VistA Blood Establishment Computer Software (VBECS) Version 2.3.0

Release Notes Version 3.0

Department of Veterans Affairs
Enterprise Project Management Office

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Revision History

Date	Revision	Description	Author
5/21/18	1.0	Initial version (Task 368397) Customer Support Update (Task 605693)	BBM Team
10/4/18	2.0	Updates from IOC Testing. (Task 783181)	BBM Team
11/15/18	3.0	Updates from IOC Testing (Task 838511) Table 1: Updates by Option: Updated with the following • Row 17: Updated Change Summary • Row 47: Updated Validation Scenario • Row 68: Updated Change Summary • Row 93: Updated Change Summary Validation Test Group 1, Scenario 1, Step 21, Expected Outcome and verification: Edited Report Header Validation Test Group 4: Added new optional Scenario 2	BBM Team

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Introduction

VistA Blood Establishment Computer Software (VBECS) Version 2.3.0 Release Notes contains information for changes and corrections made to VBECS in the 2.3.0 patch.

Perform a local evaluation and risk assessment of the changes to determine the requirements for local validation of the changes, including documentation of the assessment activities. See Validation Planning.

Changed Features and Functions

This update is focused around a significant revision of the VBECS database to continue to process blood products leveraging the ICCBBA database identifiers as well as adding blood product derivatives.

A second major focus has been to update the VBECS Administrator to a single view and add an online help option. As these major focuses are in development, the team is also addressing a number of known anomalies and defects identified in the various areas affected by those changes.

The scope of work is aligned under six high-level goals:

1 Reorganize the database for the new ICCBBA database structure:
   - Changed the name of the Irradiate Transfusion Requirement to Pre-Treated to Prevent GVHD. This facilitates compliance with AABB requirements for blood banks to have policies regarding the prevention of transfusion associated graft-vs-host disease.
   - Turned off Leukoreduce for all Product Types containing 4 modifiers (See Table 5).
   - Removed the 35 Thaw product modification codes that existed in 2.2.1 (see Table 4).
   - Removed the ability that existed in 2.2.1 to Leukoreduce seven blood products (See Table 5).
   - Updated the Open/Split function to consider the modification method, affecting 63 blood products that existed in 2.2.1 (See Table 6).
   - Prevented the ability that existed in 2.2.1 for some products to be Irradiated or Washed.
   - Added Donation Type Code 6, Designated Donor Biohazardous, to the Donation Type Table.

2 Address defects and anomalies in the updated areas that are associated with the database revision.

3 Migrate VBECS Administrator to a more modern technology.

4 Address Known Defects and Anomalies in the areas associated with the Administrator work.

5 Address additional Known Defects and important customer satisfiers or patient safety issues, which are not related to the database revision or Administrator migration.

6 Include Required Development Updates.

Table 1: Updates by Option provides complete lists of the included changes. Some items correspond to an item in Known Defects and Anomalies.

ECRS ticket numbers are no longer included in the release notes, as the defect tracking number processes all changes. The defect tracking number is identified in the ticket prior to closure.

Untestable System-Level Corrected Code Requests

- VBECS Patch Console used by Enterprise Operations now includes a success indicator and a database revision table (278780).
- VBECS no longer locks far more records than needed, including transfusions belonging to different divisions when transmitting to MCA (Managerial Cost Accounting) (281651).
- VBECS is updated to use dynamic values in place of enumerated values where applicable (316726, 317145, 316705, 317147).
- VBECS no longer uses the vbecserror.log file (487998).
- VBECS is updated to address significant security risks (Fortify findings) (482046).
- VBECS mirror database cleanup of unused tables (213863).

VistA Software Dependencies

- *VBEC**2*1
    - VBECHLOR will include the DUZ of the VBECS user cancelling the order (210414).
    - VBECRPCM will allow the longer VistA institution codes for CBOC mapping (513340).
    - VBECRPCM has been updated to handle the Inactive Facility Flag properly (717198).
    - VBECLU and VBECLU0 will return the Suffix from the Name Component file (629151).
    - VBECA7 has been modified to capture VBECS reflex test workload (654745).
    - A Pre-Init routine has been added to update the Current Version entry in the Package file in VistA (645970).

VBECS User Documents

To update VBECS documents, retrieve the update packages for these guides from the VA Software Document Library (VDL):

See each guide's revision history for change details:

- *VistA Blood Establishment Computer Software (VBECS) 2.3.0 Release Notes (this document)*
- *VistA Blood Establishment Computer Software (VBECS) 2.3.0 Technical Manual-Security Guide*
- *VistA Blood Establishment Computer Software* (*VBECS) 2.3.0 User Guide*
- *VistA Blood Establishment Computer Software* (*VBECS) 2.3.0 Administrator User Guide*
- *VBECS 2.3.0 Known Defects and Anomalies*

Customer Support

Problems?

Contact your Local Office of Information Technology (OIT) or Laboratory Information Manager (LIM) if you encounter VistA or CPRS connection problems and for training support **before** contacting the Enterprise Service Desk (ESD).

- Please ensure local contact information is available at all times. ESD support will engage Enterprise Operations (EO) personnel as needed.
- Problems with connectivity to VistA and CPRS may require personnel from EO with VBECS server administrator access and VistA IT support access.
- If you experience an FDA reportable adverse event (patient death or serious injury) that VBECS may have caused or contributed to, contact the Enterprise Service Desk directly to enter a ticket for Blood Bank software support.

If the problem remains unresolved after local VistA triage, call the Enterprise Service Desk (below) and specify the Enterprise Application be set as VistA Blood Establishment Computer Software. This will cause the Assignment group to default to NTL Alert Blood Bank & VBECS, which alerts the Clin2 team.

Enterprise VA Service Desk Contact

For Information Technology (IT) support, call the Enterprise Service Desk (ESD 855-NSD-HELP (855-673-4357) toll free, 24 hours per day, 7 days per week.

References

- *ISBT128 Standard Technical Specification v 5.6.0*
- *Blood Product Revisions ICCBBA Version 7.11.0 January 25, 2018*

Installation Qualification (IQ) Documentation

The expedited patch installation process will continue with the installation of VBECS 2.3.0.

Note: Prior to Test Account installation, sites should print the reports listed in Table 3: Comparison Reports, to prepare for Testing Scenario Validation.

The VBECS Test Account patch is installed as follows:

- Downtime is expected to be no more than one hour.
- List Serv messages will circulate with the TEST installation schedule.
- Each site should check connectivity within a week of the test patch install; file an ECRS ticket immediately for assistance if needed. ***Please test connectivity ASAP***. *Once Production installations begin, the installation team members, including Product Support, are assisting Production accounts and may not be available immediately to assist with test account problems.*
- Local testing of VBECS TEST connectivity will not occur simultaneously with the patching.

The VBECS Production account patch will be installed in coordination with each Facility.

- Downtime will be coordinated as it has been with the recent patches.

- Connectivity will be verified at the completion of the patch installation with the assistance of Product Support.
- Site is responsible for performing local validation and set up requirements prior to accepting the meeting for Production installation.
- *An unsuccessful installation of a patch leaves VBECS in downtime until the problems are resolved and the installation is successfully completed.*

The recommended record of a successful installation of the patch is to take and save a screenshot of the **VBECS Help, About** window after Test and Production installation is performed. View the **VBECS Help, About** screen to display the VBECS updated version information.

A Facility can record evidence of successful installation of the patch:

- An ECRS ticket will be created for the Production installation. Product Support personnel document that the application is up and functional per site communication in the ECRS ticket.
- The primary POC at each site, receives an email alert and link to the ECRS ticket for review. The ticket has an available detailed report should you choose to save that as evidence of installation day verification that the patch successfully installed.
- The VBECS Team, as required by the Food and Drug Administration (FDA), maintains additional detailed installation information.

Validation Planning

The following is a flowchart to help assess changes for validation planning.

