VistA Blood Establishment Computer Software (VBECS) 1.6.1

Release Notes Version 5.0

Department of Veterans Affairs
Product Development

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Revision History

Date	Revision	Description	Author
5/1/13	1.0	Initial version	BBM team
01/30/13	2.0	VistA Dependencies: Added VBEC*1*50 informational patch. Added CR 3272 to Corrections and Modifications, Issue Blood Component Updates table, Table of Overall Expected 1.6.1 Test Group Outcomes and Test Group Six. Testing Scenario Groups One, Two, Four and Five: Added information in the Note regarding CR 2,202 ("The patient's ABO/Rh does not display in the Exception Report entry. This is due to KDA CR 2,202. The KDA occurs in all Issue Blood Component entries.") <u>Changes from UAT:</u> • Edited DR 4501: Problem Summary, removed "Platelet" • Global: Changed Test Group numbers to text. Testing Group Scenario changes: Data sections for Testing Groups One, Two, Four and Five: • Revised CPRS ORDERS: Edited second sentence. • VBECS Accept Orders: Edited second sentence. Test Group One: • Data, Special Instructions: Group One: Changed "Irradiate Cellular Products Only" to "Irradiated Cellular Products". • Incoming Shipment: Removed "and Platelets". • Scenario 1, Steps #1: Inserted "blood components" to clarify OTHER component class. Format change to 'NOT IRRADIATED". #2: Changed "only" to "***only***". • Scenario 3, Steps #1: Changed "Scenario 1, 2" to "Scenarios 1 and 2". • Scenario 4, Note: Changed Scenario "1" to "3". Steps #2: Removed "Respond to the warning message and proceed to assign the unit." Test Group 2: • Scenario 1, Steps: Inserted a new #1, "Release all units from assignment associated with this patient from prior testing." • Scenario 1 and 3, Steps #3: Changed "only" to "***only***" • Scenario 2, Steps: #1: Changed Scenario "3" to "1". Expected outcome: Removed "is not" from the last sentence. • Scenario 4, Steps: #2: Revised second sentence. Test Group Four and Five: • Scenario 1, Steps #3: Changed "only" to "***only***" Appendix B: Added. Appendix C: Added. Corrections and Modifications: Removed HD 775637. Added CR 3272. Appendix A and C: Changed figures to tables. Appendix B: Labeled screenshots as figures. Edited VistA Software Dependencies. Table 1: Added OVR 5 and OVR 6 information. Edited each footnote improving grammar. Test Group Six, Scenario 1 Edited steps and expected outcome related to Unit C. Appendix B: Edited footnote on Table 12. Added footnotes on Tables 10, 11, and 13.	BBM team
03/19/13	3.0	Document footer: Updated month and version number. Table 1: Clarified that the unit may be issued by the logged on	BBM team

Date	Revision	Description	Author
		user. Added a footnote to the table. Test Group One: Test Objective: 4th paragraph first sentence: Inserted 'component' before requirement. Data: Added Component Class Configuration and VBECS Patient Testing. Scenario 3: Expected Outcome, Step 2: Updated to state that override or comment is required. Test Group Three: Data: Added "Antibody screen test is completed and negative." Test Group Six: Data table of units: Updated Unit A, B, and C ABO Group Specific Rh Pos. Select Unit: Updated to show all units are selected. Do not perform crossmatch tests at this time. Scenario 1, Steps 10 and 13: Edited for variation of user roles. Expected outcome, Step 3, Unit C: Edited for variation of user roles. Scenario 2, Steps 7 and 8: Updated for override presentation. Expected Outcome: Renumbered steps. Appendix C: Corrected * and ** in all tables. (DR 4588).	
04/26/13	4.0	Edited VBEC*1.0*50 to read VBEC*1*50. Revised format of testing scenarios to avoid misreading over page breaks. Text Group Six: Clarified the use of a previously tested patient vs a VistA converted patient record. Added an asterisk to the table header for "Example Product Code" linking to the text regarding using local product codes. Scenario 1 Removed Steps 10 through 13. Expected Outcome, removed bullets for units B and C. First bullet now lists units A, B, and C. Unit D: Steps 8 and 13: Removed "The Lead Tech and higher" replaced with "Any user role". Scenario 4: Expected Outcome, Step 3, added a paragraph describing the message pop up response if the unit data is entered or scanned rather than checking the icon tool tip.	BBM team
05/06/13	5.0	Test Group Six, Scenario 1: Expected Outcome: Corrected step numbers as follows: Changed Steps 4 through 7 to 4 through 9. Changed Steps 8 and 13 to 10 and 14. Changed Steps 15 and 21 to 12 and 16. Reports: Changed Steps 15 and 21 to 12 and 16. Test Group Six, Scenario 2, Step 1: Added action to release units from patient assignment. Added Step 15. Test Group Six, Scenario 3, Added .step 10 Test Group Six, Scenario 4, Step 1: Changed Scenario "2" to "3". Edited text regarding entering the unit id and product code.	BBM team

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Introduction

VistA Blood Establishment Computer Software (VBECS) Release 1.6.1 Release Notes contains information and examples of test scenarios for enhancements and modifications to VBECS.

Appendix A: Validation Planning and Example Test Scenarios contains examples of test scenarios for modifications included in this release.

New Features and Functions

None

Corrections and Modifications

This section lists corrections and modifications to VBECS 1.6.1 software. The primary focus of this release is to correct a problem with the enforcement of applicable transfusion requirements to the products in PLATELETS and OTHER orderable categories.

Resolution of: **HD 772113**

Corrections may have an example validation scenario in Appendix A: Validation Planning and Example Test Scenarios.

Local validation is required as defined in your validation plan.

Issue Blood Component Updates

Problem Summary	Resolution Summary	Verification or Validation Scenario
The system does not present the warning or override messages when the unit is of the orderable class Platelet and OTHER (Cellular products); the patient has active Transfusion Requirements (TRs) specifically: Irradiate Products and CMV negative Cellular Products. HD 772113, CR 3260, DR 4501	When a patient has an active Transfusion Requirements of "Irradiate Cellular Products" or "CMV Negative Cellular Products", the application evaluates all OTHER blood component units, cellular or non-cellular at Issue Blood Component. See *VBECS 1.6.1 User Guide Appendix N: System Responses to Active Transfusion Requirements in Select Unit and Issue Blood Component.*	Appendix A: Validation Planning and Example Test Scenarios. Test Groups One, Two, Four, and Five
Issuing an Rh Positive "OTHER" blood component unit to an Rh Negative patient does not display the expected warning and override messages. DR 4508, CR 3261	Issuing an Rh Positive "OTHER" blood component unit to an Rh Negative patient displays the expected warning and override messages.	Appendix A: Validation Planning and Example Test Scenarios. Test Group One, Scenario 3

Issue Blood Component Updates

Problem Summary	Resolution Summary	Verification or Validation Scenario
The system allowed issue of an expired unit with unsatisfied Component requirements when the Unit ID and Product Code are entered in the Unit Select fields in spite of the unit appearing on the Assigned Units tab with a stop warning icon and was not selectable due to unsatisfied Transfusion Requirements. CR 3272	A blood component unit that is not to be issued due to unsatisfied transfusion requirements cannot be issued when also expired by entering the Unit ID and Product Code in the Unit Select area.	Appendix A: Validation Planning and Example Test Scenarios. Test Group Six

User Guide Updates

Problem Summary	Resolution Summary	Verification or Validation Scenario
The description of the compatibility percentage calculation does not include the information that the percentage is calculated for type specific blood products causing confusion in the user community. HD 773858, DR 4503	User guide includes detailed information regarding the percentage compatibility.	None Provided.
Customer support section is misleading users to contact national rather than local support desks.	Customer support section is revised to emphasize the need to contact local and regional support desks before contacting the national help desk. Recommend posting local and regional support contact information where laboratory personnel can access it on all shifts.	None Provided.
Accept Orders section changed Additional Information.	Clarified Additional Information bullet that automatic order expiration occurs for previously accepted orders. An Additional Information bullet is added directing the user to the Maintain Specimen section.	None Provided.
When the unit is of the orderable class OTHER, it does not satisfy the patient's active Sickle Cell negative requirement; no warning presents to the user. DR 4501, CR 3260	The Select Unit section has been updated to include clarification that the Transfusion Component Requirement "Sickle Cell Negative RBC products" evaluates only Whole Blood and Red Blood Cell blood component units only as described. See VBECS 1.6.1 User Guide *Appendix N: System Responses to Active Transfusion Requirements in Select Unit and Issue Blood Component.*	None Provided.

Untestable System-Level Corrected Code Requests

None.

VistA Software Dependencies

- VBEC*1*50

This is an informational patch announcing VBECS 1.6.1.

VBECS User Documents

The following documents are new for this release and may be obtained from the VA Software Document Library (VDL).

- *VistA Blood Establishment Computer Software (VBECS) 1.6.1 Patch Installation Guide*
- *VistA Blood Establishment Computer Software (VBECS) 1.6.1 User Guide*

Customer Support

Problems?

Contact your **Local** Information Resource Management (IRM) or Laboratory Automated Data Processing Application Coordinator (ADPAC) if you encounter problems and for training support **before** contacting the National Help Desk.

Problems with connectivity to VistA and CPRS require personnel with local VBECS server access. Please ensure local and regional server administration contact information is available at all times.

For national Information Technology (IT) support *after local and regional triage and the problem remains unresolved:*

National help desk personnel do NOT have local VBECS server access and cannot assist with interface connection problems without assistance from local IT personnel.

