing and Cryopreservation
b. O2 sensor in cryopreservation
c. CO2 temperature and CO2 level in both CO2 incubators
d. Differential pressure in Processing room (4 doors)
e. Water leaks from the Phoenix

10.4 Unit Alarms in other departments --Blood Bank will notify the department and document notification in REES. *(See Att 6: REES Alarm System Setpoints)*

10.5 ALL UNITS IN BLOOD BANK / BMT MUST HAVE TEMPERATURES TAKEN AT THE MINIMUM OF ONCE EVERY 4 HOURS.

a. When unit cannot be monitored for temperatures for Blood Bank/BMT and do not have a recorder for 7 day temp chart, the *Manual Temperature Chart* form will be used to document temps every four hours.

b. Devices for monitoring are Data Loggers, records with unit specific temperature chart, REES system, or a simple calibrated thermometer.

11. 0 Management must be informed when any Unit in Blood Bank and BMT has been taken off the REES System and been inhibited. A report is available to print for all inhibited equipment within whatever date range necessary.

12.0 All Blood Bank and BMT Units will be installed with data loggers.

12.1 For freezers, use Global Sensor data logger with probe.
a. Data logger is stored on outside of unit with probe on inside of unit to not wear down battery.

12.2 For refrigerators and incubator use Global Sensor data logger without probe. A logger with a probe can be used but is not necessary.
a. Data logger is stored on inside of unit.

12.3 For liquid nitrogen reservoirs, the TCTemp2000 data loggers are used and can monitor temperatures at -100°C or colder.

12.4 Program data loggers with low and high temperature settings appropriate for each unit with continuous temperature recording.
a. 30 minute intervals for temperature
b. Continuous (wrap-around feature)

13.0 All doors of upright freezers and refrigerators are also monitored by REES door sensors.

14.0 Unit temperature comparisons will take place on Wednesday of every week between REES temperature readings and those taken manually. These comparisons are reviewed by management or designee.

15.0 The BMT Liquid Nitrogen Reservoirs each have two probes: one to detect liquid nitrogen level and one to detect temperature.

15.1 When a reservoir fills, the liquid nitrogen may splash on the level probe triggering an alarm.

15.2 Level probe are already inhibited for 15 minutes before alarming.

15.3 The temperature probe should be used to determine if there is a problem.

a. If the temperature is in range and not getting colder, silence alarm for 15 minutes; there is no need to inform management.

b. If the temperature is getting colder, the level needs to be checked at this point. If overfilling, the unit should be turned off and management notified.

F. Process

1.0 In the event of a REES downtime, Global Sensor temperature monitors (data loggers) are in place and in "ready state" on each unit. Data Logger results are printable. Temperature chart drives are also available in "ready state" to be set up on each unit to monitor temperatures. Equipment that does not have chart drives but only data loggers will also have their temperatures taken on "Manual Temperature Recording" form every 4 hours.

2.0 The REES system has a Series II-PC wall unit with 3 buffered MPX Panels and 4 Virtual MPX panels. Units that are not wireless are "hard-wired". These units have a node on the overall wired system and are numbered 1-47. Each node is set by user to specify the temperature or voltage that is acceptable and unacceptable for the UNIT. The probes in each unit are wired to one of the 7 buffered MPX Panels (unless wireless device used).

3.0 The system continually scans all inputs. It can monitor any type of input, analyze for trouble, report the problem and keep records of events. The system keeps a log of all alarm events, error events, and periodic readings for download to the PC. The IP addresses of the panels and PC are as follows:

MPX Panel Number	CommWatch Probe Number	Battery Probe Number
1	132	133
2	134	135
3	136	137
4	138	139
5	140	141
6	142	143
7	144	145

4.0 The REES system PC display panel scrolls through the inputs, showing an overview of the total system and highlighting the trouble spots. The system continuously scans all of the inputs and compares the UNIT acceptable/unacceptable setpoints searching for abnormal conditions then follows instructions to

send the appropriate alarm. The system maintains records of readings when conditions are normal or abnormal and who responds to the abnormal findings. Reports can be printed for all or specific inputs for any period of time.

