Functional Configuration Audit (FCA) Summary (VVSG 2005)

Instructions

The purpose of this form is to assess manufacturer Configuration Management (CM) and Quality Assurance (QA) activities against the VVSG and to audit the consistency of the TDP documentation against the voting system functionality. This assessment is mandated by VVSG Volume II, Section 7.2. Requirements are specifically addressed in VVSG Volume I, Sections 8 and 9, and VVSG Volume II, Section 7.   VVSG Volume II, Section 2, complements these requirements. See *SLP-VC-08 FCA Assessment: CM, QA, Doc-to-System* for more details.

For each requirement, fill in all relevant information as it is gathered. If there is insufficient information to determine whether the requirement passes, you can enter "Open" in the Pass/Fail column and update the result when you have gathered more information.

Manufacturer Information

Manufacturer Name	Hart Intercivic
System Under Test	Verity 1.0

Assessor Information

Assessor and Job Title	M. Santos
Assessment Start Date	Nov. 20th 2014
Assessment Completion Date	Jan. 26th 2015

Pass or Fail	VVSG Req. No.	VVSG Requirement Text	How requirement is satisfied	Audit method(s)
	Vol: II 7	**Quality Assurance Testing**		
	Vol: II 7.2	**Basis of Examinations**		
		The accredited test lab shall design and perform procedures that examine documented vendor practies for quality assurance and configuration management as addressed by Volume I, Section 8 and 9 and Section 2. Examination procedures shall be designed and performed to ensure:		
Pass	a.	Conformance with the requirements to provide information on vendor practices required by these *Guidelines*	SLP-VC-07 PCA Doc Review (PCA Doc - Configuration Management Plan Rev04 & PCA Doc - Quality Assurance Rev04) SLP-VC-08 FCA Assessment	Document Review
Pass	b.	Conformance of system documentation and other information provided by the vendor with the documented practices for quality assurance and configuration management	SLP-VC-07 PCA Doc Review (PCA Doc - Configuration Management Plan Rev04 & PCA Doc - Quality Assurance Rev04) SLP-VC-08 FCA Assessment	Document Review
	7.4.1	**Configuration Management Policy**		
		The accredited test lab shall examine the vendor's documented configuration management policy to confirm that it:		
Pass	a.	Addresses the full scope of the system, including components provided by external suppliers.	SLP-VC-07 PCA Doc Review PCA Doc - Configuration Management Plan Rev04	Document Review Inspection
Pass	b.	Addresses the full breadth of system documentation.	SLP-VC-07 PCA Doc Review PCA Doc - Configuration Management Plan Rev04	Document Review Inspection

Pass or Fail	VVSG Req. No.	VVSG Requirement Text	How requirement is satisfied	Audit method(s)
	Vol: II 7.5	**Examination of Quality Assurance Practices**		
		The examination of quality assurance practies shall address the full scope of requirements described in Volume I, Section 8, and the documentation requirements described in Volume II, Section 2. The accredited test lab shall confirm that all required information has been submitted, and assess whether the vendor's quality assurance program provides for:		
Pass	a.	Cleary measurable quality standards	SLP-VC-07 PCA Doc Review PCA Doc - Quality Assurance Rev04 SLP-VC-08 FCA Assessment	Document Review
Pass	b.	An effective testing program throughout the system development life cycle	SLP-VC-07 PCA Doc Review PCA Doc - Quality Assurance Rev04 PCA Doc System Test_Verification Rev03 SLP-VC-08 FCA Assessment	Document Review Inspection
Pass	c.	Application of the quality assurance program to external providers of system components and supplies	SLP-VC-07 PCA Doc Review PCA Doc - Quality Assurance Rev04 SLP-VC-08 FCA Assessment	Document Review Inspection
Pass	d.	Comprehensive monitoring of system performance in the field and diagnosis of system failures	SLP-VC-07 PCA Doc Review PCA Doc - Quality Assurance Rev04 SLP-VC-08 FCA Assessment	Document Review Inspection
Pass	e.	Effective record keeping of system failures to support analysis of failure patterns and potential causes	SLP-VC-07 PCA Doc Review PCA Doc - Quality Assurance Rev04 SLP-VC-08 FCA Assessment	Document Review Inspection
Pass	f.	Effective processes for notifying customers of system failure and corrective measures that need to be taken, and for confirming that such	SLP-VC-07 PCA Doc Review PCA Doc - Quality Assurance Rev04 SLP-VC-08 FCA Assessment	Document Review