National VA Service Desk Contact

For Information Technology (IT) support, call the VA Service Desk (VASD), 888-596-HELP (4357) (toll free), 24 hours per day, 7 days per week. [Users with access to the VASD-supported request tool (e.g., Remedy) may file a ticket in lieu of calling the VASD.]

National VA Service Desk Alternate Contacts

- Web site: http://vaww.itsupportservices.va.gov/vasd_home.asp (National Service Desk Tuscaloosa).
- Email : vhacionhd@va.gov

References

Active membership to each group is required to access these reference tables.

- AABB Standards for Blood Banks and Transfusion Services, 28th edition

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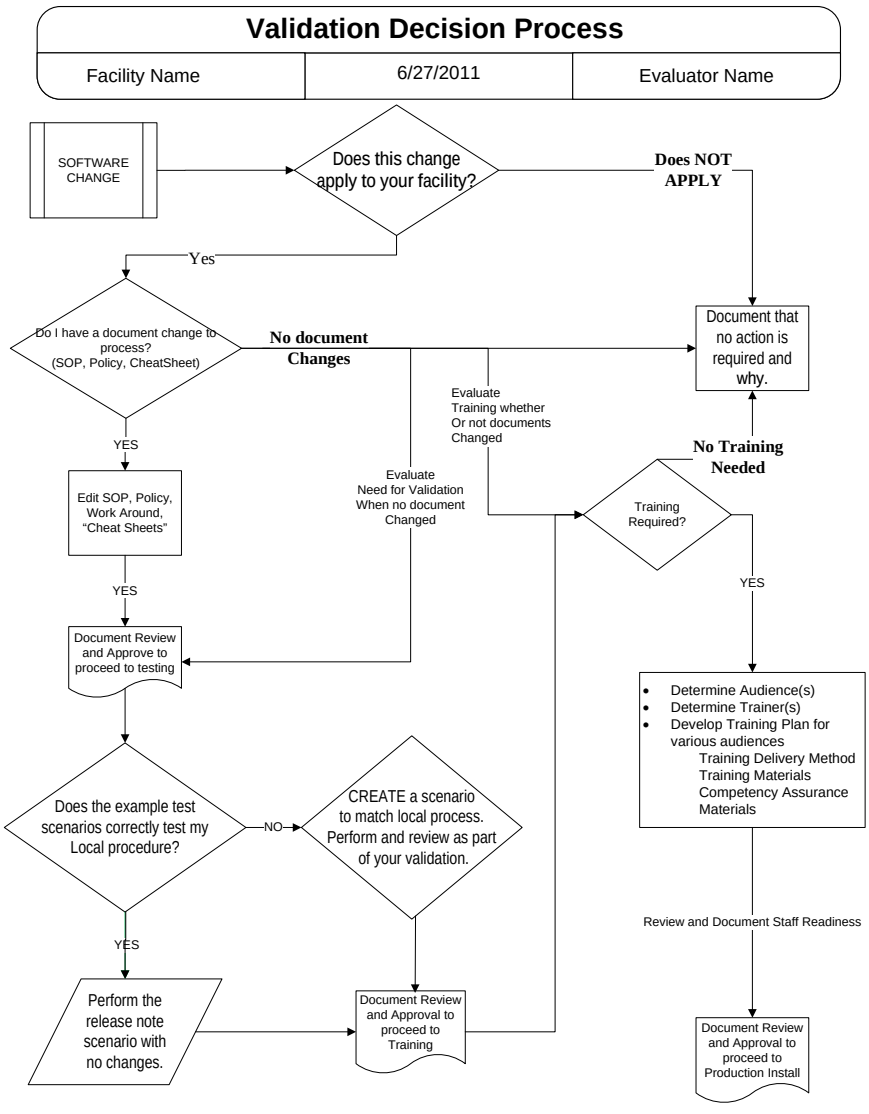
Appendices

Appendix A: Validation Planning and Example Test Scenarios

The following is a flowchart to help assess any one change and plan accordingly.



These are examples of test scenarios. Each site is responsible for evaluating changes for their intended use and for establishing additional validation test scenarios.

Table of Overall Expected 1.6.1 Test Group Outcomes

The Table of Overall Expected 1.6.1 Test Group Outcomes (Table 1) details all of the expected outcomes, some of which are tested in variation by the test groups. Note that *the blood component unit ID and Product Code must be scanned or manually entered when directed or you are NOT validating the correction*, picking a unit from the Assigned Units tab verifies the messaging matches but is not testing the correction. The system must prohibit issue or collect all pertinent overrides when the unit is selected by either method during Issue Blood Component.

Table 1: Overall Expected Outcomes

Table of Overall Expected Outcomes							
					May be issued by this logged on user role*		
Unit ID	**Patient ABO/Rh Test on current specimen complete**	**ABO Type Specific?**	**Expired ?**	**Satisfies the patient's active Component Requirements for RBC?**	**Lead Tech and higher**	**Enhanced Tech**	**Tech**
Unit A	**NO**	Yes	No	Yes	**NO**	**NO**	**NO**
Unit B	**NO**	Yes	No	NO, at least ONE is **not** satisfied.	**NO**	**NO**	**NO**
Unit C	**NO**	Yes	Yes	Yes	**NO**	**NO**	**NO**
Unit D	**NO**	O Rh Pos	No	Yes	**YES/OVR[1]**	**YES/OVR[1]**	**YES/OVR[1]**
Unit E	**NO**	O Rh Neg	No	Yes	**YES/OVR[6]**	**YES/OVR[6]**	**YES/OVR[6]**
Unit A	Yes	Yes	No	Yes	Yes	Yes	Yes
Unit B	Yes	Yes	No	NO, at least ONE is **not** satisfied.	**YES/OVR[2]**	**NO**	**NO**
Unit C	Yes	Yes	Yes	Yes	**YES/OVR[3]**	**YES/OVR[4]**	**NO**
Unit D	Yes	O Rh Pos	No	Yes	**YES/OVR[5]**	**YES/OVR[5]**	**YES/OVR[5]**
Unit E	Yes	O Rh Neg	No	Yes	Yes	Yes	Yes

*Logon user controls overrides not a user selected as "tested by".

YES/OVR[1] Overrides are required as the unit is Emergency issue and Rh Positive to an Rh Negative patient. Exception Report: Transaction: Emergency issue and Transaction Type: Antigen positive/untested units
YES/OVR[2] Override is required as the unit is does not satisfy active component requirement(s).
YES/OVR[3] Overrides are required as the unit is expired as well as does not satisfy active component requirement(s).
YES/OVR[4] Override is required as the unit is expired.
YES/OVR[5] Override is required as the unit is Rh Positive to an Rh Negative Patient
YES/OVR[6] Override is required as the unit must be processed by Emergency issue.

Test Group One: Select Unit and Issue Blood Component (Irradiate Cellular Products)

Test Objective: Demonstrate that the Issue Blood Component option properly restricts or allows issuance of a blood component unit with an unsatisfied Transfusion Component Requirement, specifically **"Irradiate Cellular Products Only**"* for blood component units in the CPRS orderable class of "PLATELETS" and "OTHER".

*All product types in OTHER are evaluated for the requirement including those that are non-cellular. The scenario provides a cellular example.

Note: The problem as it occurred when the Platelet component order was processed separately without an associated set of units selected for an order.

The exception report entry lists all of the patient's active component transfusion requirements and does not specify the unmet component requirement(s). This is purposeful as one, some, or all of the patient's active component requirements may be unmet and provides the report reviewer a complete list of the patient's component requirements. The override message at Issue Blood Component displays the specific unmet requirement(s) as the user may choose to abort the issue process and complete the required unit processing prior to issuing the blood component unit. The Patient History Report continues to display the unit specific information in the Unit Assignment History or the Transfusion History section as related to the unit's status at the time the report is generated.

The patient's ABO/Rh does not display in the Exception Report entry. This is due to KDA CR 2,202. The KDA occurs in all Issue Blood Component entries.

Overall: Verify the proper messaging and system action is presented during issuance of blood for transfusion (Issue Blood Components) for the specific combination of:

- The user security role as assigned in VBECS.
- The ACTIVE Transfusion Requirement (Component Requirement) set for the selected patient.
- The blood component unit selected for the patient.