5.0 Specifically the REES probe inside each unit takes temperature/voltage and sends results to the MPX panel address that it is located. This transfer is monitored by COMMWATCH on each MPX panel. The results are then stored in the BUFFER in the MPX panel. This buffer transfer is monitored by the BATTERY. The results are then sent into the REES system.

6.0 Daily the results are submitted to a backup program by IS and stored on server SQL/713-dpareports. Status of nightly backup is emailed to jhsimmon, cswarren, jjackso, langermeier, and lwaldron.

7.0 The MPX units are also battery driven. Each MPX panel has a input probe for battery and CommWatch functions and are displayed on screen as input probes 132-145.

(See above table--Process Step 3.0).

REES System is taking temperatures in the following situations:

	MPX CommWatch	MPX Battery	Intranet	Temperatures Taken
1	X	X	X	X
2	X	X	X	X (BUFFER)
3	X	0	X	X (BUFFER)
4	0	X	X	0
5	X	X	0	0
6	0	0	X	0
7	X	0	X	X (BUFFER)
8	X	X	0	X (BUFFER)

X = yes, 0 = no

7.1 When the CommWatch probe for the MPX is in alarm, this means that a cable/wire has become disconnected or there is a malfunctioning transistor.

7.2 When the Battery probe for the MPX is in alarm, this means that the battery for that panel has gone bad and needs to be replaced.

7.3 Whenever the temperatures are written to BUFFER and once the device is operational the temperatures/voltages are downloaded to the REES system

7.4 When no temperatures are taken as in above table rows 4, 5, and 6 and unit is down for four hours or more, alternative methods of capturing temperature recordings will need to be implemented, printed out, etc. and reviewed and stored in REES report binder.

8.0 The status of each input in the system is color-coordinated. See chart below:

Color	Meaning
Yellow	Inhibited/pending alarm
Red	In alarm
Green	Normal
Brown	Offline
White	Unable to access node
Purple	Unused

G. QUALITY CONTROL

1.0 The system is validated annually by REES Scientific.

2.0 System back-up is performed by a Microsoft SQL Server (Miller Plaza V-Block). It may be accessed from certain PC's in the department under the C: drive on the REES PC. The file name is SQLData.dat; it should indicate a current date. E-mail updates are sent to various personnel, including the manager and assistant manager of BB, as well as LIS and IS staff members to ensure proper back-up of data is occurring.

3.0 Verifying REES printout with manual readings and global sensors/data loggers is performed weekly. Once completed, document on Weekly QC Checklist.

4.0 Alarm Exception (Node Event) Reports are reviewed daily, including weekends and holidays. Once completed, document on Daily QC Checklist.

5.0 Average Input Readings Report is reviewed daily, including weekends and holidays. Once completed, document on Daily QC Checklist.

5.1 When reviewing reports, use the following stamp to record and explain readings that are out of range. *(See Att. 4: REES Stamp)*

1. Door Switch
2. Moving blood
3. Restocking reagents
4. Restocking inserts
5. Inventory Reconciliation
6. Sensor Check
7. Changing glycerol
8. BMT
9. Unit being serviced
10. Notified: _____ (Davie, Histology, Molecular Diagnostics, OR)
11. Unit not in use

5.2 The tech reviewing the report will stamp each page where there is an out of range reading (underlined) and correlate each exception with the pertinent stamp explanation (if applicable) list in 5.1.

6.0 Reports and temperatures for specific inputs may be printed on demand.

7.0 ACCEPTABLE LIMITS

Refer to Attachment 6: REES Alarm Setpoints for a listing of REES settings for each node.

7.1 This attachment includes node number, high and low alarm set-points, door switch settings, any alarm delays that are set.