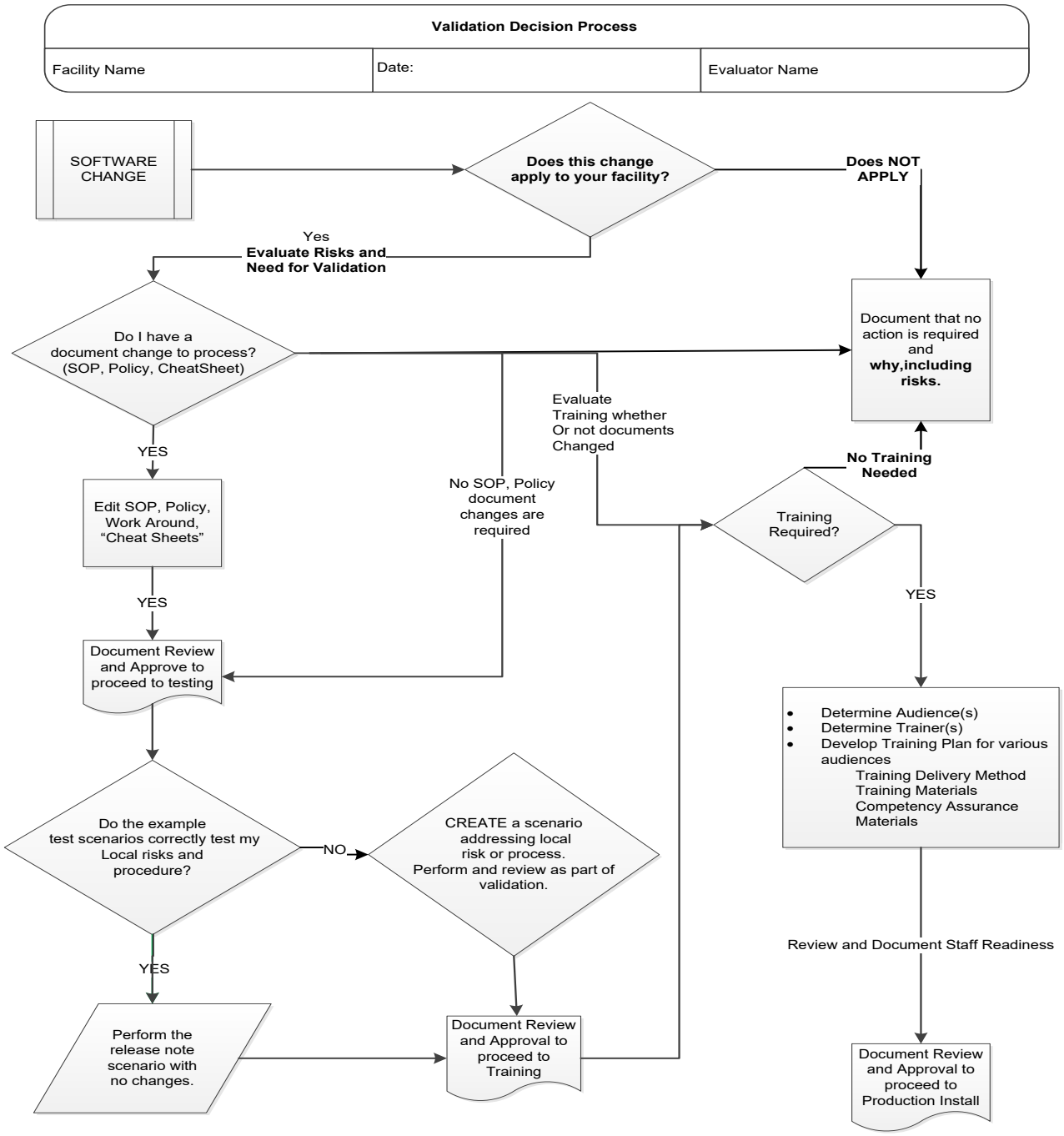
Validation Decision Process
Facility Name
Date:
Evaluator Name
SOFTWARE CHANGE
Does this change apply to your facility?
Does NOT APPLY
Yes
Evaluate Risks and Need for Validation
Do I have a document change to process? (SOP, Policy, CheatSheet)
Document that no action is required and why,including risks.
YES
Edit SOP, Policy, Work Around, "Cheat Sheets"
No SOP, Policy document changes are required
Evaluate Training whether Or not documents Changed
No Training Needed
Training Required?
YES
YES
Document Review and Approve to proceed to testing
Determine Audience(s)
Determine Trainer(s)
Develop Training Plan for various audiences
Training Delivery Method
Training Materials
Competency Assurance Materials
Do the example test scenarios correctly test my Local risks and procedure?
NO
CREATE a scenario addressing local risk or process. Perform and review as part of validation.
Review and Document Staff Readiness
YES
Perform the release note scenario with no changes.
Document Review and Approval to proceed to Training
Document Review and Approval to proceed to Production Install

Table 1: Updates by Option

- When performing validation of updates in Test Accounts, coordinate with local IT for policies pertaining to the availability of background jobs needed to support validations. In some cases, background jobs may need to be started.
- When validating DSS extracts, consult with your site's DSS Office for local policies pertaining to testing DSS data in test accounts and for how the workload is captured. The Blood Bank Maintenance Team recommends testing DSS extracts in Production only.

ID	Option	Problem Summary	Change Summary	Validation Scenario	Change applies to my facility. (Y/N)	Local risk Assessment (Low, Med, High)	SOP revision required. If yes, identify it.	Staff training needed. (Y/N)	Scenarios or validation must be performed. (Y/N)
1	Accept Orders Pending Order List 214479 KDA 502330 502339 *PSPO 1917*	The CPRS MODIFIER text associated with a blood component order was difficult to read when processing requests for a patient in VBECS.	The entire CPRS Modifier text displays for review during Accept Orders. A reminder in the form of a final review message displays when accepting a component order that includes a CPRS Modifier for review.	None provided.					
2	Accept Orders 301006	VBECS did not allow the processing of a patient with a single name.	VBECS will process an order for a patient with a single name complying with VistA standards. Note: This type of patient may or may not exist in your facility's records.	None provided.					
3	Accept Orders 513340 VBEC*2*1 dependent	Orders could not be processed from active mapped institutions with >5 characters in their institution identifier.	Orders are processed from all active mapped VistA institutions from the associated VistA instance (Administrator, Edit Division).	1. Place a VBECS order from a mapped nursing home 'institution' regardless of its physical location. 2. Verify that it can be processed normally in Accept Orders.					

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4	Accept Orders Pending Order List 210414 KDA VBEC*2*1 dependent	When canceling an unprocessed CPRS order in VBECS it did not cancel the unprocessed VistA lab order.	Canceling an unprocessed CPRS order in VBECS also cancels the unprocessed VistA lab order.	1. Select a Blood Bank order that is not accessioned or on a collection list in VistA lab. 2. Reject the PENDING order in VBECS. 3. Verify the VistA Lab order is canceled. 4. Verify the CPRS parent order is canceled as both child orders are now canceled (see the order details) NOTE: This does work on an order that has been accessioned or added to a collection list in Lab. They must be canceled in Lab individually.					
5	Cancel Pending Order 209708 KDA	CPRS Order details did not include the identity of the VBECS user who rejected the order.	In the cancellation message to CPRS, the CPRS Order details CPRS now include the Entered By ID.	1. Reject pending order in VBECS and verify that CPRS shows who rejected the order. 2. Cancel an order on the Pending Task List, then verify that CPRS shows who cancelled the order.					
6	Administrative Data Report 214056 KDA 539343	For the same date range: Did not contain all plasma product types in the final count of units received via Incoming Shipment.	For the same date range: The report includes all plasma products received via Incoming Shipment.	Table 3: Comparison Reports					
7	Administrative Data Report 210009 KDA	The split units were incorrectly counted as Received units disrupting the tallies on this report.	The split units are no longer counted as Received units correcting the tallies on the report.	Table 3: Comparison Reports					

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8	Administrative Data Report 209770 KDA	For the same date range: The total number of transfused red cell units did not match the total transfused on the Division Transfusion Report.	For the same date range: The RBC transfused and Division Transfusion Report total transfused units are the same for the same date range.	Table 3: Comparison Reports					
9	Assign Workload Codes 475810	Assign Workload Codes did not display active VistA LMIP/NLT and CPT codes selectable in VBECS.	Assign Workload Codes allows selection of active VistA LMIP/NLT and CPT codes.	No Action Required for sites not experiencing the issue.					
10	Audit Trail Report 210315 KDA	Audit Trail did not display the most recent change.	Audit Trail displays the most recent change.	1. On day 1, modify value of Admin Email Address (in VBECS Admin) for VBECS HL7 Service from A to B. 2. On the same day, modify the same value back from B to A. 3. The next day, modify the value of ACK Timeout for VBECS HL7 Service. 4. Run Audit Trail for day 1. 5. Verify that both changes made on day 1 show on audit trail.					
11	Automated Instrument ProVue 363897	The user ID on a ProVue instrument must have been changed to 9 characters in some circumstances to transmit test results successfully.	ProVue (NT) user ID may be as short as three (3) characters.	None provided.					

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12	Automated Instrument ProVue 426572	Using the special character "&" in the ProVue comment corrupted the message.	A ProVue comment may include "&" and will be processed by VBECS.	None provided.					
13	Automated Testing Interface 656349	An email was not always generated when a message sent from a lab automated instrument contains invalid data.	Email alerts are sent for all invalid HL7 messages from lab automated instruments.	None provided.					
14	Blood Products 501940 672338	Update the blood product table with new ICCBBA blood product codes through January 2018.	VBECS contains additional ICCBBA blood product codes for use from E8899 to E9263.	Test Group Two: Generic Test Scenario for New Blood Product Codes.					
15	Blood Units, Crossmatch 502042	VBECS did not allow users to indicate a Platelet or Granulocyte blood unit as red blood cell contaminated in order to require a crossmatch.	VBECS enforces a crossmatch for all blood units indicated as having => 2mL RBC Contamination.	Test Group One: Verification of changes regarding equal to or greater than (=>) 2 mL of Red Blood Cell contamination.					

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16	Blood Units, Incoming Shipment Edit Unit Information 566202 566199	An indicator of equal to or greater than (=>) 2 mL of RBC contamination set at the time of unit receipt was used to determine if additional testing is required on the unit.	The ability to add an optional crossmatch is no longer available. The => 2 mL of RBC contamination indicator is set during Incoming Shipment and may be edited in Edit Unit Information. Laboratory Testing (19th ed. Technical Manual AABB). Red cell content in granulocyte components is inevitable; the red cells should be ABO compatible with the recipient's plasma. If >2mL of red cells are present, the component should be crossmatched for Rh and HLA compatibility.	Test Group One: Verification of changes regarding equal to or greater than (=>) 2 mL of Red Blood Cell contamination.					
17	Blood Units, Incoming Shipment 501771 210072	Blood products was not processed with Codabar label type in USA.	No longer allows the entry of Codabar labeled blood products. Note: Existing Codabar unit records are unchanged, but VBECS no longer maintains the blood product inventory for modification of Codabar units, for example, a frozen Codabar unit can no longer be thawed.	None provided.					
18	Blood Units, Incoming Shipment 214127 KDA 440459	ISBT 128 expiration date symbology was not recognized as used by DoD suppliers. (Army is using "=>")	An ISBT 128 expiration date barcode can be scanned and read when using "=>" as the hidden identifiers.	None provided.					