Pass or Fail	VVSG Req. No.	VVSG Requirement Text	How requirement is satisfied	Audit method(s)
		measures are taken		
	Vol: II 7.5.1	**Quality Assurance Policy**		
		The accredited test lab shall examine the vendor's quality assurance policy to confirm that it:		
Pass	a.	Addresses the full scope of the voting system	SLP-VC-07 PCA Doc Review PCA Doc - Quality Assurance Rev04 PCA Doc - System Overview Rev03 SLP-VC-08 FCA Assessment	Document Review Inspection
Pass	b.	Clearly designates a senior level individual accountable for implementation and oversight of quality assurance activities	SLP-VC-07 PCA Doc Review PCA Doc - Quality Assurance Rev04 SLP-VC-08 FCA Assessment	Document Review Inspection
Pass	c.	Clearly desginates the individuals, by position within the vendor's organization, who are to conduct each quality assurance activity	SLP-VC-07 PCA Doc Review PCA Doc - Quality Assurance Rev04 SLP-VC-08 FCA Assessment	Document Review
Pass	d.	Provides procedures that determine compliance with, and correct deviations from, the quality assurance program at a minimum annually	SLP-VC-07 PCA Doc Review PCA Doc - Quality Assurance Rev04 SLP-VC-08 FCA Assessment	Document Review
		Quality Assurance		
	Vol: I 8.2	**General Requirements**		
		The voting system vendor is responsible for designing and implementing a quality assurance program to ensure that the design, workmanship, and performance requirements of this standard are achieved in all delivered systems and components. At a minimum, this program shall:		
Pass	a.	Include procedures for specifying, procuring, inspecting, accepting, and controlling parts and raw materials of the requisite quality.	SLP-VC-07 PCA Doc Review PCA Doc - Quality Assurance Rev04 SLP-VC-08 FCA Assessment	Document Review Inspection

Pass or Fail	VVSG Req. No.	VVSG Requirement Text	How requirement is satisfied	Audit method(s)
Pass	b.	Require the documentation of the hardware and software development process.	SLP-VC-07 PCA Doc Review PCA Doc - Quality Assurance Rev04 PCA Doc -System Hardware Spec Rev03 & PCA Doc - Software Design_Spec Rev02 SLP-VC-08 FCA Assessment	Document Review Inspection
	c.	Identify and enforce all requirements for:		
Pass	c. i.	In-process inspection and testing that the manufacturer deems necessary to ensure proper fabrication and assembly of hardware.	SLP-VC-07 PCA Doc Review PCA Doc - Quality Assurance Rev04 SLP-VC-08 FCA Assessment	Document Review Inspection
Pass	c. ii.	Installation and operation of software (including firmware).	SLP-VC-07 PCA Doc Review PCA Doc - Quality Assurance Rev04 PCA Doc - System Operations Procs Rev04 SLP-VC-08 FCA Assessment	Document Review
Pass	d.	Include the plans and procedures for post-production environmental screening and acceptance testing.	SLP-VC-07 PCA Doc Review PCA Doc - Quality Assurance Rev04 SLP-VC-08 FCA Assessment	Document Review Inspection
Pass	e.	Include a procedure for maintaining all data and records required to document and verify the quality inspections and tests.	SLP-VC-07 PCA Doc Review PCA Doc - Quality Assurance Rev04 SLP-VC-08 FCA Assessment	Document Review Inspection
	Vol: I 8.3	**Components from Third Parties**		
		A vendor who does not manufacture all the components of its voting system, but instead procures components as standard commercial items for assembly and integration into a voting system, shall verify that the supplier vendors follow documented quality assurance procedures that are at least as stringent as those used internally by the voting system vendor.	SLP-VC-08 FCA Assessment COTS Product Implementation Plan	Document Review Inspection