8.0 Reports are reviewed weekly for accuracy (currently performed by Management and/or Designee(s). The following is included:

8.1 Check to ensure all questions are answered on Event Reports.

8.2 Check to ensure all underlined events on Average Temperature Report are accounted for and explained.

8.3 Coorelate events from Event Reports and with Average Temperature Report to explain events (if indicated).

8.4 Compile data together during REES downtime events (Global Sensor reports, chart drives, manual temp reports).

8.5 Printed reports are stored in BB irradiator room in file cabinet and BB storeroom and are kept for up to 10 years.

9.0 A weekly check will be performed on any equipment that is inhibited (i.e. contents, temperature charts, Data loggers, etc.) and documented on REES Verify Worksheet.

9.1 This can quickly be determined by viewing the REES screen and noting any units that are yellow/gold in color.

9.2 Note the units that are currently inhibited on the REES Verify Worksheet.

10.0 REES Scientific's website is REESscientific.com.

Username: REEScust
Password: daffodil
Customer number: NCB661

11.0 SECURITY SETTINGS

11.1 Security is defined for each user by access codes.

11.2 A new employee is assigned a code and chooses a password at the beginning of his/her employment.

a. Use the employee's initials for code to make them easily identifiable.

11.3 The user codes of employees no longer working here are deleted.

a. Adding/deleting of a user code can only be performed by the BB Manager (Julie Simmons), the Assistant Manager (Christina Warren), Linda Angermeier, Bettina Turner, or Larry Waldron.

11.4 The codes are defined by the level of task to be performed from the ability to inhibit an alarm to Change the program.

11.5 Every employee is given the ability to perform the following minimum tasks:

a. Enable alarms.
b. Inhibit a single alarm for a period of time.
c. Inhibit multiple alarms for a period of time.

11.6 In addition to these tasks, Julie, Christina, Linda, Bettina, and Larry mentioned above have access to perform every available task in the system.

11.7 When anyone performs a task, they are identified by his/her user code in the log.

2. Procedure

I. Silencing/Inhibiting Alarms

THIS PROCEDURE MAY BE PERFORMED AT ANY COMPUTER TERMINAL THAT HAS HAD THE REES ICON DOWNLOADED. CLICK ON THE REES ICON AND ENTER USERNAME AND PASSWORD TO LOG IN.

STEPS	INSTRUCTIONS	CHANGE/ APPROVAL
1.0	**Double-click on the red node in alarm.**	
2.0	**Click on "Inhibit Alarm for 15 minutes."**	
3.0	**Enter user and password.**	
4.0	**Click "OK."**	
5.0	**Click on Yellow "Disabled Alarm" line for the unit just silenced. (Do not click on the Red "In Alarm" line.)** 1.1 If pop-up box appears, click again on yellow line in small pop-up box.	
6.0	**Enter user and password.**	
7.0	**Answer questions using "Y" for yes and "N" for no, press "Enter" after each response. Enter temperature(s) when appropriate.**	
8.0	***Enter twice after last question to get to comment field and enter comments about the event. Additional comments or corrections to the responses in "G" may be added after filing by double-clicking on red "In Alarm" line and adding comments at the cursor. Click "OK" when complete.***	
9.0	**Click "OK."**	
10.0	**If a unit is alarming for the third consecutive time:** 10.1 Notify Trimedx. 10.2 Refer to procedure *ACTIONS TO BE TAKEN IF REES ALARM SOUNDS.*	
11.0	**Record in Maintenance Log IF Trimedx was notified.**	
12.0	**If the event you are answering does not display at the bottom of the event list:** 12.1 Close box by clicking "x". 12.2 Click "Node Events" icon. 12.3 Click "show all events." 12.4 Click "OK." 12.5 When the event list appears, page down to bottom of list. The event should be at the bottom. Go back to step 4.0 above.	
13.0	**Inhibiting the alarm for multiple hours. This is used if a piece of equipment is out of order or in need of service.** 13.1 Double-click on the alarm node to be inhibited. 13.2 Click on "Inhibit alarm for:". 13.3 Enter number of hours in the box to the right. 13.4 Click "OK." 13.5 When the situation is resolved, double-click on the alarm node. 13.6 Click on "Reset/Enable Alarm." 13.7 Enter user and password. 13.8 Click "OK." 13.9 Make sign to place on equipment that is out of order or in need of service.	