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19	Blood Units, Incoming Shipment 501523	Receipt & handling of a unit, assignment and transfusion of a unit, unit modification is being revised to work with the new ICCBBA blood product identifiers and continue to warn users when attempting to access data being used by another VBECS user to prevent data conflicts.	VBECS continues to warn users when attempting to access data being used by another VBECS user to prevent data conflicts in receipt & handling of a unit, assignment and transfusion of a unit, and unit modification.	Test normal processes that overlap and may cause data conflicts.					
20	Blood Units, Incoming Shipment 501994	Product Code E8214 was missing.	Units with product code E8214 (RED BLOOD CELLS|CPD/450mL/refg|ResLeu: <1E6|Plasma removed/SAGM added) may be processed.	None provided.					
21	Blood Units, Incoming Shipment 502004	VBECS did not allow ISBT 128 division codes to be scanned as labeled.	Blood unit division barcodes with division codes are scannable as labeled.	Test by using a product code starting with X.					

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22	Blood Units, Incoming Shipment 213556 434714	VBECS did not accommodate the entry of ICCBBA Product Category, "Other Blood Products" such as Octaplas with product codes beginning with a letter "X".	VBECS allows the receipt and processing of Product Types beginning with a letter "X" (X001, X002, X003, X004, X005) and will process these as related to their orderable component class such as Octaplas which is Solvent Detergent Plasma and processed by a CPRS FFP order.	1. Enter a Solvent Detergent Plasma unit. 2. Enter a CPRS FFP order and select the unit, continue through to Enter Post Transfusion Data.					

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23	Blood Units, Incoming Shipment Edit Unit Information ABO/Rh Confirmation Modify Unit Select Unit Issue Blood Component Print BTRF and Caution Tag Blood Availability Report 534576 542065 215469 538757 501904 524516 214471 VBEC*2*1 dependent	The system required revision to work with the new ICCBBA blood product identifiers. Unit handling and receipt is being updated so the system maintains current functionality with the updated database.	Unit handling continues to work as it did prior to the ICCBBA changes.	Repeat normal and abnormal testing from prior local validations per your local validation assessment. See Table 3: Comparison Reports					
24	Cost Accounting Report 210313 KDA	When the patient has a middle name, it is not displayed on the report.	The report now displays the middle name for patients having one.	None provided.					

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25	DSS Extract 651335 KDA	Billable workload associated with automated testing and reflex tests was not included in the DSS extract.	Billable workload associated with automated testing and automated or manual reflex tests are now included in the DSS extract.	*Note: Testing DSS data in production accounts is recommended. See your local DSS office regarding testing and capturing workload.* Perform a TAS and patient antigen typing on an automated instrument. Verify that workload associated with both tests show on the VBECS workload report. Verify that workload associated with both tests are included in DSS Extract.					
26	DSS Extract Return Issued Blood Component Electronic Crossmatch Invalidate Patient Test Results 209172 KDA	Workload totals for processes may not match the VistA workload report totals. Repeat orders were known only to VBECS so if workload was generated as a result of a repeat order test the VBECS workload report includes that workload in its total but the VistA workload report does not.	The workload totals for VBECS processes match the VistA workload report totals.	*Note: Testing DSS data in production accounts is recommended. See your local DSS office regarding testing and capturing workload.* Verify that workload associated with electronic cross match is included in DSS Extract.					

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27	Edit Unit Information 208838 KDA	When two ABO/Rh confirmation tests were present and both required invalidation, VBECS did not allow both tests to be invalidated in the same transaction.	The user is allowed to invalidate both of the confirmation tests. This was fixed in VBECS 1.4.0.0.	Removed KDA. No additional action required.					
28	Edit Unit Information 209194 KDA	The "Biohazardous?" checkbox can be cleared for Donation Type: For Autologous Use Only, Biohazardous, but the donation type of the unit was not editable. If the unit was re-edited, the checkbox displayed as re-checked and disabled. The Unit History Report indicated this field was cleared.	The setting of the Biohazardous indicator is correctly available on the Unit History report.	None provided.					

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29	Edit Unit Information 209202 KDA	When Inactivating a unit, the incorrect list of canned comments was presented. The list of comments shown corresponded to the canned comment category "Unit Status Removal" instead of "Unit Inactivation".	Comments in the "Unit Inactivation" category are displayed for selection when inactivating a blood unit record.	None provided.					
30	Edit Unit Information 210427 KDA	On the Antigen Typing Tab, the weak D results in the Selected Test Details displayed only one of the two rows of the tested grid.	The Weak D test results display only what was tested.	None provided.					
31	Edit Unit Information 620478	The biohazard indicator was allowed to be cleared when the donation type was "6, Designated Donor Biohazardous" along with "X, For Autologous Use Only, Biohazardous" and "3, For Directed Donor Use Only, Biohazardous".	The "6, Designated Donor Biohazardous" donation type prevents clearing of the biohazardous indicator.	1. Log in units. Use a Product Code for example: E0421300 or E0421600. Pick valid data, patient, etc. 2. Go to Edit Unit Information, attempt to clear biohazardous indicator.					

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32	Exception Report 502080 214525 KDA	Exception Report entries displayed the mapped to Product Type.	Exception Report entries display the Product short name.	None provided.					
33	Exception Report 578650	Exceptions associated with split units were not distinguishable as they displayed only the unit ID number.	Exceptions created for split units include the product code to allow the identification of the associated split unit as well as the unit ID number.	None provided.					
34	Exception Report 209051 KDA	Visual Inspection information was not included on the Exception Report.	Visual Inspection information is now included for "Unit out of controlled storage found acceptable " and "Unit unsatisfactory upon return from issue" exceptions.	None provided. Note that the Exception Report Exception Type of “Unit out of controlled storage found acceptable” displays for any unit identified here. The Visual Inspection information displays “Unsatisfactory” for units of this type. Note: In a future version, if the blood unit fails visual inspection, only one exception should trigger and only one comment will be required.					
35	Inappropriate Transfusion Request Report Order History Report Prolonged Transfusion Report 502440	The reports listed did not display all current VistA treating specialties associated with patient care.	VistA treating specialties associated with processed orders display for selection. See Table 2: VistA Location Change Details for details. Note: Outpatient locations present as a blank as this is not identified as a Treating Specialty in VistA.	Table 3: Comparison Reports					

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36	Issue Blood Component 274578	Refresh of data when a discrepant ABO/Rh was created after the options opened did not work properly in all time zones.	Refresh of data when a patient's ABO/Rh test is changed after the unit is selected for issue appears in ALL time zones.	Test Group Three: Issue Blood Component refresh for ABO/Rh test.					
37	Issue Blood Component 209417 KDA	When a blood product related to a specimen that will expire more than 72 hours in the future was issued for transfusion, the specimen expiration was recalculated to 72 hours from the time of issue.	When a blood product related to a specimen that will expire more than 72 hours in the future is issued for transfusion, the specimen expiration is unchanged and remains at the value set previously.	None provided.					
38	Issue Blood Component 209024 KDA	A system error occurred when a user attempted to issue a unit assigned or crossmatched to a patient with an expired specimen.	A system error no longer occurs. The override is available to the Enhanced Technologist and above; Unit issued on expired specimen.	None provided.					
39	Issue Blood Component 474269	Scanned unit information was not automatically cleared when selecting multiple units for issue.	The scanned unit is selected on the list of available units and the scanned information is cleared allowing for the scan of the next unit.	None provided.					

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40	Issue Blood Component 501969	Some frozen product types did not trigger the frozen product warning.	Identified frozen blood product units trigger a warning that the product is frozen and cannot be issued.	Verify that code E5272 triggers the frozen product warning.					
41	Return Issued Blood Component 382084	No alert was presented when a unit was returned from Issue Blood Component without a relationship to the time from issue and ability to create an exception report entry.	An alert and override appear when a unit is returned from Issue Blood Component without a relationship to the time and creates an Exception Report entry. (Note: Must use a non-remote storage location when issuing; change does not affect remote storage locations).	Test Group One: Verification of changes regarding equal to or greater than (=>) 2 mL of Red Blood Cell contamination. Note: In a future version, if the blood unit fails visual inspection, only one exception should trigger and only one comment will be required.					
42	Modify Units, Irradiate Unit 208931 KDA	When batch modifying, the volumes were not displaying properly.	When modifying units in a batch, volume now displays correctly.	1. Irradiate a batch of blood units. 2. Verify that their volume matches the original unit's volume.					
43	Modify Units, Pool Unit 564346 KDA 212501 KDA	Addition of a Biohazardous unit to a pool did not tag the Pool as Biohazardous.	Adding one Biohazardous unit to a pool labels the Pool as Biohazardous.	None provided.					

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44	Modify Units: Split a Unit 209286 KDA	When red cell products are antigen typed and subsequently divided, the antigen typing information was not inherited by the target units. When selected in Select Units, the message that the units were not antigen negative displayed.	Target split units inherit red cell antigen typing results from the original unit.	None provided.					
45	Modify Units: Split a Unit 209295 KDA	CMV negative and SC negative status were not properly associated with split target units.	Target split unit records retain the CMV negative, SC negative, and the => 2 mL RBC contamination status of the original unit.	None provided.					
46	Modify Units 210065	Incorrect expiration date calculation when adding 0 hours to modification.	Expiration date now calculates correctly.	1: Open Modify Units: Thaw/Pool, SCD - Weld Complete. Select 2 source units. Verify the pool target expiration date is Modification Time + 6 hours. Cancel, abandon changes. 2: Open Modify Units: Thaw/Pool, SCD - Weld Incomplete. Select 2 source units. Verify the pool target expiration date is Modification Time + 4 hours.					