Test Group One: Select Unit and Issue Blood Component (Irradiate Cellular Products)	
Data	CPRS ORDERS: Enter a CPRS component order for “OTHER”, “PLATELETS” and a TAS. *DO NOT ADD an RBC or WB order for this testing.* Component Class Configuration: Specimen NRQ for Platelets and Other VBECS Accept Orders: Place and accept all the orders simultaneously. Do not assign any blood units at this time. After acceptance, each blood component order is processed separately, in separate scenarios, to verify the changes. VBECS Patient Testing: Current ABO/Rh and Antibody Screen are completed. VBECS Patient Special Instructions and Transfusion Requirements, Component Requirements tab Activate the Component Requirement of “Irradiated Cellular Products” for the patient. VBECS Incoming Shipment Enter ABO/Rh compatible blood units to fill the OTHER component order; one that is irradiated and one that is not irradiated. For example, Codabar or ISBT 128 labeled *(These are random examples. Please use the codes used by your local supplier).* *Not irradiated:* 16410, GRANULOCYTES PHERESIS (UNLICENSED) E3618, GRANULOCYTES|CPD/500mL/rt|Open *Irradiated:* 16810, GRANULOCYTES PLATELETS PHERESIS IRRADIATED (UNLICENSED) E5512, Washed GRANULOCYTES|None/450mL/rt|Open|Irradiated Enter ABO/Rh compatible blood units to fill the PLATELETS component order; one that is irradiated and one that is not irradiated. For example, Codabar or ISBT 128 labeled *(These are random examples. Please use the codes used by your local supplier).* *Not irradiated:* 12000, PLATELETS E2940, Apheresis PLATELETS|ACD-A/XX/20-24C *Irradiated:* 12610, PLATELETS PHERESIS IRRADIATED E3045, Apheresis PLATELETS|ACD-A/XX/20-24C|Irradiated

Test Group One: Select Unit and Issue Blood Component (Irradiate Cellular Products)	
Scenario 1: Verify that the proper messaging and system action presents for the user security role of Lead Technologist and above for the component order: OTHER.	
User	Lead Technologist or above
Steps	1. Process the OTHER blood components ORDER units making the selected unit(s) available for issue to the patient for transfusion. Select and assign ***only*** the **NOT IRRADIATED** unit for the OTHER blood component order. Respond to the warning message and proceed to assign the unit. 2. Patients, Issue Blood Components, Select the patient and enter issue details. 3. Select the unit that is **NOT IRRADIATED** from the Assigned units tab**.** 4. Respond to the override comment by selecting "Other". Enter this free text comment: "1.6.1 Validation Scenario Group One, Scenario 1". 5. Click OK to save the override comment. 6. Complete the unit issue to the patient.
Expected Outcome	Step 1: A warning message displays but does not require override or comment. Steps 2-6. Override opportunity displays and requires comment for this user role to proceed. This user may proceed to issue this unit.
Reports	An Exception Report entry is created detailing this transaction (Unit issued with unsatisfied Transfusion Requirement).
Scenario 2: Verify the proper messaging and system action presents for the user security role of Enhanced Technologist or below for the component order: OTHER. Note: Instructions are to use the issued unit from scenario 1 to demonstrate the system response to the same unit for different user roles (permissions).	
User	Enhanced Technologist or below
Steps	1. Process the Return from Issue for the blood unit used in Scenario 1 to allow the unit to be used for this scenario. 2. Process the OTHER blood component order, select and assign OTHER irradiated blood component units as the **NOT IRRADIATED** unit is currently assigned. 3. Patients, Issue Blood Components, Select the patient and enter issue details. 4. Attempt to select the unit that is **NOT IRRADIATED** from the Assigned Units tab. (When more than one unit is assigned to the patient.)
Expected Outcome	User cannot proceed to issue the blood unit. This user is stopped at Step 4 to select the unacceptable unit when multiple units are assigned to the patient and at least one is available to issue. If you assigned only the non-irradiated unit, this user is stopped at Step 3 when only one unit is assigned that may not be issued by the user's VBECS role.
Reports	N/A

Test Group One: Select Unit and Issue Blood Component (Irradiate Cellular Products)	
Scenario 3: Verify that the proper messaging and system action presents for the user security role of Lead Technologist and above for the component order: PLATELETS.	
User	Lead Technologist or above
Steps	1. Release all units from assignment from the OTHER blood component order used in Scenarios 1 and 2. 2. Process the PLATELET ORDER units making the selected unit(s) available for issue to the patient for transfusion. Select and assign ***only*** the **NOT IRRADIATED** unit for the PLATELET blood component order. Respond to the warning message and proceed to assign the unit. 3. Patients, Issue Blood Components, Select the patient and enter issue details. 4. Select the unit that is **NOT IRRADIATED** from the Assigned units tab. 5. Respond to the override comment by selecting "Other". Enter this free text comment: "1.6.1 Validation Scenario Group One, Scenario 3". 6. Click OK to save the override comment. 7. Complete the unit issue to the patient.
Expected Outcome	Step 2: A warning message displays and requires override or comment. Steps 3 through 7. Override opportunity displays and requires comment for this user role to proceed. This user may proceed to issue this unit.
Reports	An Exception Report entry is created detailing this transaction (Unit issued with unsatisfied Transfusion Requirement).
Scenario 4: Verify the proper messaging and system action presents for the user security role of Enhanced Technologist or below for the component order: PLATELETS. Note: Instructions are to use the issued unit from scenario 1 to demonstrate the system response to the same unit for different user roles (permissions).	
User	Enhanced Technologist or below
Steps	1. Process the Return from Issue for the blood unit used in Scenario 3 to allow the unit to be used for this scenario. 2. Process the PLATELET component order, select and assign the irradiated PLATELET unit as the **NOT IRRADIATED** unit is currently assigned. 3. Patients, Issue Blood Components, Select the patient and enter issue details. 4. Attempt to select the unit that is **NOT IRRADIATED** from the Assigned Units tab. (When more than one unit is assigned to the patient.)
Expected Outcome	User cannot proceed to issue the blood unit. This user is stopped at Step 4 to select the unacceptable unit when multiple units are assigned to the patient and at least one is available to issue. If you assigned only the non-irradiated unit, this user is stopped at Step 3 when only one unit is assigned that may not be issued by the user's VBECS role.
Reports	N/A

Test Group Two: Select Unit and Issue Blood Component (CMV Negative cellular products)

Test Objective: Demonstrate that the Issue Blood Component option properly restricts or allows issuance of a blood component unit with an unsatisfied Transfusion Component Requirement of "**CMV negative cellular products**"* for units in the PLATELET and OTHER orderable class.

*All product types in OTHER are evaluated for the requirement including those that are non-cellular. The scenario provides a cellular example.

Note: The exception report entry lists all of the patient's active component transfusion requirements and does not specify the unmet requirement(s). This is purposeful as one, some, or all of the patient's active component requirements may be unmet and provides the report reviewer a complete list of the patient's component requirements. The override message at Issue Blood Component displays the specific unmet requirement(s) as the user may choose to abort the issue process and complete the required unit processing prior to issuing the blood component unit. The Patient History Report continues to display the unit specific information in the Unit Assignment History or the Transfusion History section as related to the unit's status at the time the report is generated.

The patient's ABO/Rh does not display in the Exception Report entry. This is due to KDA CR 2,202. The KDA occurs in all Issue Blood Component entries.

Overall: Verify the proper messaging and system action is presented during issuance of blood for transfusion (Issue Blood Components) for the specific combination of:

- The user security role as assigned in VBECS.
- The ACTIVE Transfusion Requirement (Component Requirement) set for the selected patient.
- The blood component unit selected for the patient.

Data	CPRS ORDERS: Enter a CPRS component order for "OTHER", "PLATELETS" and a TAS. *DO NOT ADD an RBC or WB order for this testing.* VBECS Accept Orders: Place and accept all the orders simultaneously. Do not assign any blood units at this time. After acceptance, each blood component order is processed separately, in separate scenarios, to verify the changes. VBECS Patient Special Instructions and Transfusion Requirements, Component Requirements tab Activate the Component Requirement of "CMV negative cellular products" for the patient. VBECS Incoming Shipment For example, Codabar or ISBT 128 labeled *(These are random examples. Please use the codes used by your local supplier).* Enter ABO/Rh compatible blood units to fill the PLATELETS component order; one is CMV negative and one that is **NOT CMV Negative**. 12000, PLATELETS 12070, PLATELETS LEUKOCYTES REDUCED E2940, Apheresis PLATELETS|ACD-A/XX/20-24C E6699, POOLED PLATELETS|PAS-C/XX/20-24C|Irradiated|Buffy coat plts prep|From 3 donors Enter ABO/Rh compatible blood units to fill the OTHER component order; one is CMV Negative and one that is **NOT CMV Negative**. 16410, GRANULOCYTES PHERESIS (UNLICENSED) 16810, GRANULOCYTES PLATELETS PHERESIS IRRADIATED (UNLICENSED) E3689, POOLED GRANULOCYTES|NS/XX/rt|Irradiated|Granulocytes prep: HES E3601, GRANULOCYTES|CPD/450mL/rt

Test Group Two: Select Unit and Issue Blood Component (CMV Negative cellular products)	
Scenario 1: Verify the proper messaging and system action presents for the user security role of Lead Technologist and above.	
User	Lead Technologist or above
Steps	1. Release all units from assignment associated with this patient from prior testing. 2. Process the OTHER blood component ORDER units making the selected unit(s) available for issue to the patient for transfusion. 3. Select and assign ***only*** the unit that is **NOT CMV Negative** for the OTHER blood component order. Respond to the warning message and proceed to assign the unit. 4. Patients, Issue Blood Components, Select the patient and enter issue details. 5. Select the unit that is **NOT CMV Negative** from the Assigned units tab. 6. Respond to the override comment by selecting "Other". Enter this free text comment: "1.6.1 Validation Scenario Group Two, Scenario 1". 7. Click OK to save the override comment. 8. Complete the unit issue to the patient.
Expected Outcome	Step 2: A warning message displays but does not require override or comment. Steps 3 through 7. Override opportunity displays and requires comment for this user role to proceed. This user may proceed to issue this unit.
Reports	An Exception Report entry is created detailing this transaction (Unit issued with unsatisfied Transfusion Requirement).
Scenario 2: Verify that the proper messaging and system action presents for the user security role of Enhanced Technologist or below.	
User	Enhanced Technologist or below
Steps	1. Process the Return from Issue for the blood unit used in Scenario 1 to allow the unit to be used for this scenario. 2. Process the OTHER component order, select and assign the CMV Negative unit as the **NOT CMV Negative** unit is currently assigned. 3. Patients, Issue Blood Components, Select the patient and enter issue details. 4. Select the unit that is **NOT CMV Negative** from the Assigned Units tab.
Expected Outcome	User cannot proceed to issue the blood unit. This user is stopped at Step 4 to select the unacceptable unit when multiple units are assigned to the patient and at least one is available to issue. If you assigned only the **NOT CMV Negative** unit, this user is stopped at Step 3 when only one unit is assigned that may not be issued by the user's VBECS role.
Reports	N/A