Pass or Fail	VVSG Req. No.	VVSG Requirement Text	How requirement is satisfied	Audit method(s)
	Vol: I 8.4	**Responsibility for Tests**		
		The manufacturer or vendor shall be responsible for:		
Pass		Performing all quality assurance tests.	SLP-VC-07 PCA Doc Review PCA Doc - Quality Assurance Rev04 TM_Readiness Suite PCA Doc System Test_Verification Rev03	Document Review Inspection
Pass		Acquiring and documenting test data.	SLP-VC-07 PCA Doc Review PCA Doc - Quality Assurance Rev04 TM_Readiness Suite PCA Doc System Test_Verification Rev03	Document Review Inspection
Pass		2005: Providing test reports for examination by the test lab as part of the national certification process. These reports shall be provided to the purchaser upon request.	SLP-VC-07 PCA Doc Review PCA Doc - Quality Assurance Rev04 TM_Readiness Suite PCA Doc System Test_Verification Rev03	Document Review
	Vol: I 8.5	**Parts and Materials Special Tests**		
		In order to ensure that voting system parts and materials function properly, vendors shall:		
Pass	a.	Select parts and materials to be used in voting systems and components according to their suitability for the intended application. Suitability may be determined by similarity of this application to existing standard practice, or by means of special tests.	SLP-VC-07 PCA Doc Review PCA Doc - System Test_Verification Spec Rev03	Document Review Inspection
Pass	b.	Design special tests, if needed, to evaluate the part or material under conditions accurately	SLP-VC-07 PCA Doc Review PCA Doc - Quality Assurance Rev04	Document Review Inspection

Pass or Fail	VVSG Req. No.	VVSG Requirement Text	How requirement is satisfied	Audit method(s)
		simulating the actual operating environment.	TM_Readiness Suite PCA Doc System Test_Verification Rev03	
Pass	c.	Maintain the resulting test data as part of the quality assurance program documentation.	SLP-VC-07 PCA Doc Review PCA Doc - Quality Assurance Rev04 TM_Readiness Suite PCA Doc System Test_Verification Rev03	Document Review
	Vol: II 7.5.2	**Parts and Materials Tests**		
		The accredited test lab shall examine the vendor's parts and materials special tests and examinations to confirm that they:		
Pass	a.	Identify appropriate criteria that are used to determine the specific system components for which special tests are required to confirm their suitability for use in a voting system	SLP-VC-07 PCA Doc Review SLP-VC-08 FCA Assessment	Document Review Inspection
Pass	b.	Are designed in a manner appropriate to determine suitability	SLP-VC-07 PCA Doc Review SLP-VC-08 FCA Assessment	Document Review Inspection
Pass	c.	Have been conducted and documented for all applicable parts and materials	SLP-VC-07 PCA Doc Review SLP-VC-08 FCA Assessment	Document Review
	Vol: I 8.6	**Quality Conformance Inspections**		
		The vendor performs conformance inspections to ensure the overall quality of the voting system and components delivered to the test lab for testing and to the jurisdiction for implementation. To meet the conformance inspection requirements the vendor or manufacturer shall:		
Pass	a.	Inspect and test each voting system or component to verify that it meets all inspection	SLP-VC-07 PCA Doc Review PCA Doc - Quality Assurance Rev04	Document Review Inspection

Pass or Fail	VVSG Req. No.	VVSG Requirement Text	How requirement is satisfied	Audit method(s)
		and test requirements for the system.	TM_Readiness Suite	
Pass	b.	Deliver a record of tests or a certificate of satisfactory completion with each system or component.	SLP-VC-07 PCA Doc Review PCA Doc - Quality Assurance Rev04 TM_Readiness Suite PCA Doc System Test_Verification Rev03	Document Review
	Vol: II 7.5.3	**Quality Conformance Inspections**		
		The accredited test lab shall examine the vendor's quality conformance plans, procedures and, inspection results to confirm that:		
Pass	a.	All components have been tested according to the test requirements defined by the vendor	SLP-VC-07 PCA Doc Review PCA Doc - Quality Assurance Rev04 SLP-VC-08 FCA Assessment	Document Review Inspection
Pass	b.	All components have passed the requisite tests	SLP-VC-07 PCA Doc Review PCA Doc - Quality Assurance Rev04 SLP-VC-08 FCA Assessment PCA Doc - System Test_Verification Spec Rev03 PCA Doc System Test_Verification Rev03	Document Review Inspection
		For each test, the test documentation identifies:		
Pass	c.i	Test location	SLP-VC-07 PCA Doc Review PCA Doc - Quality Assurance Rev04 SLP-VC-08 FCA Assessment PCA Doc - System Test_Verification Spec Rev03 PCA Doc System Test_Verification Rev03	Document Review
Pass	c.ii	Test date	SLP-VC-07 PCA Doc Review PCA Doc - Quality Assurance Rev04	Document Review