II. Actions To Be Taken if REES Alarm Sounds		
STEPS	**INSTRUCTIONS**	**CHANGE/ APPROVAL**
1.0	**Follow procedure:** ***I. Silencing/Inhibiting the REES Alarm System.***	
2.0	**Check unit and resolve any obvious problems; for example, open door or sensor not immersed in liquid.**	
3.0	**Check the internal temperature and record in the REES responses.** 3.1 If the temperature of blood refrigerators is <1° or >6°, use the infrared thermometer to check the temperature of 5 units and record in Event Report (*see att 3*). 3.2 If the temperature of plasma freezers is warmer than -18°, use the infrared thermometer to check the temperature of 5 units and record in Event Report (*see att 3*). 3.3 If the temperature of red cell freezers is warmer than -65°, use infrared thermometer to check the temperature of 5 units and record in Event Report (*see att 3*).	
4.0	**If alarm sounds a second time (after 15 mins) and still within acceptable range, follow steps 1,2,3 above.** 4.1 Monitor temperature closely for next 15 minutes.	
5.0	**If alarm sounds a third time, call Trimedx (61111).** 5.1 If the temp. is close to acceptable limits, consider moving the products to a functioning unit. 5.2 For the Trimedx call be prepared to provide the following information: a. LAB27157 b. Equipment ID (CEID#) c. Location d. Note if the request is STAT	
6.0	**Document any actions taken by Trimedx in the maintenance book.**	
7.0	**PRODUCTS MAY NOT REMAIN IN ANY DEVICE THAT IS OUTSIDE OF ACCEPTABLE LIMITS.** 7.1 *ANY PRODUCTS THAT ARE NOT WITHIN ACCEPTABLE LIMITS MUST BE QUARANTINED AND NOT USED FOR PATIENT CARE. NOTIFY MANAGEMENT.* 7.2 a. All refrigerators can be used as back-up storage for blood. (1-6C) b. If necessary, products can be returned to supplier or packed in large CredoCube boxes. Call Red Cross and follow packing and shipping guidelines. c. All refrigerators, freezers, and incubator are on **emergency power.** d. Emergency power plugs are **red.**	

III. Printing:

A. Reports for Specific Unit

Alarm Exception (Node Event) Report	Frequency—As needed
Full Hour Temperature (Global Event) Report	Frequency—As needed
Reports for Specific Unit	Frequency—As needed
Temperature Reports for Specific Unit	Frequency—As needed

REPORT	INSTRUCTIONS	CHANGE/ APPROVAL
REPORTS FOR SPECIFIC UNIT	**1.0 Click on "Node Events" icon.**	
	2.0 Enter start date.	
	3.0 Click on "Select by Input Number".	
	4.0 Click on down arrow in white dialog box to the right of input number.	
	5.0 Click on number of desired input.	
	6.0 Click "OK". (A screen shows with all the alarms).	
	7.0 Click "Print" from upper left menu.	
	8.0 Enter start date.	
	9.0 Enter end date.	
	10.0 Click on "Print comments about events".	
	11.0 Click "OK".	
	12.0 Printer information will show. Click "OK".	
	13.0 Click on "X" in upper right hand corner of event history box to close it.	
	14.0 Report will print.	

III. Printing:

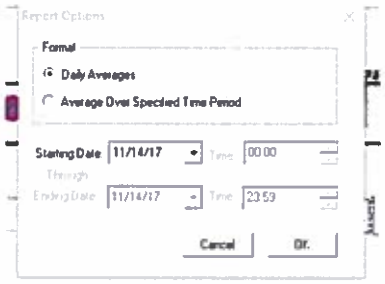
B. Temperature Reports for a Specific Unit

Alarm Exception (Node Event) Report	Frequency—As needed
Full Hour Temperature (Global Event) Report	Frequency—As needed
Reports for Specific Unit	Frequency—As needed
Temperature Reports for Specific Unit	Frequency—As needed