Test Group Two: Select Unit and Issue Blood Component (CMV Negative cellular products)	
Scenario 3: Verify the proper messaging and system action presents for the user security role of Lead Technologist and above.	
User	Lead Technologist or above
Steps	1. Release all units from assignment from the OTHER order used in Scenarios 1 and 2. 2. Process the PLATELET ORDER units making the selected unit(s) available for issue to the patient for transfusion. 3. Select and assign ***only*** the unit that is **NOT CMV Negative** for the PLATELET blood component order. Respond to the warning message and proceed to assign the unit. 4. Patients, Issue Blood Components, Select the patient and enter issue details. 5. Select the unit that is **NOT CMV Negative** from the Assigned units tab. 6. Respond to the override comment by selecting "Other". Enter this free text comment: "1.6.1 Validation Scenario Group Two, Scenario 3". 7. Click OK to save the override comment. 8. Complete the unit issue to the patient.
Expected Outcome	Step 3: A warning message displays but does not require override or comment. Steps 4-8. Override opportunity displays and requires comment for this user role to proceed. This user may proceed to issue this unit.
Reports	An Exception Report entry is created detailing this transaction (Unit issued with unsatisfied Transfusion Requirement).
Scenario 4: Verify that the proper messaging and system action presents for the user security role of Enhanced Technologist or below.	
User	Enhanced Technologist or below
Steps	1. Process the Return from Issue for the blood unit used in Scenario 3 to allow the unit to be used for this scenario. 2. Process the PLATELET component order, select and assign the CMV Negative PLATELET blood component unit, as the unit that is **NOT CMV Negative** is already assigned. 3. Patients, Issue Blood Components, Select the patient and enter issue details. 4. Select the unit that is **NOT CMV Negative** from the Assigned Units tab.
Expected Outcome	User cannot proceed to issue the blood unit. This user is stopped at Step 4 to select the unacceptable unit when multiple units are assigned to the patient and at least one is available to issue. If you assigned only the **NOT CMV Negative** unit, this user is stopped at Step 3 when only one unit is assigned that may not be issued by the user's VBECS role.
Reports	N/A

Test Group Three: Select Unit and Issue Blood Component (Rh)	
Test Objective: Demonstrate that the Issue Blood Component option properly warns and records the issuance of an Rh Positive blood component unit for units in the OTHER orderable class when the patient is Rh Negative or Rh Inconclusive. *All product types in OTHER are evaluated for the requirement including those that are non-cellular. The scenario provides a cellular example.	
Scenario 1: Verify that the proper messaging and system action presents for all VBECS users.	
Data	Enter a CPRS component order for OTHER and a TAS. TAS ABO/Rh test must have an Rh Negative (or Inconclusive) interpretation. Antibody screen test is completed and negative. Enter an ABO/Rh compatible blood unit that is not Rh Negative (Positive or Pooled) in the class, OTHER. For example, Codabar or ISBT 128 labeled *(These are random examples. Please use the codes used by your local supplier).* 16710, GRANULOCYTES PLATELETS PHERESIS (UNLICENSED) E3601, GRANULOCYTES|CPD/450mL/rt
User	Any VBECS user role, repeat the scenario for user roles used locally as needed.
Steps	1. Process the order making the selected unit(s) available for issue to the patient for transfusion. 2. Patients, Issue Blood Components, Select the patient and enter issue details. 3. Select the unit that is **NOT Rh Negative** from the Assigned units tab**.** The system provides an audible alert and displays the warning message: Patient is Rh negative and selected unit is Rh positive. 4. Respond to the override comment by selecting "Other". Enter this free text: "1.6.1 Validation Scenario Group Three, Scenario 1". 5. Click OK to save the override comment. 6. Continue to issue the unit to the patient.
Expected Outcome	Step 1: A warning message displays but requires override or comment. Steps 2 through 6. Override opportunity displays and requires comment for this user role to proceed. This user may proceed to issue this unit.
Reports	An Exception Report entry is created detailing this transaction (Antigen positive/untested units issued).

Test Group Four: Select Unit and Issue Blood Component (Leuko-reduced cellular products)

Test Objective: Demonstrate that the Issue Blood Component option properly restricts or allows issuance of a blood component unit with an unsatisfied Transfusion Component Requirement of "**Leuko-reduced cellular products**" for units in the PLATELET orderable class.

Note: The exception report entry lists all of the patient's active component transfusion requirements and does not specify the unmet requirement(s). This is purposeful as one, some, or all of the patient's active component requirements may be unmet and provides the report reviewer a complete list of the patient's component requirements. The override message at Issue Blood Component displays the specific unmet requirement(s) as the user may choose to abort the issue process and complete the required unit processing prior to issuing the blood component unit. The Patient History Report continues to display the unit specific information in the Unit Assignment History or the Transfusion History section as related to the unit's status at the time the report is generated.

The patient's ABO/Rh does not display in the Exception Report entry. This is due to KDA CR 2,202. The KDA occurs in all Issue Blood Component entries.

Overall: Verify the proper messaging and system action is presented during issuance of blood for transfusion (Issue Blood Components) for the specific combination of:

- The user security role as assigned in VBECS.
- The ACTIVE Transfusion Requirement (Component Requirement) set for the selected patient.
- The blood component unit selected for the patient.

Data	CPRS ORDERS: Enter a CPRS component order for "PLATELETS" and a TAS. *DO NOT ADD an RBC or WB order for this testing.* VBECS Accept Orders: Place and accept all the orders simultaneously. Do not assign any blood units at this time. After acceptance, each blood component order is processed separately, in separate scenarios, to verify the changes. VBECS Patient Special Instructions and Transfusion Requirements, Component Requirements tab Activate the Component Requirement of "Leuko-reduced cellular products" for the patient. VBECS Incoming Shipment For example, Codabar or ISBT 128 labeled *(These are random examples. Please use the codes used by your local supplier).* Enter ABO/Rh compatible blood units to fill the PLATELETS component order; one is Leuko-reduced and one that is **NOT Leuko-reduced**. 12000, PLATELETS E2940, Apheresis PLATELETS|ACD-A/XX/20-24C 12070, PLATELETS LEUKOCYTES REDUCED E3413, Apheresis PLATELETS|NaCitrate/XX/20-24C|ResLeu:<5log6

Test Group Four: Select Unit and Issue Blood Component (Leuko-reduced cellular products)	
Scenario 1: Verify the proper messaging and system action presents for the user security role of Lead Technologist and above.	
User	Lead Technologist or above
Steps	1. Release all units from assignment associated with this patient from prior testing. 2. Process the PLATELET ORDER units making the selected unit(s) available for issue to the patient for transfusion. 3. Select and assign ***only*** the unit that is **NOT Leuko-reduced** for the PLATELET blood component order. Respond to the warning message and proceed to assign the unit. 4. Patients, Issue Blood Components, Select the patient and enter issue details. 5. Select the unit that is **NOT Leuko-reduced** from the Assigned units tab. 6. Respond to the override comment by selecting "Other". Enter this free text comment: "1.6.1 Validation Scenario Group Four, Scenario 1". 7. Click OK to save the override comment. 8. Complete the unit issue to the patient.
Expected Outcome	Step 3: A warning message displays but does not require override or comment. Steps 4-8. Override opportunity displays and requires comment for this user role to proceed. This user may proceed to issue this unit.
Reports	An Exception Report entry is created detailing this transaction (Unit issued with unsatisfied Transfusion Requirement).
Scenario 2: Verify that the proper messaging and system action presents for the user security role of Enhanced Technologist or below.	
User	Enhanced Technologist or below
Steps	1. Process the Return from Issue for the blood unit used in Scenario 1 to allow the unit to be used for this scenario. 2. Process the PLATELET component order, select and assign the Leuko-reduced PLATELET blood component units, as the unit that is **NOT Leuko-reduced** is currently assigned. 3. Patients, Issue Blood Components, Select the patient and enter issue details. 4. Select the unit that is **NOT Leuko-reduced** from the Assigned Units tab.
Expected Outcome	User cannot proceed to issue the blood unit. This user is stopped at Step 4 to select the unacceptable unit when multiple units are assigned to the patient and at least one is available to issue. If you assigned only the **NOT Leuko-reduced** unit, this user is stopped at Step 3 when only one unit is assigned that may not be issued by the user's VBECS role.
Reports	N/A

Test Group Five: Select Unit and Issue Blood Component (Washed platelet products)

Test Objective: Demonstrate that the Issue Blood Component option properly restricts or allows issuance of a blood component unit with an unsatisfied Transfusion Component Requirement of "Washed platelet products" for units in the PLATELET orderable class.

Note: The exception report entry lists all of the patient's active component transfusion requirements and does not specify the unmet requirement(s). This is purposeful as one, some, or all of the patient's active component requirements may be unmet and provides the report reviewer a complete list of the patient's component requirements. The override message at Issue Blood Component displays the specific unmet requirement(s) as the user may choose to abort the issue process and complete the required unit processing prior to issuing the blood component unit. The Patient History Report continues to display the unit specific information in the Unit Assignment History or the Transfusion History section as related to the unit's status at the time the report is generated.