ID	Option	Problem Summary	Change Summary	Validation Scenario	Change applies to my facility. (Y/N)	Local risk Assessment (Low, Med, High)	SOP revision required. If yes, identify it.	Staff training needed. (Y/N)	Scenarios or validation must be performed. (Y/N)
47	Modify Units 210137 KDA	Duplicated exceptions may have been generated related to target expiration date.	A single exception entry is recorded on the unit's record.	Test Group Four: Modify Units (Thaw, Pool, Split):					
48	Modify Units 505033	The user was not able to select the available target product code by scanning a barcode label.	The target is selectable from the available targets by scanning a barcode rather than picking from the list.	None provided.					
49	Modify Units 209761	VBECS does not recognize that a blood product was just activated when doing a modification and using the keyboard to choose the target blood product. It prompts a second time to activate the target blood product.	VBECS accepts the target blood product activation on the first try.	None provided.					
50	Modify Units 557372	Split targets were assigned the same product code as the parent and it was not editable.	Target Product Code is now presented based on the system integrity, open or closed, and may or may not match the original product code.	None provided.					

ID	Option	Problem Summary	Change Summary	Validation Scenario	Change applies to my facility. (Y/N)	Local risk Assessment (Low, Med, High)	SOP revision required. If yes, identify it.	Staff training needed. (Y/N)	Scenarios or validation must be performed. (Y/N)
51	Modify Units 568067	Exceptions associated with expired supplies used in unit modification did not display on the Exception Report area of the Unit's History report.	The exceptions are now tied to the new Pooled Unit's records and display on the unit's history report.	None provided.					
52	Modify Units 802604 731345	Toggling the weld completeness selections can affect system integrity.	Weld indicator moved to the first modify screen.	Test Group Four: Modify Units (Thaw, Pool, Split) for Pool/Split optional scenarios.					
53	Modify Units: Pool Units 209807 KDA	User could not add units to a pooled unit created in VBECS with a Sterile Connecting Device (SCD).	Add/Remove units may be used with a Sterile Connecting Device (SCD).	None provided.					
54	Modify Units: Pool Units 210274 KDA	During the Pool Unit function the assigned to patient information was not displayed even though the assigned to patient had been selected for the pooled unit.	The Focus Group has decided that this functionality should remain as it is.	Removed from KDA, no additional action required.					

ID	Option	Problem Summary	Change Summary	Validation Scenario	Change applies to my facility. (Y/N)	Local risk Assessment (Low, Med, High)	SOP revision required. If yes, identify it.	Staff training needed. (Y/N)	Scenarios or validation must be performed. (Y/N)
55	Modify Units: Split a Unit 209227 KDA	When red cell products were ABO/Rh confirmed and then split, the confirmation was not inherited by the target units. The split units were not available for selection until a confirmation test was entered for each unit.	The target split unit inherits the confirmation status.	None provided.					
56	Modify Units: Split a Unit 209426 KDA	An incorrectly formatted date can be entered in the expiration date field; the user was not warned; VBECS saved its calculated expiration date/time.	The system parses expiration dates correctly and saves the date as it appears on the screen.	None provided.					
57	Modify Units: Split a Unit 210335 KDA	When a unit is split and the label verification fails the target, multiple exceptions were displayed on the Exception Report, usually 3 per target.	Multiple exceptions are not created.	None provided.					

ID	Option	Problem Summary	Change Summary	Validation Scenario	Change applies to my facility. (Y/N)	Local risk Assessment (Low, Med, High)	SOP revision required. If yes, identify it.	Staff training needed. (Y/N)	Scenarios or validation must be performed. (Y/N)
58	Modify Units, Split Units 733524	VBECS would allow a pooled unit to be split.	Attempting to pool a split unit will now display a message.	1.Log in 2 units E2897. Pool them. 2. Attempt to split the pooled units. 3. Verify that message “You cannot split a unit that was previously pooled in VBECS.” is displayed.					
59	Modify Units 501990	Unable to Thaw/Pool POOLED CRYOPRECIPITATE (Product type E030).	Able to Thaw/Pool POOLED CRYOPRECIPITATE.	None Provided.					
60	Select Units for ABO/Rh Confirmation 209753 KDA	System shutdown occurs when filtering after unit selection.	System no longer shuts down when filtering selectable units.	1. Blood Units, ABO/Rh Confirmation. 2. Search for units using “find” key. 3. Select an RBC unit. 4. Filter by Whole Blood (if no whole blood, choose Granulocytes). 5. Uncheck the RBC. 6. Recheck the RBC unit. 7. Verify that the system doesn’t error, and unit is selectable.					
61	Online Help 696692	Migrate Online Help to use a PDF version of the VBECS User Guide and Administrator User Guide.	VBECS will link to the User Guide and VBECS Administrator will link to the VBECS Administrator User Guide for Online Help.	User can access VBECS link to User Guide.					

ID	Option	Problem Summary	Change Summary	Validation Scenario	Change applies to my facility. (Y/N)	Local risk Assessment (Low, Med, High)	SOP revision required. If yes, identify it.	Staff training needed. (Y/N)	Scenarios or validation must be performed. (Y/N)
62	Supplies: Log in Supplies 208739 KDA	VBECS did not allow a user to select an expired supply item with an override during modification.	User is allowed to select an expired supply when processing the associated exception as repaired in VBECS 1.4.0.0.	Removed the KDA, no additional action required.					
63	Supplies: Updated Supply Inventory 210357	Check the Include Expired Supplies checkbox expand the Inventory Tree and select an expired Lot Number. Uncheck Include Expired Supplies checkbox. Decrease the Quantity Available and enter comment. Click OK and Yes to save and the system would crash.	The system no longer crashes in the circumstance described in the problem summary.	None provided.					
64	Order Alert Printout 368462	Provide additional information on an Order Alert printout. Add Urgency for specimen and component orders.	Order Alert printout: now includes •The CPRS Urgency for specimen and component orders •Change header to read: Patient Order Alert •Header reads: See VBECS Accept Orders entry for full details of this patient order.	Test Group One: Verification of changes regarding equal to or greater than (=>) 2 mL of Red Blood Cell contamination.					

ID	Option	Problem Summary	Change Summary	Validation Scenario	Change applies to my facility. (Y/N)	Local risk Assessment (Low, Med, High)	SOP revision required. If yes, identify it.	Staff training needed. (Y/N)	Scenarios or validation must be performed. (Y/N)
65	Order History Report, Single Patient 209091 KDA 560744 KDA	Single Order History Report did not include the user name of the user accepting a component order or the CPRS Modifiers, Reason for Request, and Order Comments.	Single Order History Report includes: •The name of the user who accepted a component order •CPRS MODIFIER(S) (MD requested transfusion requirements) •CPRS Reason for Request •CPRS Order Comment(s)	Test Group One: Verification of changes regarding equal to or greater than (=>) 2 mL of Red Blood Cell contamination.					
66	Pending Task List 338529 KDA	The Nightly Background Job updated partially completed TAS orders to an "expired" status in CPRS.	The Nightly Background Job no longer updates partially completed TAS orders to expired in CPRS.	Test Group One: Verification of changes regarding equal to or greater than (=>) 2 mL of Red Blood Cell contamination.					

ID	Option	Problem Summary	Change Summary	Validation Scenario	Change applies to my facility. (Y/N)	Local risk Assessment (Low, Med, High)	SOP revision required. If yes, identify it.	Staff training needed. (Y/N)	Scenarios or validation must be performed. (Y/N)
67	Pending Task List 210169 KDA	The Nightly Background Job changed the status of Filled (VBECS order status) component orders from Complete "C" to Expired "E" in CPRS.	The Nightly Background Job no longer changes the status of Filled component orders from C to E in CPRS.	1. Fill a component order. Verify that it shows as completed in CPRS. 2. Wait for it to expire (either specimen expires or if no specimen 10 days from Acceptance Date – ideally test both scenarios. Expiration date associated with the specimen can be modified so that it expires before midnight. 3. Wait for the nightly job to expire orders runs. 4. Verify that this particular order no longer shows on Pending Task List, but its status is still Filled. 5. Verify that the status of the order in CPRS is completed and not expired. 6. Verify that the order can be found on the Pending Task List by searching with CPRS Order Number.					
68	Patient Testing 210418 KDA 215596 KDA	The warning that a testing problem was related to a previously emergency issued blood unit appeared in relation to the underlying CPRS order number not in relation to the specimen UID used for current testing.	The warning that a testing problem is found in relation to a previously emergency issued blood unit now appears in relation to the specimen UID associated with the unit. Users must now associate component orders with specimens **before** performing TAS if component orders were issued before TAS.	None provided.					

ID	Option	Problem Summary	Change Summary	Validation Scenario	Change applies to my facility. (Y/N)	Local risk Assessment (Low, Med, High)	SOP revision required. If yes, identify it.	Staff training needed. (Y/N)	Scenarios or validation must be performed. (Y/N)
69	Patient Testing 663115	When conflicting testing was performed on any specimen for which blood units were issued, the warning message and exception data indicated it was for an emergency issued unit, even if it was not.	The check continues to be performed for all issued units and the warning message and exception data no longer mention 'emergency'.	1. Order TAS and RBC in CPRS. Perform emergency issue of the blood unit. After the issue test TAS and Crossmatch for specimen for which the unit was issued. Make sure to enter a positive ABS result for the TAS and an incompatible result for the issued unit. Verify that warning is triggered and that it does not contain the word "emergency". Verify that the exception report reads "Unit issued, testing problem" for these exceptions. 2. Perform antigen typing for the issued unit and make sure that patient has antigen negative requirement for a given antigen. Enter positive result for antigen typing and verify that warning is triggered and that it does not contain the word "emergency". Verify that the exception report reads "Unit issued, testing problem" for this exception.					
70	Patient Testing 671468	When conflicting testing was found for an issued unit, the warning message and exception data presented would display the product type instead of the full product code.	The warning message and exception data will now display the full product code.	Use the above validation scenario and verify that exception “Unit issued, testing problem” displays a full product code.					