Pass or Fail	VVSG Req. No.	VVSG Requirement Text	How requirement is satisfied	Audit method(s)
			SLP-VC-08 FCA Assessment PCA Doc - System Test_Verification Spec Rev03 PCA Doc System Test_Verification Rev03	
Pass	c.iii	Individual who conducted the test	SLP-VC-07 PCA Doc Review PCA Doc - Quality Assurance Rev04 SLP-VC-08 FCA Assessment PCA Doc - System Test_Verification Spec Rev03 PCA Doc System Test_Verification Rev03	Document Review
Pass	c.iv	Test outcome	SLP-VC-07 PCA Doc Review PCA Doc - Quality Assurance Rev04 SLP-VC-08 FCA Assessment PCA Doc - System Test_Verification Spec Rev03 PCA Doc System Test_Verification Rev03	Document Review
	Vol: I 8.7	**Documentation**		
		Vendors are required to produce documentation to support the development and formal testing of voting systems. To meet documentation requirements, vendors shall provide complete product documentation with each voting systems or components, as described Volume II, Section 2 for the TDP. This documentation shall:		
		Vendors are required to produce documentation to support the independent testing required for their products to be granted national certification. Volume II, Section 2, Description of the Technical		

Pass or Fail	VVSG Req. No.	VVSG Requirement Text	How requirement is satisfied	Audit method(s)
		Data Package, identifies the documentation required for the national certification testing process. This documentation shall:		
Pass		Be sufficient to serve the needs of the accredited test lab, voters, election officials, and maintenance technicians.	SLP-VC-07 PCA Doc Review PCA Doc - Quality Assurance Rev04 SLP-VC-08 FCA Assessment	Document Review
Pass		Be prepared and published in accordance with standard industrial practice for information technology and electronic and mechanical equipment.	SLP-VC-07 PCA Doc Review	Document Review
		Consist, at a minimum, of the following:		
		System overview.	SLP-VC-07 PCA Doc Review PCA Doc - System Overview Rev03	Document Review
Pass		System functionality description.	SLP-VC-07 PCA Doc Review PCA Doc - System Functionality Desc Rev02	Document Review
Pass		System hardware specification.	SLP-VC-07 PCA Doc Review PCA Doc - System Hardware Spec Rev03	Document Review
Pass		Software design and specifications.	SLP-VC-07 PCA Doc Review PCA Doc - Software Design_Spec Rev02	Document Review
Pass		System security specification.	SLP-VC-07 PCA Doc Review PCA Doc - System Security Spec Rev04	Document Review
Pass		System test and verification specification.	SLP-VC-07 PCA Doc Review PCA Doc - System Test_Verification Spec Rev03	Document Review
Pass		System operations procedures.	SLP-VC-07 PCA Doc Review PCA Doc - System Operations Procs Rev04	Document Review

Pass or Fail	VVSG Req. No.	VVSG Requirement Text	How requirement is satisfied	Audit method(s)
Pass		System maintenance procedures.	SLP-VC-07 PCA Doc Review PCA Doc - System Maintenance Procs Rev04	Document Review
Pass		Personnel deployment and training requirements.	SLP-VC-07 PCA Doc Review PCA Doc - Personnel Deployment_Training Reqs Rev03	Document Review
Pass		Configuration management plan.	SLP-VC-07 PCA Doc Review PCA Doc - Configuration Management Plan Rev04	Document Review
Pass		Quality assurance program.	SLP-VC-07 PCA Doc Review PCA Doc - Quality Assurance Rev04	Document Review
N/A		System Change Notes.	SLP-VC-07 PCA Doc Review PCA Doc - System Change Notes Rev01	Document Review
	Vol: II 4.7.4	**Availability Test**		
		The accredited test lab shall assess the adequacy of system availability based on the provisions of Volume I, Section 4. As described in this section, availability of voting system equipment is determined as a function of reliability, and the mean time to repair the system in the event of failure. Availability cannot be tested directly before the voting system is deployed in jurisdictions, but can be modeled mathematically to predict availability for a defined system configuration. This model shall be prepared by the vendor, and shall be validated by the accredited testing laboratory. The model shall reflect the equipment used for a typical system configuration to perform the		