The patient's ABO/Rh does not display in the Exception Report entry. This is due to KDA CR 2,202. The KDA occurs in all Issue Blood Component entries.

Overall: Verify the proper messaging and system action is presented during issuance of blood for transfusion (Issue Blood Components) for the specific combination of:

- The user security role as assigned in VBECS.
- The ACTIVE Transfusion Requirement (Component Requirement) set for the selected patient.
- The blood component unit selected for the patient.

Data	CPRS ORDERS: Enter a CPRS component order for "PLATELETS" and a TAS. *DO NOT ADD an RBC or WB order for this testing.* VBECS Accept Orders: Place and accept all the orders simultaneously. Do not assign any blood units at this time. After acceptance, each blood component order is processed separately, in separate scenarios, to verify the changes. VBECS Patient Special Instructions and Transfusion Requirements, Component Requirements tab Activate the Component Requirement of "Washed platelet products" for the patient. VBECS Incoming Shipment For example, Codabar or ISBT 128 labeled *(These are random examples. Please use the codes used by your local supplier).* Enter ABO/Rh compatible blood units to fill the PLATELETS component order; one is Washed and one that is **NOT Washed**. 12000, PLATELETS E2940, Apheresis PLATELETS|ACD-A/XX/20-24C 12010, Washed PLATELETS PHERESIS E3970, Washed Apheresis PLATELETS|ACD-A/XX/20-24C|Irradiated|ResLeu:<2log5|Approx 120 log9 plts

Test Group Five: Select Unit and Issue Blood Component (Washed platelet products)	
Scenario 1: Verify the proper messaging and system action presents for the user security role of Lead Technologist and above.	
User	Lead Technologist or above
Steps	1. Release all units from assignment associated with this patient from prior testing. 2. Process the PLATELET ORDER units making the selected unit(s) available for issue to the patient for transfusion. 3. Select and assign ***only*** the unit that is **NOT Washed** for the PLATELET blood component order. Respond to the warning message and proceed to assign the unit. 4. Patients, Issue Blood Components, Select the patient and enter issue details. 5. Select the unit that is **NOT Washed** from the Assigned units tab. 6. Respond to the override comment by selecting "Other". Enter this free text comment: "1.6.1 Validation Scenario Group Five, Scenario 1". 7. Click OK to save the override comment. 8. Complete the unit issue to the patient.
Expected Outcome	Step 3: A warning message displays but does not require override or comment. Steps 4 through 8: Override opportunity displays and requires comment for this user role to proceed. This user may proceed to issue this unit.
Reports	An Exception Report entry is created detailing this transaction (Unit issued with unsatisfied Transfusion Requirement).
Scenario 2: Verify that the proper messaging and system action presents for the user security role of Enhanced Technologist or below.	
User	Enhanced Technologist or below
Steps	1. Process the Return from Issue for the blood unit used in Scenario 1 to allow the unit to be used for this scenario. 2. Process the PLATELET component order, select and assign the Washed PLATELET blood component units, as the unit that is **NOT Washed** is currently assigned. 3. Patients, Issue Blood Components, Select the patient and enter issue details. 4. Select the unit that is **NOT Washed** from the Assigned Units tab.
Expected Outcome	User cannot proceed to issue the blood unit. This user is stopped at Step 4 to select the unacceptable unit when multiple units are assigned to the patient and at least one is available to issue. If you assigned only the **NOT Washed** unit; This user is stopped at Step 3 when only one unit is assigned that may not be issued by the user's VBECS role.
Reports	N/A

Test Group Six: Select Unit and Issue Blood Component (Entered versus List Selection)

Test Objective: Demonstrate that the Issue Blood Component option properly warns and prevents the issue of a blood component unit that is expired as well as having unsatisfied Transfusion Requirements and incomplete ABO testing.

Data

For this test group, the patient must have a previous VBECS testing record of ABO type of A, B or AB and Rh Negative. ABO type specific RBC units will be selected.

Note: Selection of ABO group specific units is prohibited when using only a VistA converted blood type.

CPRS ORDERS:
Enter a CPRS component order for Red Blood Cells and a TAS on a patient whose historic ABO blood type is A, B or AB and Rh Negative.

VBECS Accept Orders:
Accept the patient's orders.

VBECS Patient Special Instructions and Transfusion Requirements, Component Requirements tab
Activate all Component Requirements for the selected patient.

Patient Testing:
Do **NOT** complete any patient testing until instructed to do so in the scenarios below.

VBECS Incoming Shipment

Enter units to fill the RBC order. Enter and perform confirmation testing on blood component units as follows:

Unit ID	Example Product Code*	ABO/Rh	Expired	Satisfies the patient's active Component Requirements for RBC?				
				IR	LR	W	CMV	SC
Unit A	06470	ABO Group Specific Rh Pos	No	IR	LR	Deg	N	N
Unit B	05710	ABO Group Specific Rh Pos	No	IR	LR	**NO**	**U**	**U**
Unit C	E5639	ABO Group Specific Rh Pos	Expired	IR	LR	W	N	N
Unit D	06161	O Rh Pos	No	IR	LR	W	N	N
Unit E	06470	O Rh Neg	No	IR	LR	Deg	N	N

(IR= irradiated, LR=leuko-reduced, Deg=deglycerolized, W=washed, N=Neg, U=unknown)

*Test Codabar and/or ISBT 128 labeled blood component units. *Please use product codes that you routinely receive from your local supplier.*

Select Unit:
When logged in as a Lead Technologist or above, assign Units A, B, C, D, and E to the RBC order. **Do NOT perform crossmatch** (electronic or serologic) **test on any selected** units at this time.
Note: Exception Report entries are created from Select Unit overrides.

Test Group Six: Select Unit and Issue Blood Component (Entered versus List Selection)	
Scenario 1: Verify that the proper messaging and system action presents when the user is attempting to issue a type specific unit selected when the current specimen's ABO test is not complete. Other conditions tested include those where the unit may be expired, or does not satisfy active Component Requirements for a Red Blood Cell order.	
User	Repeat for each user role.
Steps	1. Verify that the TAS and crossmatch tests are not performed on the selected patient and units. 2. Patients, Issue Blood Components, Select the patient and enter issue details. 3. On the Assigned Units or Emergency Issue Units tab: • Unit A, B, and C appear with a red stop warning icon • Unit D and E appear with a yellow warning icon 4. Attempt to Select Unit A. 5. Enter the Unit ID and Product Code for Unit A in the Unit Select fields. *(Click tab if manual entry in Steps 5, 7, 9, and 11.)* 6. Attempt to Select Unit B. 7. Enter the Unit ID and Product Code for Unit B in the Unit Select fields. 8. Attempt to Select Unit C. 9. Enter the Unit ID and Product Code for Unit C in the Unit Select fields. 10. Select Unit D. A warning message appears with an option to comment and proceed. Click No. 11. Enter the Unit ID and Product Code for Unit D in the Unit Select fields. A warning message appears with an option to comment and proceed. 12. Click "Yes". Respond to the override comment by selecting "Other". Enter this free text comment: "1.6.1 Validation Scenario Group Six, Scenario 1, Unit D". 13. Complete the issue of Unit D. 14. Select Unit E. A warning message appears with an option to comment and proceed. Click No. 15. Enter the Unit ID and Product Code for Unit E in the Unit Select fields. A warning message appears with an option to comment and proceed. 16. Click "Yes". Respond to the override comment by selecting "Other". Enter this free text comment: "1.6.1 Validation Scenario Group Six, Scenario 1, Unit E". 17. Complete the issue of Unit E.
Expected Outcome	Step 3: Units with red warning icons are not selectable. Warning icon message indicates: • Unit A, B, and C appear with a red stop warning icon because *specimen testing is incomplete and no crossmatch results are on file.* • Unit D appears with a yellow warning icon because *the patient is Rh Negative and unit is Rh Positive, and specimen testing is incomplete.* • Unit E appears with a yellow warning icon because *specimen testing is incomplete.* Steps 4 through 9: The user cannot proceed. Steps 10 and 14: Any user role receives a warning message that requires comment for selection of unit and may proceed to issue the unit. Steps 12 and 16: Any user role receives a warning message that requires comment for selection of unit as the *specimen testing incomplete* and may proceed to issue the unit.
Reports	An Exception Report entry is created for Unit D by Step 12 detailing this transaction: Emergency issue and Antigen positive/untested units issued. An Exception Report entry is created for Unit E by Step 16 detailing this transaction: Emergency issue.