ID	Option	Problem Summary	Change Summary	Validation Scenario	Change applies to my facility. (Y/N)	Local risk Assessment (Low, Med, High)	SOP revision required. If yes, identify it.	Staff training needed. (Y/N)	Scenarios or validation must be performed. (Y/N)
71	Patient Testing Direct Antiglobulin Test 440445	The system required Check Cells (CC) results for the DAT GEL test.	DAT tests indicated as performed using GEL with valid control cells no longer require the entry of CC results. DAT tests performed by manual method will also no longer require entry of CC results.	None provided.					
72	Patient Update 209790 208835 KDA VBEC*2*1 dependent	VBECS did not use the CPRS order HL7 message to trigger a patient update.	VBECS will process a patient update from information provided in a CPRS order.	No Action Required.					
73	Print BTRF and Caution Tag 390955	BTRF had too many signature points.	BTRF is redesigned for easier readability. The date requirement statement has been removed from various signature points.	Table 3: Comparison Reports					
74	Print BTRF and Caution Tag 209556 KDA 647406	VBECS could not print more than ten blank caution tags per request as stated in the documentation.	VBECS does not limit the number of blank caution tags to print per request. If the number requested is not printed, the user may request more to be printed. This functionality has not changed.	Removed KDA. No additional action required.					
75	Select Units 544305 215069 KDA 210199 KDA	The system allowed an optional crossmatch for blood units in the OTHER component class that could be crossmatched at the user's discretion.	The ability to add an optional crossmatch is no longer available. VBECS now determines if serologic crossmatch is needed based on the indicator of equal to or greater than (=>) 2 mL of RBC contamination to set at the time of unit receipt: optional crossmatch has been eliminated.	Test Group One: Verification of changes regarding equal to or greater than (=>) 2 mL of Red Blood Cell contamination.					

ID	Option	Problem Summary	Change Summary	Validation Scenario	Change applies to my facility. (Y/N)	Local risk Assessment (Low, Med, High)	SOP revision required. If yes, identify it.	Staff training needed. (Y/N)	Scenarios or validation must be performed. (Y/N)
76	Select Units 534238	When associating an expired specimen with an order, the system did not allow the user to proceed and it was not explained in the user documentation.	The system continues to require chronologic assignment to associate an expired specimen and is clarified in the 2.3.0 User Guide.	None provided.					
77	Select Units 209433 KDA	A system error occurred when the user clicked very quickly on the multiple messages in select unit regarding eXM eligibility and printing tags/forms.	The ok button becomes disabled after clicking it the first time.	None provided.					
78	Select Units 354929	VBECS did not display the patient's gender in Select Unit.	Select Unit displays the patient's gender (male or female) in the patient information section.	None provided.					

ID	Option	Problem Summary	Change Summary	Validation Scenario	Change applies to my facility. (Y/N)	Local risk Assessment (Low, Med, High)	SOP revision required. If yes, identify it.	Staff training needed. (Y/N)	Scenarios or validation must be performed. (Y/N)
79	Special Instructions and Transfusion Requirements 376540	Expand the "Irradiate Cellular Products" Component Requirement to "Pre-treated to Prevent GVHD" and provide the ability to process Psoralen treated blood product units as well as irradiated units for this Component Requirement.	When a patient has the Active Component Requirement for "Pre-treated to Prevent GVHD", the system will allow *Psoralen treated* **or** *irradiated blood products* to satisfy the active "Pre-treated to Prevent GVHD" component requirement.	1. Select a patient with the component requirement. 2. Select a Psoralen treated unit for the patient. No warning. 3. Select an irradiated unit for the patient. No warning. 4. Select a unit that is not irradiated or Psoralen treated, a warning message appears. 5. Proceed to Issue Blood Component, select the patient. 6. Review the units for ability to issue and satisfy the patient's component requirement.					
80	Testing Worklist Report 515960 KDA	Cancelling an order on the Pending Task List broke the connection between the specimen and testing caused errors on the report.	The specimen and tests are permanently linked for review on the Testing Worklist Report.	1.Crossmatch 2 units of RBC on two different patients. 2. Release all 4 units from patient assignments and cancel RBC order for both patients. 3. Validate that the Patient Testing section of the Testing Worklist Report shows the two crossmatches were performed on the two different patients. 4. Validate that the Test Results section of Patient History Report also shows crossmatches.					

ID	Option	Problem Summary	Change Summary	Validation Scenario	Change applies to my facility. (Y/N)	Local risk Assessment (Low, Med, High)	SOP revision required. If yes, identify it.	Staff training needed. (Y/N)	Scenarios or validation must be performed. (Y/N)
81	Throughout VBECS 351028	VBECS screens may have experienced 'paint' issues when refreshing.	VBECS responds as quickly as it can to avoid screen refresh issues. Note: Network delays are beyond the scope of this change.	None provided.					
82	Tools, Blood Products 210058	Did not display all Product Types under PLASMA, they were all listed under the FFP dropdown.	The lists of PLASMA and Fresh Frozen Plasma product types display all types available in VBECS separately.	None provided.					
83	Unit History Report 574386	Special Testing information was not included in the report's header.	Special Testing information is presented in the report's header including the new equal to or greater than (=>) 2mL RBC contamination information Note: The (=>) 2mL RBC contamination information does not display in the header for RBC and WB products.	Test Group One: Verification of changes regarding equal to or greater than (=>) 2 mL of Red Blood Cell contamination.					
84	Unit History Report 576082	When the "Original container" was selected during modification, it did not display in full in the modification supply section.	"Original container" and longer lot numbers will display in full.	None provided.					

ID	Option	Problem Summary	Change Summary	Validation Scenario	Change applies to my facility. (Y/N)	Local risk Assessment (Low, Med, High)	SOP revision required. If yes, identify it.	Staff training needed. (Y/N)	Scenarios or validation must be performed. (Y/N)
85	Unit History Report 212157 KDA	Antigen typing interpretations from Incoming Shipment, Edit Unit Information, or testing were not displayed as the antigen status on pick lists throughout VBECS.	Antigen typing interpretations from Incoming Shipment, Edit Unit Information, or testing display as the antigen status on pick lists throughout VBECS.	Removed from KDA, no additional action required.					
86	Unit History Report 210423	The Modification section of the Unit History Report showed the unit as Invalidated if the modification record was invalidated.	The Modification section of the Unit History Report now shows that the unit modification record was invalidated.	None provided.					
87	Patient History Report 359300	The transfused unit's ABO/Rh was not displayed on Transfused Units section of the Patient History Report.	The transfused unit's ABO/Rh is displayed in the Transfused Units section of the Patient History Report.	Test Group Two: Generic Test Scenario for New Blood Product Codes					
88	Patient History Report 213097 KDA	VBECS server name appeared in the Processed By Field as having added patients to the database on the Patient History Report.	The user name appears now, as expected. Processes performed by automated jobs will record the server's username (e.g., vhatestvbecscluster)	None provided.					

ID	Option	Problem Summary	Change Summary	Validation Scenario	Change applies to my facility. (Y/N)	Local risk Assessment (Low, Med, High)	SOP revision required. If yes, identify it.	Staff training needed. (Y/N)	Scenarios or validation must be performed. (Y/N)
89	Reports 221250	Exported reports were not directed to a folder specific to my facility (division).	VBECS now directs reports to facility-specific folders for each division.	None provided.					
90	VBECS Administrator 500272	VBECS Administrator required redundant data entry and needed to be consolidated with 2.2.1 IAM work to provide an updated interface.	VBECS Administrator appears in one view removing unnecessary data entry and functions as required to ensure interoperability.	None provided.					
91	VBECS Administrator 210159 KDA 513340 VBEC*2*1 dependent	Increase the database field size to allow the VistA Institution code length maximum for CBOC mapping.	VBECS allows the mapping of a VistA clinic with an Institution code length greater than five (5).	None Provided.					
92	VBECS Administrator 340469	Online Help was not available in the VBECS Administrator.	Online help is available in VBECS Administrator by clicking the F1 key.	None Provided.					

ID	Option	Problem Summary	Change Summary	Validation Scenario	Change applies to my facility. (Y/N)	Local risk Assessment (Low, Med, High)	SOP revision required. If yes, identify it.	Staff training needed. (Y/N)	Scenarios or validation must be performed. (Y/N)
93	VBECS Administrator 502316	Unable to reuse the VistA initials associated with a user that was four (4) characters.	A VBECS user's initials may be set to the same value as VistA. **Note**: As part of this change, the names in VistA and VBECS will be synced by a background process, with the changes noted in the Audit Trail Report. The changes will be applied to the user logged on when the background process runs.	1. Reset user initials to match VistA. 2. Print an Audit Trail report to review the changes. 3. Review additional other reports and views where the user initials are available.					
94	VBECS Administrator 210467 KDA	A user that received a new windows ID (e.g. was married) could not associate their new windows ID with their VistA DUZ. A SD incident was needed to resolve.	Users can now link their new windows ID to their existing VistA user DUZ without the need for a SD incident.	None provided.					
95	VBECS Administrator 210066	The tooltip, or the small "hover box" with information about the item being hovered over was not correct regarding retransmission attempts.	The correct message text displays: *The number of retransmit attempts for failed messages can be defined with a value from 1 through 99.*	None provided.					