REPORT	INSTRUCTIONS	CHANGE/ APPROVAL
TEMPERATURE REPORTS FOR A SPECIFIC UNIT	1.0 Find the correct input needed.	
	2.0 Click on the desired input for the report.	
	3.0 Enter start date. Click "OK".	
	4.0 Click "Print" from upper left menu.	
	5.0 Enter end date. Click "OK".	
	6.0 Printer information will appear. Check the number and click "OK".	
	7.0 Click on "X" in upper right hand corner of history box to close it.	
	8.0 Report will print.	

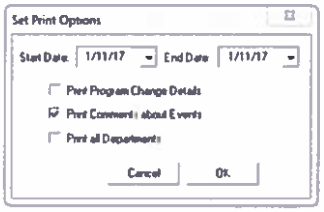
III. Printing:

C. *DAILY HIGHS, LOWS, AVERAGES REPORT* Frequency---Daily

STEPS	INSTRUCTIONS	CHANGE/ APPROVAL
1.0	**On the REES home screen, select *Reports/Graphs.***	
2.0	**In the *Averages Report* section, select *All Inputs.***	
3.0	**Select start date (the prior day)**  3.1 Click *OK.*	
4.0	**Click on the report at the bottom right.**	
5.0	**Select *Print Report.*** 5.1 Set the date parameters. 5.2 Click *OK.* 	
6.0	**Review report. Account for all underlined events in the averages column and correlate with the Event Report. Out of range readings can be explained using the stamp described in the Quality Control 5.0. (Att. 4) Stamp the page and record the number that explains each underlined event.** 6.1 Investigate any unexplained discrepancies and report to management.	
7.0	**Close Print Report** 	
8.0	**File reports in REES notebook**	

III. Printing:

D. EVENT REPORT (Alarm Exception Report) Frequency----Daily

STEPS	INSTRUCTIONS	CHANGE/ APPROVAL
1.0	On the REES home screen, select *Reports/Graphs.*	
2.0	Select *Node Events.*	
3.0	Select start date (the prior day). 3.1 Select *Show All.* 3.2 Click *OK.*	
4.0	Click on the report at the bottom right.	
5.0	Select *Print Report.*  5.1 Set the date parameters. 5.2 Select *Print Comments About Events.* 5.3 Click *OK.* 	
6.0	Close Print Report 	
7.0	Initial on Daily QC Checklist form to indicate that the Daily Highs, Lows, Averages Report and Event Report (Alarm Exception Report) have been completed.	
8.0	File reports in REES notebook	

IV. Verifying Equipment Temperatures with REES Alarm

FREQUENCY--Every Wednesday
RESPONSIBILITY--First Shift

STEPS	INSTRUCTIONS	CHANGE/ APPROVAL
1.0	Every Wednesday morning, record all manual temperature readings, data logger readings, and the REES report readings on the *REES Verify Worksheet* (attachment 5).	
2.0	Compare all temperatures to verify that they are within the acceptable temperature ranges.	
3.0	Submit worksheet to management for review.	
4.0	Report will be filed along with monthly REES reports.	

V. Changing Alarm Sound

STEPS	INSTRUCTIONS	CHANGE/ APPROVAL
1.0	Click on "Program."	
2.0	Click on "Global Option Programming."	
3.0	Enter user and password.	
4.0	Click on down arrow next to computer alarm sound.	
5.0	Options will be displayed.	
6.0	Click on choice.	
7.0	Click "OK."	