Test Group Six: Select Unit and Issue Blood Component (Entered versus List Selection)	
Scenario 2: Verify the proper and complete messaging, system action, and override collection presents for the user security role of Lead Technologist and above for a Red Blood Cell component order. Optionally: Repeat the scenario with all component classes per local practices.	
User	Lead Technologist or above
Steps	1. Return Issued Units to Blood Bank and then release all units from assignment. 2. Complete the TAS and compatibility testing with no discrepancies, incompatibilities, or positive tests. 3. Process the component order units making the selected unit(s) available for issue to the patient for transfusion. 4. Select and assign Units A, B, C, D, and E. Respond to the override message(s) and proceed to assign the units. 5. Patients, Issue Blood Components, Select the patient and enter issue details. 6. On the Assigned units tab: • Unit A, B, C, and D will appear with a yellow triangle warning icon. • Unit E appears with no icons. 7. Select Unit B, override popup appears. 8. Click NO to the override message. *(Do NOT process the override.)* 9. Enter the Unit ID and Product Code for Unit B in the Unit Select fields. 10. Click Yes to the override message. Respond to the override comment by selecting "Other". Enter this free text comment: "1.6.1 Validation Scenario Group Six, Scenario 2, Unit B". 11. Select Unit C. 12. Click NO to the override message. 13. Enter the Unit ID and Product Code for Unit C in the Unit Select fields. The Step 10 warning message appears with an option to comment and proceed. 14. Click Yes to the override message. Respond to the override comment by selecting "Other". Enter this free text comment: "1.6.1 Validation Scenario Group Six, Scenario 2, Unit C". 15. Complete the unit issue.
Expected Outcome	Step 3: A warning message appears and requires comment for selection of unit B and C. Step 6: • Unit A and D will appear with a yellow triangle warning icon because *the patient is Rh Negative and unit is Rh Positive.* • Unit B will have a yellow triangle warning icon because the *Patient Transfusion Requirement is not met: as listed in Data and the patient is Rh Negative and unit is Rh Positive.* • Unit C will have a yellow triangle warning icon because *the unit is expired and the patient is Rh Negative and unit is Rh Positive.* • Unit E has no icon or message. Step 7: An override warning message appears with the same information as in Step 6 with an option to comment and proceed. Step 9: The Step 6 warning message appears with an option to comment and proceed. Step 11: An override warning message appears with the same information as in Step 6 with an option to comment and proceed. Step 13: The Step 6 warning message appears with an option to comment and proceed.
Reports	An Exception Report entry is created for the issue of Unit B by Step 10 detailing this transaction (Unit issued with unsatisfied Transfusion Requirement). An Exception Report entry is created for Unit C by Step 14 detailing this transaction (Issued Expired Unit).

Test Group Six: Select Unit and Issue Blood Component (Entered versus List Selection)	
Scenario 3: Verify that the proper messaging and system action presents for the user security role of Enhanced Technologist unit that is expired with and without unsatisfied Transfusion Requirements for a Red Blood Cell component order.	
User	Enhanced Technologist
Steps	1. Process the Return from Issue for the blood units used in Scenario 2 to allow the units to be used for this scenario. 2. Patients, Issue Blood Components, Select the patient and enter issue details. 3. On the Assigned units tab: • Unit A, C and D appear with a yellow triangle warning icon. • Unit B appears with a red stop warning icon • Unit E appears with no warning icon. 4. Attempt to Select Unit B. 5. Enter the Unit ID and Product Code for Unit B in the Unit Select fields. 6. Select Unit C. 7. Click NO to the override message. 8. Enter the Unit ID and Product Code for Unit C in the Unit Select fields. The Step 6 warning message appears with an option to comment and proceed. 9. Click Yes to the override message. Respond to the override comment by selecting "Other". Enter this free text comment: "1.6.1 Validation Scenario Group Six, Scenario 3, Unit C". 10. Complete the unit issue.
Expected Outcome	Step 3: Warning icon message indicates: • Unit A and D appear with a yellow warning icon because *the patient is Rh Negative and unit is Rh Positive.* • Unit B appears with a red stop warning icon because *Patient Transfusion Requirement is not met: as listed.* • Unit C appears with a yellow warning icon because *the unit is expired and the patient is Rh Negative and unit is Rh Positive.* • Unit E appears no warning icon. Steps 4 and 5: The user cannot proceed. Steps 6 and 8: The user receives a warning message that requires comment for selection of unit and may proceed to issue the unit.
Reports	An Exception Report entry is created for Unit C by Step 9 detailing this transaction (Issued Expired Unit and Antigen positive/untested units issued).

Test Group Six: Select Unit and Issue Blood Component (Entered versus List Selection)	
Scenario 4: Verify that the proper messaging and system action presents for the user security role of **Technologist** with a unit that is expired with and without unsatisfied Transfusion Requirements for a Red Blood Cell component order.	
User	Technologist
Steps	1. Process the Return from Issue for the blood unit used in Scenario 3 to allow the unit to be used for this scenario. 2. Patients, Issue Blood Components, Select the patient and enter issue details. 3. On the Assigned units tab: • Unit A and D appear with yellow warning icon • Unit B and C appear with a red stop warning icon • Unit E has no warning icon. 4. Attempt to Select Unit B. 5. Enter the Unit ID and Product Code for Unit B in the Unit Select fields. 6. Attempt to Select Unit C. 7. Enter the Unit ID and Product Code for Unit C in the Unit Select fields.
Expected Outcome	Step 3: Warning icon message indicates: • Unit A appears with a yellow warning icon because *the patient is Rh Negative and unit is Rh Positive.* • Unit B appears with a red stop warning icon because *Patient Transfusion Requirement is not met: as listed.* • Unit C appears with a red stop warning icon because *the unit is expired and the patient is Rh Negative and unit is Rh Positive.* • Unit D appears with a yellow warning icon because *the patient is Rh Negative and unit is Rh Positive.* • Unit E appears no warning icon. Step 3, 5, and 7: When a Unit ID/Product Code are entered, the message appears with the same message as the icon warning when there is only one failure. When the selected unit has multiple failures, the system includes only the prioritized failure message. Steps 4, 5, 6, and 7: The user cannot proceed. Technologist role may issue Unit A, D or E (not described in steps).
Reports	An Exception Report entry is created for Unit A or D if selected for issue detailing this transaction: Antigen positive/untested units issued (not described in steps).

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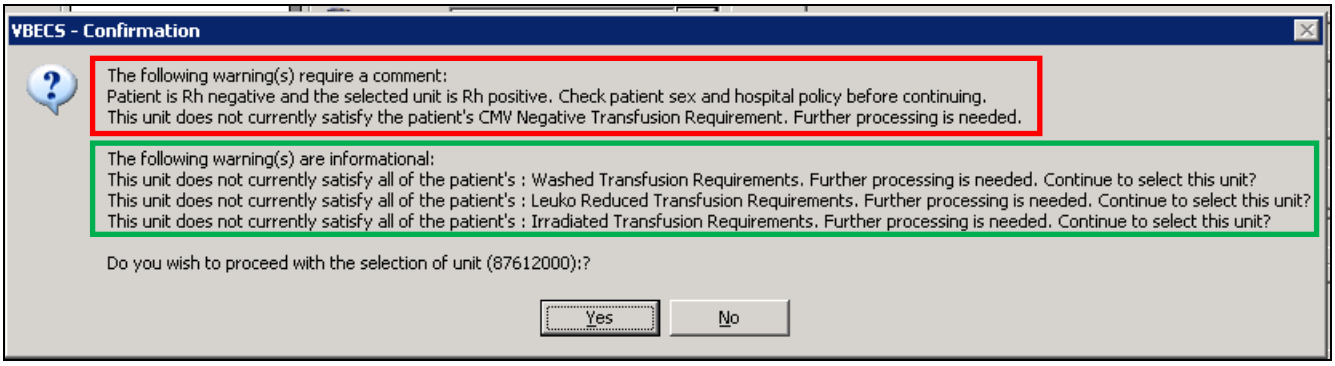
Appendix B: Testing Multiple Transfusion Requirements

Testing Multiple Unsatisfied Active Component Requirements

The release notes are designed to test the overrides separately but the patients may be set up to allow you to test many component requirement failure messages at once. This is describes how that will appear in Select Unit.

The message box delivers all of the notifications (Figure 1), separated by **those messages that are informational** boxed in green and **those that require comment** (override) boxed in red. You will process only one comment for all messages requiring a comment but will find the separate Exception Report entries with the same entered comment.

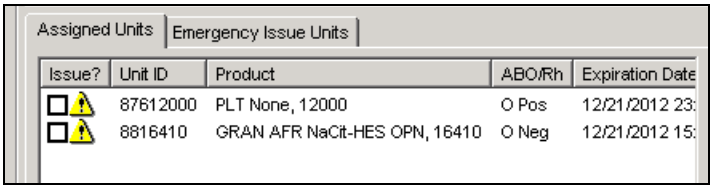
Figure 1: Example of Notifications



During Issue Blood Component

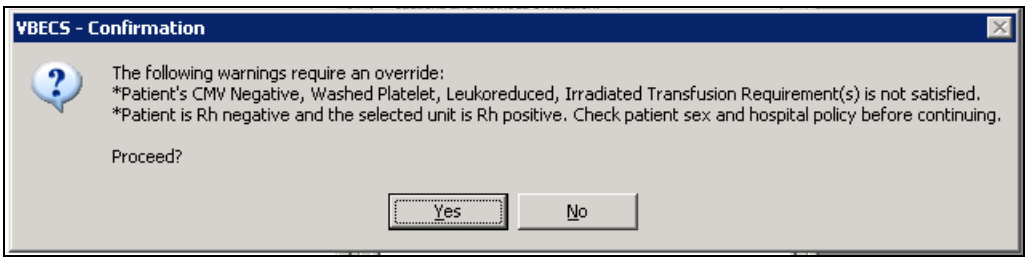
Warnings appear as alert icons (Figure 2). If the user is not allowed to select the product, the icon will be a red X. Hover for a minute and the message will appear with more detail.