ID	Option	Problem Summary	Change Summary	Validation Scenario	Change applies to my facility. (Y/N)	Local risk Assessment (Low, Med, High)	SOP revision required. If yes, identify it.	Staff training needed. (Y/N)	Scenarios or validation must be performed. (Y/N)
96	VBECS Administrator 507788	VBECS Admin needs to be locked with warning when the VBECS application is running.	VBECS Administrator and VBECS cannot be opened simultaneously with the exception of Edit User.	None provided.					
97	VBECS Login 584338	User was able to access Supervisor menu options before completing the VistA sign in regardless of user level.	User cannot access Supervisor's VBECS menus if not allowed by user role assignment even if the VistA sign on is cancelled.	1. Log on to VBECS application server as a low-level user (no higher than Lead Technologist), or cancel VistA log in. 2. During each step of the log on process, attempt to click the supervisor menu. 3. Verify user doesn't have access to the Supervisor menu (a message is displayed that the user does not have proper security level to perform the function if user selects an option.). Access to options is not available even if the VistA sign in is cancelled.					
98	Help About 589898 658086	The FDA requires the addition of the medical device's unique device identifier (UDI) be added to the Help About screen.	The Help About window in VBECS and VBECS Administrator includes the VBECS UDI.	None provided.					

Table 2: VistA Location Change Details

This is a list of the changes only. See VistA for a list of all VistA treating specialties.

Change Type	Treating Specialty Code (VistA PTF Code)	Treating Specialty Name
Edited	VA12	MEDICAL ICU
Edited	VA44	NH LONG-STAY CONTINUING CARE
Edited	VA45	NH LONG-STAY MH RECOVERY
Edited	VA51	OB/GYN
Edited	VA55	EAR, NOSE, THROAT (ENT)
Edited	VA56	PLASTIC SURGERY
Edited	VA58	THORACIC SURGERY
Edited	VA67	NH SHORT-STAY CONTINUING CARE
Edited	VA68	NH SHORT-STAY MH RECOVERY
Added	VA13	CARDIAC INTENSIVE CARE UNIT
Added	VA30	PEDIATRICS
Added	VA48	CARDIAC SURGERY
Added	VA49	TRANSPLANTATION
Added	VA78	ANESTHESIOLOGY
Added	VA82	PM&R TRANSITIONAL REHAB
Added	VA97	SURGICAL STEPDOWN
Added	VA1A	SHORT STAY GRECC-NHCU
Added	VA1B	LONG STAY GRECC-NHCU
Added	VA1C	SHORT STAY GRECC-GEM-NHCU
Added	VA1D	GRECC-GEM-REHAB
Added	VA1E	GRECC-MED
Added	VA1F	HOSPICE FOR ACUTE CARE
Added	VA1G	VASCULAR
Added	VA1H	MEDICAL STEP DOWN
Added	VA1J	ED OBSERVATION
Added	VA1K	PSYCH RESID REHAB PROG
Added	VA1L	PTSD RESID REHAB PROG
Added	VA1M	SUBSTANCE ABUSE RESID PROG
Added	VA1N	POLYTRAUMA REHAB UNIT

Table 3: Comparison Reports

Reports to collect **BEFORE YOUR TEST ACCOUNT IS UPDATED** to 2.3.0, as you will need them to verify changes.
Print the report for a date range before the software update in your Test account for comparison to a print out for the same date range after the update.

Report Name	Record the Date Range selected
Administrative Data Report	
Audit Trail Report	
Blood Availability Report	
Exception Report	
Inappropriate Transfusion Request Report *(only if you have orders from the treating specialties updated)*	
Order History Report *(only if you have orders from the treating specialties updated)*	
Prolonged Transfusion Report *(only if you have orders from the treating specialties updated)*	
Blood Transfusion Record Form (BTRF)	Date Range is N/A. Recommend printing the blank form. (Tools, Print Backup Forms)
Caution Tag	Date Range is N/A. Recommend printing the blank form. (Tools, Print Backup Forms)

Table 4: Thaw Modification Product Codes Removed in 2.3.0

Frozen Product Codes	Thawed Target Codes Removed	Removal Justification
E1045	E1256	Parent is closed, target E1256 is opened. E1045 correctly maps to 4 targets.
E1047	E1260	Parent is closed, target E1260 is opened. E1047 correctly maps to 4 targets.
E1625	E2387	Parent is not irradiated, target E2387 is irradiated. E1625 correctly maps to 4 targets.
E3854	E4009	E4009 is a bad target (frozen core condition) and has been retired.
E3855	E4009	E4009 is a bad target (frozen core condition) and has been retired.
E3856	E4009	E4009 is a bad target (frozen core condition) and has been retired.
E3863	E4010	E4010 is a bad target (frozen core condition) and has been retired.
E3864	E4010	E4010 is a bad target (frozen core condition) and has been retired.
E3865	E4010	E4010 is a bad target (frozen core condition) and has been retired.
E4006	E6611	This would require adding "TargetAdditive None". No other targets found. No sites have used E4006.
E4187	E4055	Parent has XX volume, target has 450mL. E4187 correctly maps to 3 targets (2 at 24, 1 at 120).
E4617	E5428	Parent has no V0016 attribute, target adds V0016005. E4617 has no targets. No sites have used E4617.
E4617	E5430	Parent has no V0016 attribute, target adds V0016006. E4617 has no targets. No sites have used E4617.
E5145	E2456	This would require making V0015 optional. The 120-hour target E7312 is already found. This is a different 120-hour target.
E5690	E7313	Parent is CPD, E7313 is CP2D. This is a bad modification. No targets found. No sites have used E5690.
E6087	E6623	Parent has V0014002. One valid 24-hour target E6431 is found. This target E6623 has attribute V0014004 instead. No sites have used E6087.
E6111	E6434	Parent has 500mL, E6434 has 450mL. No targets found. No sites have used E6111.
E6296	E3581	This would require making "TargetAdditive" include None. Two valid targets E7332 and E8077 are already found.
E6298	E3599	This would require making "TargetAdditive" include None. No other targets are found. No sites have used E6298.

Frozen Product Codes	Thawed Target Codes Removed	Removal Justification
E6300	E3599	This would require making "TargetAdditive" include None. No other targets are found. No sites have used E6300.
E6516	E6432	Parent is CPD, E6432 is CP2D. This is a bad modification. Two good targets found – 24-hour E8456 and 120-hour E8457.
E6524	E3581	This would require making "TargetAdditive" include None. Two valid targets E7332 and E8077 are already found. No sites have used E6524.
E6525	E7538	Parent is closed, target E7538 is opened. E6525 correctly maps to E6784.
E7037	E3581	This would require making "TargetAdditive" include None. One target E8077 is already found.
E7286	E7287	This would require making "TargetTemperature" rt as primary. Though this target E7287 is a better fit than the target E7285 that is found because the parent is also rt. No sites have used E7286.
E7608	E8146	Parent is closed, target E8146 is opened. E7608 correctly maps to 4 targets.
E7884	E5601	Parent is closed, target E5601 is opened. E7884 correctly maps to E8144.
E7956	E6432	Parent has XX volume, target has 450mL. No targets are found. No sites have used E7956.
E8032	E7402	Parent is CP2D, E7402 is CPD. This is a bad modification. Better target E6615 is found with CP2D.
E8708	E8868	Parent has no V0016 attribute, target adds V0016005. E8708 already has target E8386. No sites have used E8708.
E8709	E8869	Parent has no V0016 attribute, target adds V0016005. E8709 already has target E8386. No sites have used E8709.
E8710	E8870	Parent has no V0016 attribute, target adds V0016005. One good 120-hour target E8386 is found.
E8734	E8873	Parent has no V0016 attribute, target adds V0016005. One good 120-hour target E8386 is found.
E8735	E8874	Parent has no V0016 attribute, target adds V0016005. One good 120-hour target E8386 is found.
E8736	E8875	Parent has no V0016 attribute, target adds V0016005. One good 120-hour target E8386 is found.

Table 5: Changes to Leukoreduce in 2.3.0

Product Type Modifiers that can no longer be Leukoreduced	Washed, Deglycerolized, Rejuvenated, Reconstituted
Blood Product codes that can no longer be Leukoreduced	E0493, E3550, E3551, E3552, E4520, E4567, E5160

Table 6: Open Split Blood Product Codes Removed in 2.3.0

E0142	E3822	E4639	E5034	E5242	E6179	E7592	E8596
E0283	E3853	E4761	E5072	E5248	E7263	E7759	E8597
E2860	E3929	E4765	E5122	E5295	E7300	E7760	E8598
E3577	E4054	E4769	E5123	E5640	E7305	E7761	E8762
E3579	E4118	E4773	E5124	E5642	E7310	E7936	E8763
E3599	E4157	E4877	E5157	E5827	E7311	E8084	E8816
E3813	E4635	E4947	E5158	E5862	E7315	E8091	E8817
E3815	E4636	E4993	E5240	E5863	E7395	E8595	

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Appendix A: Validation Test Scenarios

Test Group One: Verification of changes regarding equal to or greater than (=>) 2 mL of Red Blood Cell contamination.

Test Objective: Demonstrate that VBECS allows and responds to a unit with equal to or greater than => 2 mL of Red Blood Cell contamination as indicated in Incoming Shipment.

Note: PLT that are indicated as having =>2mL RBC contamination are in an AVAILABLE status and do not require confirmation testing. Granulocytes in a full-service division require confirmation testing, regardless of the =>2mL setting.

Scenario 1: Verify changes as you process the data, setup and steps.

	Input, data or steps	Expected Outcome and verification	Step Pass or Fail?
User	Users, roles applicable to levels needed to perform the various to process any overrides required by your patient and unit selections		
Configuration	1. Configure local PC so audible alerts are enabled. Make sure your PC speakers are ON and working. 2. VBECS, Tools, Edit Division, Order Alerts: set Printer Alerts On as per local policy and use.	N/A	N/A
Data	Select your patient. Patient has no transfusion requirements. CPRS orders: 1. Enter this order to comply with your order alert print settings (to receive the alert printout). 2. Place an order for TAS & Component orders for 3-RBC, 1-FFP, 2 -OTHER, and 2-PLTS. 3. Select the longest Modifier available. 4. Enter a different Urgency for the component orders. 5. Accept and SIGN this order. 6. Select second patient. Place TAS order, accept and SIGN this order.	Record patient information: Modifier Selected: Order Urgency: Record CPRS order number: Second Patient ID:	N/A

Test Group One: Verification of changes regarding equal to or greater than (=>) 2 mL of Red Blood Cell contamination.