VI. Power Failure Procedure

STEPS	INSTRUCTIONS	CHANGE/ APPROVAL
1.0	**If the power to any piece of equipment fails, a power alarm will trip. This is input #129 on the display.**	
	1.1 The system will continue to monitor by use of backup battery power.	
2.0	**Other panel inputs on the REES display are numbered as follows:**	

#130	Database Watch
#132	MPX Panel 1 CommWatch
#133	MPX Panel 1 Battery
#134	MPX Panel 2 CommWatch
#135	MPX Panel 2 Battery
#136	MPX Panel 3 CommWatch
#137	MPX Panel 3 Battery
#138	MPX Panel 4 CommWatch
#139	MPX Panel 4 Battery
#140	MPX Panel 5 CommWatch
#141	MPX Panel 5 Battery
#142	MPX Panel 6 CommWatch
#143	MPX Panel 6 Battery
#144	MPX Panel 7 CommWatch
#145	MPX Panel 7 Battery

	2.1 The "CommWatch" inputs will alarm if communication is not functioning properly for that panel OTHER than the battery, i.e. a probe is disconnected. The "Battery" inputs monitor that the battery for that panel is functioning.	
3.0	**When power is restored to the equipment, the computer program may or may not be communicating with the panel(s).**	
	3.1 To ensure that the panels and computer are communicating, simply re-open the REES system by logging in and confirm.	

3. Review/Revised/implemented:

All procedures must be reviewed according to the Document Control Protocol. All new procedures and procedures that have major revisions must be signed by the CLIA Director. All reviewed procedures and procedures with minor revisions can be signed by the designated section medical Director/designee.

4. Related Procedures: n/a

5. References: n/a

6. Attachments:

1. REES Input Names by Number
2. REES Daily Highs, Lows, Averages Report
3. REES Event Report (Alarm Exception)
4. REES Stamp
5. REES Verify Form
6. REES Alarm Setpoints

7. Revised/Reviewed Dates and Signatures:

See Document Change Control

Document Change Control			
Title: REES Alarm System			
Previous title:			
Written date		Written by:	
Validation date		Validation by	
Reviewed date		Reviewed by	
Approved date		Approved by	
Approved date		Approved by	
Effective date in use	<7/20/09	In use by	

Revisions

Revised Date	By	MD Date	By	MD Date	By	Review Date	By	Effective Date	By
11/3/17	L. Waldron			12/5/17	EF	12/5/17	MRJ	12/31/17	JHS

Validate Date	By	Revisions: Re-formatted. Revised with updates regarding REES computer, staff changes, etc. Added sections for Electronic Review and Saving REES reports electronically. Changed location of server.
12/5/17	JHS	

Revised Date	By	MD Date	By	MD Date	By	Review Date	By	Effective Date	By
7/30/18	mjones								

Validate Date	By	Revisions: Updated histology course of action with beeper, removed persons and contact numbers. Clarified probe 67 and 68 Added probe 54 and 53 Corrected molecular temperature range:-101C to-90C and-35C to -65C

Revised Date	By	MD Date	By	MD Date	By	Review Date	By	Effective Date	By
1/12/20	SMA			2/10/20	EF	2/10/2020	CSW	2/18/2020	EF

Validate Date	By	Revisions: Removed section IX- REES Setpoints. This is listed at Attachment 6. Throughout procedure, changed Average Input Reading Report to Daily Highs, Lows, Averages Report and Alarm Exception Report to Event (Alarm Exception Report) to match actual titles of reports. Throughout procedure changed Aramark to Trimedx. Throughout procedure, removed Mary Rose Jones, added Christina Warren. In QC section of protocols, clarified policy re: printing REES reports. Procedure Section I, 5.0, changed Aramark to Trimedx and gave instructions on contacting Trimedx. Procedure Section I, 7.2, said all refrigerators can be used as back ups for blood. In Section V of Procedure, clarified printing instructions for Averages Report and Event Report. Changed numbers of attachments. Updated Att. 6 REES System Setpoints- added and removed equipment as necessary. Removed section VI, saving REES reports electronically, Removed Section 5, Reviewing REES reports electronically. Added Printing Averages report and Event Reportsto Section II, Printing Reports. Changed order of sections.
2/7/20	LW	

Revised Date	By	MD Date	By	MD Date	By	Review Date	By	Effective Date	By

Validate Date	By	Revisions:

Locations	Equipment Manual	Out of Use: Date:		By	
		Reason			