Figure 2: Example of Warnings



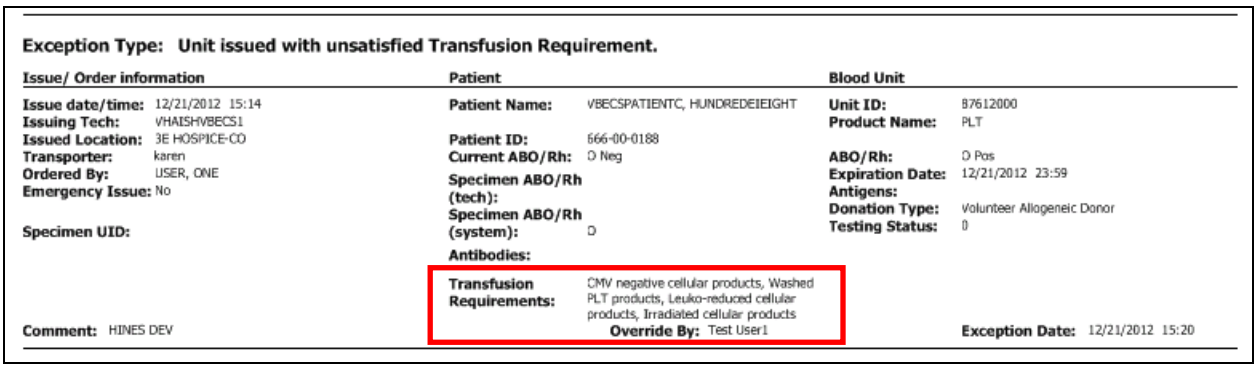
When a unit is selected and an override is allowed, a popup window will follow (Figure 3), again, one comment is collected for all unmet patient requirements that will appear in the different Exception Report entries.

Figure 3: Example of Override



All Component Requirements are included in the Exception Report not just those that are not satisfied with the override (Figure 4). Local investigation is required to determine which specific unsatisfied compoenent requirement.

Figure 4: Example of Message



Exception Type: Unit issued with unsatisfied Transfusion Requirement.

Issue/ Order information		Patient		Blood Unit	
Issue date/time:	12/21/2012 15:14	**Patient Name:**	VBECSPATIENTC, HUNDREDEIEIGHT	**Unit ID:**	87612000
Issuing Tech:	VHAISHVBECS1			**Product Name:**	PLT
Issued Location:	3E HOSPICE-CO	**Patient ID:**	666-00-0188		
Transporter:	karen	**Current ABO/Rh:**	O Neg	**ABO/Rh:**	O Pos
Ordered By:	USER, ONE	**Specimen ABO/Rh (tech):**		**Expiration Date:**	12/21/2012 23:59
Emergency Issue:	No			**Antigens:**	
		Specimen ABO/Rh (system):	O	**Donation Type:**	Volunteer Allogeneic Donor
Specimen UID:				**Testing Status:**	0
		Antibodies:			
		Transfusion Requirements:	CMV negative cellular products, Washed PLT products, Leuko-reduced cellular products, Irradiated cellular products		
Comment:	HINES DEV	**Override By:**	Test User1	**Exception Date:**	12/21/2012 15:20

Appendix C: New User Guide Tables

The tables below are duplicates of VBECS 1.6.1 User Guide *Appendix N: System Responses to Active Transfusion Requirements in Select Unit and Issue Blood Component.*

The following series of tables, Figures 2 through 13, detail VBECS response to an active transfusion requirement, component class of the unit selected and the user's VBECS role at unit selection and blood component issue.

Table 2: Irradiate Cellular Products Only and Select Blood Unit
Table 3: Irradiate Cellular Products Only and Issue Blood Component
Table 4: Leuko-reduce Cellular Products and Select Blood Unit
Table 5: Leuko-reduce Cellular Products and Issue Blood Component
Table 6: Washed Red Blood Cell (RBC) Products and Select Blood Unit
Table 7: Washed Red Blood Cell (RBC) Products and Issue Blood Component
Table 8: Washed PLATELET (PLT) Products and Select Blood Unit
Table 9: Washed PLATELET (PLT) Products and Issue Blood Component
Table 10: Sickle Cell Negative RBC Products and Select Blood Unit
Table 11: Sickle Cell Negative RBC Products and Issue Blood Component
Table 12: CMV Negative Cellular Products and Select Blood Unit
Table 13: CMV Negative Cellular Products and Issue Blood Component

Table 2: Irradiate Cellular Products Only and Select Blood Unit

Select Unit: IRRADIATED				
Patient Active Transfusion Requirement	**Ordered Component Class**	**Selected unit is**	**User Role**	**VBECS Response**
Irradiate Cellular Products Only	RED BLOOD CELLS WHOLE BLOOD PLATELETS OTHER	Irradiated	**ALL VBECS Users**	No warning message will display.
	RED BLOOD CELLS WHOLE BLOOD PLATELETS OTHER	**Not Irradiated**	**ALL VBECS Users**	The Transfusion Requirement is not satisfied, the system emits an audible alert and displays a warning message: *This unit does not currently satisfy all of the patient's Transfusion Requirements. Further processing is needed. Continue to select this unit?* If the user clicks on "No," the screen is cleared. If the user clicks on "Yes," selection can continue to select the unit.

Table 3: Irradiate Cellular Products Only and Issue Blood Component

Issue Blood Component: IRRADIATED				
Patient Active Transfusion Requirement	**Ordered Component Class**	**Selected unit is**	**User Role**	**VBECS Response**
Irradiate Cellular Products Only	RED BLOOD CELLS WHOLE BLOOD PLATELETS OTHER	Irradiated	ALL VBECS Users	No warning message will display.
	RED BLOOD CELLS WHOLE BLOOD PLATELETS OTHER	**Not Irradiated**	Technologist Enhanced Technologist	The system displays the warning message: *Patient's Transfusion Requirement is not satisfied. You do not have the proper security to issue this unit. Further processing is needed and must be documented in VBECS.* The tech may not issue this unit in the computer.
	RED BLOOD CELLS WHOLE BLOOD PLATELETS OTHER	**Not Irradiated**	Lead Technologist Traditional Supervisor Enhanced Supervisor Administrator/Supervisor	The system displays the warning message: *Patient's Irradiate Cellular Products Only Transfusion Requirement is not satisfied* and prompts the user whether to proceed. If the user responds "No" the system will clear the selected unit. If the user responds "Yes" the system will require a comment (free text or canned, "unit issue" context) and capture the transaction details for inclusion in an Exception Report entry: *Unit issued with unsatisfied Transfusion Requirement*

Table 4: Leuko-reduce Cellular Products and Select Blood Unit

Select Unit: Leuko-reduce Cellular Products				
Patient Active Transfusion Requirement	**Ordered Component Class**	**Selected unit is**	**User Role**	**VBECS Response**
Leuko-reduce Cellular Products	RED BLOOD CELLS WHOLE BLOOD PLATELETS	Leuko-reduced	ALL VBECS Users	No warning message will display.
	RED BLOOD CELLS WHOLE BLOOD PLATELETS	**Not Leuko-reduced**	ALL VBECS Users	The Transfusion Requirement is not satisfied, the system emits an audible alert and displays a warning message: *This unit does not currently satisfy all of the patient's Transfusion Requirements. Further processing is needed. Continue to select this unit?* If the user clicks on "No," the screen is cleared. If the user clicks on "Yes," selection can continue to select the unit.

Table 5: Leuko-reduce Cellular Products and Issue Blood Component

Issue Blood Component: Leuko-reduce Cellular Products				
Patient Active Transfusion Requirement	**Ordered Component Class**	**Selected unit is**	**Selected User Role**	**Expected System Response**
Leuko-reduce Cellular Products	RED BLOOD CELLS WHOLE BLOOD PLATELETS OTHER	Leuko-reduced	ALL VBECS Users	No warning message will display.
	RED BLOOD CELLS WHOLE BLOOD PLATELETS	**Not Leuko-reduced**	Technologist Enhanced Technologist	The system displays the warning message: *Patient's Transfusion Requirement is not satisfied. You do not have the proper security to issue this unit. Further processing is needed and must be documented in VBECS.* The tech may not issue this unit in the computer.
	RED BLOOD CELLS WHOLE BLOOD PLATELETS	**Not Leuko-reduced**	Lead Technologist Traditional Supervisor Enhanced Supervisor Administrator/Supervisor	The system displays the warning message: Patient's Leuko-reduce Cellular Products *Transfusion Requirement is not satisfied* and prompts the user whether to proceed. If the user responds "No" the system will clear the selected unit. If the user responds "Yes" the system will require a comment (free text or canned, "unit issue" context) and capture the transaction details for inclusion in an Exception Report entry: *Unit issued with unsatisfied Transfusion Requirement*

Table 6: Washed Red Blood Cell (RBC) Products and Select Blood Unit

Select Unit: Washed Red Blood Cell (RBC) products				
Patient Active Transfusion Requirement	**Ordered Component Class**	**Selected unit is**	**User Role**	**VBECS Response**
Washed RBC Products	RED BLOOD CELLS WHOLE BLOOD	Washed	ALL VBECS Users	No warning message will display.
	RED BLOOD CELLS WHOLE BLOOD	**Not Washed**	ALL VBECS Users	The Transfusion Requirement is not satisfied, the system emits an audible alert and displays a warning message: *This unit does not currently satisfy all of the patient's Transfusion Requirements. Further processing is needed. Continue to select this unit?* If the user clicks on "No," the screen is cleared. If the user clicks on "Yes," selection can continue to select the unit.