Test Objective: Demonstrate that VBECS allows and responds to a unit with equal to or greater than => 2 mL of Red Blood Cell contamination as indicated in Incoming Shipment.

Note: PLT that are indicated as having =>2mL RBC contamination are in an AVAILABLE status and do not require confirmation testing. Granulocytes in a full-service division require confirmation testing, regardless of the =>2mL setting.

Scenario 1: Verify changes as you process the data, setup and steps.

	Input, data or steps	Expected Outcome and verification	Step Pass or Fail?
Data	Accession the order in VistA lab.	Record the TAS Specimen UID:	N/A
Step 1 (368462)	Retrieve and review the Order Alert printout.	Verify that the Order Alert Printout header is updated.	
		Verify that the Urgency displays as selected in CPRS.	
		Verify that other order information displays as it did previously.	
Step 2 (368462)	VBECS, Orders, Accept Orders •  Review the Modifier associated with the component orders by clicking the Order Details button.	• Verify the audible alerts pinged when you selected an order with a Modifier. • Review the Modifier associated with the component orders by clicking the Order Details button.	
Step 3 (502042)	VBECS, Blood Units, Incoming Shipment: Enter two platelet units with your suppliers' product codes (or use E3057 and E3058) and check the =>2mL RBC contamination check box. • Unit ID / Product Code • Unit ID / Product Code	Verify that the =>2mL RBC contamination check box appears for platelet units: • Default is not checked • Change one of the two to checked	

Test Group One: Verification of changes regarding equal to or greater than (=>) 2 mL of Red Blood Cell contamination.

Test Objective: Demonstrate that VBECS allows and responds to a unit with equal to or greater than => 2 mL of Red Blood Cell contamination as indicated in Incoming Shipment.

Note: PLT that are indicated as having =>2mL RBC contamination are in an AVAILABLE status and do not require confirmation testing. Granulocytes in a full-service division require confirmation testing, regardless of the =>2mL setting.

Scenario 1: Verify changes as you process the data, setup and steps.

	Input, data or steps	Expected Outcome and verification	Step Pass or Fail?
Step 4	VBECS, Blood Units, Incoming Shipment: Enter two granulocyte units with your suppliers' product codes (or use E3673 and E3676) • Unit ID / Product Code • Unit ID / Product Code	Verify that the =>2mL RBC contamination check box for granulocyte units. • Default is checked • Change one of the two granulocytes to unchecked	
Step 5	VBECS, Blood Units, Incoming Shipment: Enter two RBC units with your suppliers' product codes (or use E4536 and E4537) • Unit ID / Product Code • Unit ID / Product Code	Verify that the =>2mL RBC contamination check box for RBC units. • Default is checked • The check box is not editable	
Step 6	VBECS, Blood Units, Incoming Shipment: Enter two thawed FFP or Plasma units with your suppliers' product codes (or use E0773 and E1325) • Unit ID / Product Code • Unit ID / Product Code	Verify that the =>2mL RBC contamination check box for FFP and Plasma units: • Default is NOT checked • The check box is not editable	

Test Group One: Verification of changes regarding equal to or greater than (=>) 2 mL of Red Blood Cell contamination.

Test Objective: Demonstrate that VBECS allows and responds to a unit with equal to or greater than => 2 mL of Red Blood Cell contamination as indicated in Incoming Shipment.

Note: PLT that are indicated as having =>2mL RBC contamination are in an AVAILABLE status and do not require confirmation testing. Granulocytes in a full-service division require confirmation testing, regardless of the =>2mL setting.

Scenario 1: Verify changes as you process the data, setup and steps.

	Input, data or steps	Expected Outcome and verification	Step Pass or Fail?
Step 7	ABO/Rh Confirmation (by individual unit or by invoice) 1. Select the units entered for ABO/RH confirmation testing. (by individual unit or by invoice) 2. Perform confirmation testing on all but one RBC unit and one Granulocyte unit as required *When validating Granulocytes, do not confirm the Granulocyte with < 2mL RBC contamination.*	Verify that the confirmation testing was performed on all but one RBC and one Granulocyte Unit.	
Step 8	Patients, Patient Testing Complete the first patient's TAS test. Complete just the ABO/Rh portion of the second patient's order.	N/A	N/A
Step 9	Blood Units, Select Unit Use the patient's order for RBC. Attempt to select the unconfirmed RBC unit.	Verify that a RBC unit is required to have an ABO/Rh confirmation before it can be selected normally. (Message appears and unit is not selectable even with override.)	

Test Group One: Verification of changes regarding equal to or greater than (=>) 2 mL of Red Blood Cell contamination.

Test Objective: Demonstrate that VBECS allows and responds to a unit with equal to or greater than => 2 mL of Red Blood Cell contamination as indicated in Incoming Shipment.

Note: PLT that are indicated as having =>2mL RBC contamination are in an AVAILABLE status and do not require confirmation testing. Granulocytes in a full-service division require confirmation testing, regardless of the =>2mL setting.

Scenario 1: Verify changes as you process the data, setup and steps.

	Input, data or steps	Expected Outcome and verification	Step Pass or Fail?
Step 10	Blood Units, Select Unit Use the patient's order for Other. Select the unconfirmed Granulocyte with less than 2mL RBC contamination.	Verify that a granulocyte unit is required to have an ABO/Rh confirmation before it can be selected normally. (Message appears and unit is not selectable even with override.)	
Step 11	Blood Units, Select Unit Use the patient's order for RBC. Attempt to select the now confirmed (from Step 7) RBC unit.	Verify the unit is selectable. VBECS allows units to be selected when ABO/Rh confirmation is complete.	
Step 12	ABO/Rh Confirmation: Perform confirmation testing on RBC unit and Granulocyte unit that was not completed in Step 7.	VBECS will allow user to confirm units.	

Test Group One: Verification of changes regarding equal to or greater than (=>) 2 mL of Red Blood Cell contamination.

Test Objective: Demonstrate that VBECS allows and responds to a unit with equal to or greater than => 2 mL of Red Blood Cell contamination as indicated in Incoming Shipment.

Note: PLT that are indicated as having =>2mL RBC contamination are in an AVAILABLE status and do not require confirmation testing. Granulocytes in a full-service division require confirmation testing, regardless of the =>2mL setting.

Scenario 1: Verify changes as you process the data, setup and steps.

	Input, data or steps	Expected Outcome and verification	Step Pass or Fail?
Step 13	Select all units for the patient's orders. The patient's Other order for the Granulocyte with =>2mL must be associated with the patient's specimen during Select Unit. The patient's Platelet order for the unit with =>2mL must be associated with the patient's specimen during Select Unit. Modify the FFP unit to thawed, If necessary. DO NOT COMPLETE CROSSMATCH testing, electronic or serologic. Exit Select Units.	N/A	N/A
Step 14	Patients, Issue Blood Component Enter Issue Blood Components information. Review units displayed under Assigned Units tab and Emergency Issue Units tab.	Verify units that do not have => 2 mL RBC Contamination indicator appear on the Assigned Units tab. Verify the units with => 2 mL RBC Contamination indicator that require crossmatch appear on the Emergency Issue Units tab as they require further testing (they are uncrossmatched).	
Step 15	Blood Units, Select Units Select the units that require Crossmatch. Complete the required pre- transfusion testing.	N/A	N/A

Test Group One: Verification of changes regarding equal to or greater than (=>) 2 mL of Red Blood Cell contamination.

Test Objective: Demonstrate that VBECS allows and responds to a unit with equal to or greater than => 2 mL of Red Blood Cell contamination as indicated in Incoming Shipment.

Note: PLT that are indicated as having =>2mL RBC contamination are in an AVAILABLE status and do not require confirmation testing. Granulocytes in a full-service division require confirmation testing, regardless of the =>2mL setting.

Scenario 1: Verify changes as you process the data, setup and steps.

	Input, data or steps	Expected Outcome and verification	Step Pass or Fail?
Step 16	Patients, Issue Blood Component Select the patient. Enter Issue Blood Component Information See the units available for issue.	Verify units that have the => 2 mL RBC contamination indicator appear on the Assigned Units tab.	
Step 17	Complete the issue of at least ONE unit to a **Non-Remote Storage Location** Wait at least one minute (per PC clock) then return the unit from issue.	Record the issued Unit ID:	N/A
Step 18 **382084**	Blood Units or Patients, Return Issued Units to Blood Bank 1. Wait at least one minute (per PC clock) then return the unit from issue. Enter a comment per local policy/procedure. 2. Save the unit to complete the return of the unit to inventory.	Verify the message and comment requirement appear.	
Step 19	Patients, Issue Blood Components Issue all blood units.	N/A	N/A
Step 20	Patients, Post-Transfusion Information Enter transfusion information for the unit in step 17.	N/A	N/A

Test Group One: Verification of changes regarding equal to or greater than (=>) 2 mL of Red Blood Cell contamination.

Test Objective: Demonstrate that VBECS allows and responds to a unit with equal to or greater than => 2 mL of Red Blood Cell contamination as indicated in Incoming Shipment.

Note: PLT that are indicated as having =>2mL RBC contamination are in an AVAILABLE status and do not require confirmation testing. Granulocytes in a full-service division require confirmation testing, regardless of the =>2mL setting.

Scenario 1: Verify changes as you process the data, setup and steps.