Table 7: Washed Red Blood Cell (RBC) Products and Issue Blood Component

Issue Blood Component: Washed RBC products				
Patient Active Transfusion Requirement	**Ordered Component Class**	**Selected unit is**	**Selected User Role**	**Expected System Response**
Washed RBC Products	RED BLOOD CELLS WHOLE BLOOD	Washed	ALL VBECS Users	No warning message will display.
	RED BLOOD CELLS WHOLE BLOOD	**Not Washed**	Technologist Enhanced Technologist	The system displays the warning message: *Patient's Transfusion Requirement is not satisfied. You do not have the proper security to issue this unit. Further processing is needed and must be documented in VBECS.* The tech may not issue this unit in the computer.
	RED BLOOD CELLS WHOLE BLOOD	**Not Washed**	Lead Technologist Traditional Supervisor Enhanced Supervisor Administrator/Supervisor	The system displays the warning message: *Patient's Washed RBC Products Transfusion Requirement is not satisfied* and prompts the user whether to proceed. If the user responds "No" the system will clear the selected unit. If the user responds "Yes" the system will require a comment (free text or canned, "unit issue" context) and capture the transaction details for inclusion in an Exception Report entry: *Unit issued with unsatisfied Transfusion Requirement*

Table 8: Washed PLATELET (PLT) Products and Select Blood Unit

Select Unit: **Washed PLT products**				
Patient Active Transfusion Requirement	**Ordered Component Class**	**Selected unit is**	**User Role**	**VBECS Response**
Washed PLT Products	RED BLOOD CELLS WHOLE BLOOD PLATELETS OTHER	Washed	ALL VBECS Users	No warning message will display.
	RED BLOOD CELLS WHOLE BLOOD PLATELETS OTHER	**Not Washed**	ALL VBECS Users	The Transfusion Requirement is not satisfied, the system emits an audible alert and displays a warning message: *This unit does not currently satisfy all of the patient's Transfusion Requirements. Further processing is needed. Continue to select this unit?* If the user clicks on "No," the screen is cleared. If the user clicks on "Yes," selection can continue to select the unit.

Table 9: Washed PLATELET (PLT) Products and Issue Blood Component

Issue Blood Component: Washed PLT products				
Patient Active Transfusion Requirement	**Ordered Component Class**	**Selected Platelet unit is**	**Selected User Role**	**Expected System Response**
Washed PLT Products	PLATELETS	Washed	ALL VBECS Users	No warning message will display.
	PLATELETS	**Not Washed**	Technologist Enhanced Technologist	The system displays the warning message: *Patient's Transfusion Requirement is not satisfied. You do not have the proper security to issue this unit. Further processing is needed and must be documented in VBECS.* The tech may not issue this unit in the computer.
	PLATELETS	**Not Washed**	Lead Technologist Traditional Supervisor Enhanced Supervisor Administrator/Supervisor	The system displays the warning message: *Patient's Washed PLT products Transfusion Requirement is not satisfied* and prompts the user whether to proceed. If the user responds "No" the system will clear the selected unit. If the user responds "Yes" the system will require a comment (free text or canned, "unit issue" context) and capture the transaction details for inclusion in an Exception Report entry: *Unit issued with unsatisfied Transfusion Requirement*

Table 10: Sickle Cell Negative RBC Products and Select Blood Unit

Select Unit: Sickle Cell Negative RBC products				
Patient Active Transfusion Requirement	**Ordered Component Class**	**Selected unit is**	**User Role**	**VBECS Response**
Sickle Cell Negative RBC Products*	RED BLOOD CELLS WHOLE BLOOD	Sickle Cell Negative	ALL VBECS Users	No warning message will display.
	RED BLOOD CELLS WHOLE BLOOD	**Not Sickle Cell Negative**	Technologist Enhanced Technologist	The Transfusion Requirement is not satisfied, the system emits an audible alert and displays a warning message: *This unit does not currently satisfy all of the patient's Transfusion Requirements. Further processing is needed. Continue to select this unit?* If the user clicks on "No," the screen is cleared. If the user clicks on "Yes," selection can continue to select the unit.
	RED BLOOD CELLS WHOLE BLOOD	**Not Sickle Cell Negative**	Lead Technologist Traditional Supervisor Enhanced Supervisor Administrator/Supervisor	The following warning(s) is informational: This unit does not currently satisfy the patient's: Sickle Cell Negative Transfusion Requirements. Further processing is needed. Continue to select this unit? Do you wish to proceed with the selection of unit <insert unit ID number>:? If "No," is selected, the screen is cleared and a new blood unit must be selected. If "Yes," is selected, a comment is required and the details of the transaction are captured for later inclusion in an exception report entry: *Transfusion Requirement incompatible unit selected*

*VistA Sickle Cell test results for a blood component unit are not imported into VBECS. A blood component unit's Sickle Cell Negative status must be recorded during receipt at Incoming Shipment or added to the unit record in Edit Unit Information.

Table 11: Sickle Cell Negative RBC Products and Issue Blood Component

Issue Blood Component: Sickle Cell Negative RBC Products				
Patient Active Transfusion Requirement	**Ordered Component Class**	**Selected unit is**	**Selected User Role**	**Expected System Response**
Sickle Cell Negative RBC Products*	RED BLOOD CELLS WHOLE BLOOD	Sickle Cell negative	ALL VBECS Users	No warning message will display.
	RED BLOOD CELLS WHOLE BLOOD	**NOT Sickle Cell Negative**	Technologist Enhanced Technologist	The system displays the warning message: *Patient's Transfusion Requirement is not satisfied. You do not have the proper security to issue this unit. Further processing is needed and must be documented in VBECS.* The tech may not issue this unit in the computer.
	RED BLOOD CELLS WHOLE BLOOD	**NOT Sickle Cell Negative**	Lead Technologist Traditional Supervisor Enhanced Supervisor Administrator/Supervisor	The system displays the warning message: *Patient's Sickle Cell Negative RBC products Transfusion Requirement is not satisfied* and prompts the user whether to proceed. If the user responds "No" the system will clear the selected unit. If the user responds "Yes" the system will require a comment (free text or canned, "unit issue" context) and capture the transaction details for inclusion in an Exception Report entry: *Unit issued with unsatisfied Transfusion Requirement*

*VistA Sickle Cell test results for a blood component unit are not imported into VBECS. A blood component unit's Sickle Cell Negative status must be recorded during receipt at Incoming Shipment or added to the unit record in Edit Unit Information.

Table 12: CMV Negative Cellular Products and Select Blood Unit

Select Unit: CMV Negative Cellular Products				
Patient Active Transfusion Requirement	**Ordered Component Class**	**Selected unit is**	**User Role**	**VBECS Response**
CMV Negative Cellular Products*	RED BLOOD CELLS WHOLE BLOOD PLATELETS OTHER	CMV Negative*	ALL VBECS Users	No warning message will display.
	RED BLOOD CELLS WHOLE BLOOD PLATELETS OTHER*	**Not CMV negative**	Technologist Enhanced Technologist	The Transfusion Requirement is not satisfied, the system emits an audible alert and displays a warning message: *This unit does not currently satisfy all of the patient's Transfusion Requirements. Further processing is needed. Continue to select this unit?* If the user clicks on "No," the screen is cleared. If the user clicks on "Yes," selection can continue to select the unit.
	RED BLOOD CELLS WHOLE BLOOD PLATELETS OTHER**	**Not CMV negative**	Lead Technologist Traditional Supervisor Enhanced Supervisor Administrator/Supervisor	The system displays the warning message: *Patient's CMV Negative cellular products Transfusion Requirement is not satisfied* and prompts the user whether to proceed. If the user responds "No" the system will clear the selected unit. If the user responds "Yes" the system will require a comment (free text or canned, "unit issue" context) and capture the transaction details for inclusion in an Exception Report entry: *Unit issued with unsatisfied Transfusion Requirement*

*VistA CMV screening test results on a blood component unit are not imported into VBECS. A blood component unit's CMV Negative status must be recorded during receipt at Incoming Shipment or added to the unit record in Edit Unit Information.

**All product types in OTHER are evaluated for the requirement including those that are non-cellular.

Table 13: CMV Negative Cellular Products and Issue Blood Component

Issue Blood Component: CMV Negative Cellular Products				
Patient Active Transfusion Requirement	**Ordered Component Class**	**Selected unit is**	**Selected User Role**	**Expected System Response**
CMV Negative Cellular Products*	RED BLOOD CELLS WHOLE BLOOD PLATELETS OTHER	CMV Negative*	ALL VBECS Users	No warning message will display.
	RED BLOOD CELLS WHOLE BLOOD PLATELETS OTHER**	**Not CMV negative**	Technologist Enhanced Technologist	The system displays the warning message: *Patient's Transfusion Requirement is not satisfied. You do not have the proper security to issue this unit. Further processing is needed and must be documented in VBECS.* The tech may not issue this unit in the computer.
	RED BLOOD CELLS WHOLE BLOOD PLATELETS OTHER**	**Not CMV negative**	Lead Technologist Traditional Supervisor Enhanced Supervisor Administrator/Supervisor	The system displays the warning message: *Patient's* CMV Negative Cellular Products *Transfusion Requirement is not satisfied* and prompts the user whether to proceed. If the user responds "No" the system will clear the selected unit. If the user responds "Yes" the system will require a comment (free text or canned, "unit issue" context) and capture the transaction details for inclusion in an Exception Report entry: *Unit issued with unsatisfied Transfusion Requirement*

*VistA CMV screening test results on a blood component unit are not imported into VBECS. A blood component unit's CMV Negative status must be recorded during receipt at Incoming Shipment or added to the unit record in Edit Unit Information.

**All product types in OTHER are evaluated for the requirement including those that are non-cellular.

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