	Input, data or steps	Expected Outcome and verification	Step Pass or Fail?
Step 21	Review the Unit History report for the transfused unit.	Verify that: The header includes information for => 2mL RBC (NOT RBC OR WB) The Issue Information section is up to date. The transfusion information is up to date.	
Step 22	Review the Patient History report.	Verify the ABO/RH of the transfused unit appears on the Patient History Report, Transfusion History section.	
Step 23 (optional)	Allow the specimen for both patients to "expire" and check CPRS status of the order associated with the issued unit. Optionally may use Orders, Maintain Specimen to change the specimen's expiration date to an expired value. The component order will be expired overnight.	Verify that the TAS order's CPRS status is "C" as it will be in VBECS. Verify that the TAS does not display on the Patient Testing, Pending Task List.	
Step 24 (optional) 210169	Check that a partially completed RBC order expires and does not remain on the Pending Task List.	Verify that the partially completed RBC order does not remain on the Component Orders, Pending Task List.	
Step 25 (optional) 210169	In CPRS, check the completed Other order, before and after the specimen expires, the status remains "C".	Verify that the completed order's CPRS status remains "C" and is not changed to "E".	

Test Group One: Verification of changes regarding equal to or greater than (=>) 2 mL of Red Blood Cell contamination.

Test Objective: Demonstrate that VBECS allows and responds to a unit with equal to or greater than => 2 mL of Red Blood Cell contamination as indicated in Incoming Shipment.

Note: PLT that are indicated as having =>2mL RBC contamination are in an AVAILABLE status and do not require confirmation testing. Granulocytes in a full-service division require confirmation testing, regardless of the =>2mL setting.

Scenario 1: Verify changes as you process the data, setup and steps.

	Input, data or steps	Expected Outcome and verification	Step Pass or Fail?
Step 26 (optional) 338529	In CPRS, check the partially completed TAS order before and after the specimen expires; the status remains "A".	Verify that the partially completed order's CPRS status remains "A".	

Test Group Two: Generic Test Scenario for New Blood Product Codes

(Generic Script, Repeat as needed for each product code that you may receive from your blood supplier.)

VistA TEST is required as you will need VistALink for retrieval of HCPCS Codes, Accepting Orders, and Issuing Blood Products.

Test Objective: Demonstrate that the blood product code can be processed throughout VBECS for patient transfusion.

Note: An ISBT 128 blood product code is the full 8-digit product code as entered in Incoming Shipment. This includes the 5-digit product description (e.g., E8899) that has been added to VBECS, a 6th character which is the donation type, and the 7th and 8th characters that represent the divisions of the blood product.

Scenario 1 (Incoming Shipment): Verify the unit can be processed into the facility's inventory using Incoming Shipment.		**Step Pass or Fail?**
Data	Associate the blood product codes at least one active facility, HCPCS Codes. (Tools, Blood Products)	N/A
User	No specific user role is required.	N/A
Steps	Add one or all blood unit(s) with the indicated product code to the facility inventory on a single invoice. (Shipments, Incoming Shipment).	N/A

Test Group Two: Generic Test Scenario for New Blood Product Codes

(Generic Script, Repeat as needed for each product code that you may receive from your blood supplier.)

VistA TEST is required as you will need VistALink for retrieval of HCPCS Codes, Accepting Orders, and Issuing Blood Products.

Test Objective: Demonstrate that the blood product code can be processed throughout VBECS for patient transfusion.

Note: An ISBT 128 blood product code is the full 8-digit product code as entered in Incoming Shipment. This includes the 5-digit product description (e.g., E8899) that has been added to VBECS, a 6th character which is the donation type, and the 7th and 8th characters that represent the divisions of the blood product.

Expected Outcome	The product code can be brought into the hospital's blood product inventory and its record retrieved.	N/A
Reports	Cost Accounting Report, Unit History Report, Blood Availability Report, review reports used at your facility	N/A
Scenario 2 (Modification): Verify the unit can be processed through enabled modification process(es). **Note:** Perform only real-life modification patterns. Processing a single blood unit through multiple modifications may not present a target.		
Data	Log in (Shipments, Incoming Shipment) a blood unit with the indicated product code.	N/A
User	No specific user role is required. **Note:** If the unit is to be modified repeatedly, a Traditional Supervisor may Remove the Final Status to allow use of the same blood unit in multiple modifications.	N/A
Steps	Modify one or all of the blood units in an applicable modification (specifically, THAW).	*Enter the related defect tracking number.*
Expected Outcome	Blood unit with the indicated product code can be modified to a transfusable product.	
Reports	Unit History Report, Blood Availability Report, review reports used at your facility	
Scenario 3 (Selection and Issue): Verify the unit can be processed through normal path for patient transfusion.		**Verification**
Data	Place and accession the appropriate orders for the patient. Accept the orders in VBECS (Orders, Accept Orders).	
User	No specific user role is required.	
Steps	1. Assign the Unit (Blood Units, Select Units).	
	2. Optionally, print the BTRF and Caution Tag.	

Test Group Two: Generic Test Scenario for New Blood Product Codes

(Generic Script, Repeat as needed for each product code that you may receive from your blood supplier.)

VistA TEST is required as you will need VistALink for retrieval of HCPCS Codes, Accepting Orders, and Issuing Blood Products.

Test Objective: Demonstrate that the blood product code can be processed throughout VBECS for patient transfusion.

Note: An ISBT 128 blood product code is the full 8-digit product code as entered in Incoming Shipment. This includes the 5-digit product description (e.g., E8899) that has been added to VBECS, a 6th character which is the donation type, and the 7th and 8th characters that represent the divisions of the blood product.

	3. Issue the Unit (Patients, Issue Blood Components).	Verify that the Blood unit with the indicated product code can be issued for patient transfusion.
	4. Enter Post-Transfusion Information.	Verify that the Blood unit with the indicated product code can be updated to a transfused status.
Reports	Unit History Report, Patient History Report, Blood Availability Report, review reports used at your facility	

Test Group Three: Issue Blood Component refresh for ABO/Rh test

Test Objective: Demonstrate that when a user attempts to save the blood product issue when pertinent data has been changed in the interim:

- data will be refreshed when the user attempts to save the blood product issue
- user will receive a message stating a patient's critical element was modified by another user
- unit issue is not allowed

Repeat these test cases for the patient's critical elements:

- ABO/Rh blood type <critical element>

Scenario 1: Verify that data is refreshed when the user attempts to save the blood product issue and will message appropriately when pertinent data are added that may impact the suitability of the selected units for transfusion.

Note: This scenario mentions emergency issue as optional testing path and may or may not apply to the actual execution based on your unit or patient selection. There are different warnings that appear to when a user attempts to issue a unit AFTER a change to critical elements. These continue to perform as expected and are optionally tested in Step 5.

Data	1. Select or create a patient. **User A:** 2. Enter CPRS TAS and appropriate Component Order. 3. Process the TAS to completion. Select blood component units that are available for routine and/or Emergency issue, at least one unit may appear on each of the tabs. More units may be added at your discretion. **User B:** 4. Enter a CPRS or reflex ABO/Rh test for the selected patient. Do not enter any test results until the step below.	
User	Two (2) users, any role (User A and User B)	
Steps	1. User A initiates a session in Issue Blood Component, selecting a unit. **Stop and wait.**	N/A
	2. User B enters a new (different type) ABO/Rh patient test. Save.	N/A
	3. User A resumes the blood product issue process and clicks the OK button to save. Review the popup message.	Verify that a message displays stating that a patient's critical element was modified by another user and that the units are not eligible at this time. Displays instructions to review the patient's information before attempting to issue the unit again.
	4. User A clicks OK, which exits this Issue Blood Component session.	N/A
	5. Optionally, User A or User B initiates a NEW Issue Blood Component session. Select all units on the Assigned Units and Emergency Issue Units tab as allowed.	Verify the units are evaluated and appropriately restricted based on the critical element change per and the user role selected in a new session (current functionality). If all units are not eligible for the patient, the option will not allow you to proceed.

Test Group Four: Modify Units (Thaw, Pool, Split)

Test Objective: Demonstrate that units can be modified as expected and that appropriate targets are available.

Scenario 1: (Thaw): Verify that blood units can be thawed to blood product with a 24-hour expiration as well as blood product with a 120-hour expiration.		
Data	Blood unit(s) that can be thawed.	
User	No specific user role is required.	
Steps	1. Perform thaw of blood units.	Verify that expected targets are available.
	2. Generate Unit History Report	Verify that Thaw modification is reflected in report
Scenario 2: (Thaw-Closed): (Optional) Verify that blood units pooled by the supplier using a closed system can be thawed to blood product with the appropriate default expiration		
Data	Blood unit(s) from a closed system that can be thawed.	
User	No specific user role is required.	
Steps	1. Perform thaw of blood units.	Verify that expected targets are available.
	2. Generate Unit History Report	Verify that Thaw modification is reflected in report
Scenario 3: (Pool): Verify that blood units can be pooled. **(Optional)**		
Data	Blood unit(s) that can be pooled.	
User	No specific user role is required.	
Steps	1. Perform pool of blood units using SCD (Sterile Connection Device) option.	Verify that user must pick option of Weld completeness before selecting units to pool.
	2. Generate Unit History Report	Verify that Pool modification is reflected in report.
Scenario 4: (Split): Verify that blood units can be split. (**Optional)**		
Data	Blood unit(s) that can be split.	
User	No specific user role is required	
Steps	1. Perform split of blood units using SCD option.	Verify that user must pick option of Weld completeness before selecting units to split.
	2. Generate Unit History Report.	Verify that Split modification is reflected in report.

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This is the last page of *VistA Blood Establishment Computer Software (VBECS) 2.3.0 Release Notes*.