Pass or Fail	VVSG Req. No.	VVSG Requirement Text	How requirement is satisfied	Audit method(s)
		following system functions:		
Pass	a.i	For all paper-based systems: Recording voter selections (such as by ballot marking)	Attachment E2 - PCA Doc - System Overview Assessment of Accuracy Test, Volume/Stress Test	Document Review and Inspection/Assessment
Pass	a.ii	For all paper-based systems: Testing Scanning the marks on paper ballots and converting them into digital data	Attachment E2 - PCA Doc - System Overview Assessment of Accuracy Test, Volume/Stress Test, Power/Temperature Test, Reliability Test	Document Review and Inspection
	Vol: II 6.5	**Usability and Accessibility Testing**		
		The vendor shall design and perform procedures that test the usability and accessibility of the voting system as defined in Volume I, Section 3. Test procedures shall confirm that:		
Pass	a.	All voting machines meet the usability requirements specified in Volume I, Subsection 3.1	Review of Hart HPQC test management system and review of Verity Summative Usability Test Plan 4005495 and Verity Voting Summative Usability Report 4005-496	Document Review and Inspection
Pass	b.	Voting machines intended for use by voters with disabilities provide the capabilities required by Volume I, Subsection 3.2	Review of Hart HPQC test management system and review of Verity Summative Usability Test Plan 4005495 and Verity Voting Summative Usability Report 4005-496	Document Review and Inspection
Pass	c.	Voting machines intended for use by voters with disabilities operate consistently with	Review of Hart HPQC test management system and review of	Document Review and Inspection

Pass or Fail	VVSG Req. No.	VVSG Requirement Text	How requirement is satisfied	Audit method(s)
		vendor specifications and documentation	Verity Summative Usability Test Plan 4005495 and Verity Voting Summative Usability Report 4005-496	
		Configuration Management		
	Vol: I 9.1	**Scope**		
	Vol: I 9.1.1	**Configuration Management Requirements**		
		Configuration management addresses a broad set of record keeping, audit, and reporting activities that contribute to full knowledge and control of a system and its components. These activities include:		
Pass		▪ Identifying discrete system components.	SLP-VC-07 PCA Doc Review PCA Doc - Configuration Management Plan Rev04	Document Review and Inspection
Pass		▪ Creating records of a formal baseline and later versions of components.	SLP-VC-07 PCA Doc Review PCA Doc - Configuration Management Plan Rev04	Document Review and Inspection
Pass		▪ Controlling changes made to the system and its components.	SLP-VC-07 PCA Doc Review PCA Doc - Configuration Management Plan Rev04 PCA Doc - System Change Notes Rev01	Document Review and Inspection
Pass		▪ Releasing new versions of the system to accredited test labs.	SLP-VC-07 PCA Doc Review PCA Doc - Configuration Management Plan Rev04	Document Review and Inspection
Pass		▪ Releasing new versions of the system to customers.	SLP-VC-07 PCA Doc Review PCA Doc - Configuration Management Plan Rev04	Document Review

Pass or Fail	VVSG Req. No.	VVSG Requirement Text	How requirement is satisfied	Audit method(s)
Pass		▪ Auditing the system, including its documentation, against configuration management records.	SLP-VC-07 PCA Doc Review PCA Doc - Configuration Management Plan Rev04	Document Review
Pass		▪ Controlling interfaces to other systems.	SLP-VC-07 PCA Doc Review PCA Doc - Configuration Management Plan Rev04	Document Review
Pass		▪ Identifying tools used to build and maintain the system.	SLP-VC-07 PCA Doc Review PCA Doc - Configuration Management Plan Rev04	Document Review
	Vol I: 9.1.1 and 9.1.3	**EAC RFI Decision 2012-03**		
		COTS Product Implementation Plan: The plan shall, at a minimum, include a list of all COTS products, list the expected end-of-life date of each product, and describe the manufacturer's plan for replacing end-of-life components with an equivalent COTS component. The VSTL shall conduct a random spot check of COTS products associated with the voting system under test both at the beginning and the end of the test engagement to verify that none of the COTS products listed have reached their end-of-life.		
		Random spot check, beginning of test	Review COTS products and End of Life projections	Nov. 17th 2014
		Random spot check, end of test	Review COTS products and End of Life projections	Jan. 26th 2015

Pass or Fail	VVSG Req. No.	VVSG Requirement Text	How requirement is satisfied	Audit method(s)
	Vol: I 9.1.2	**Organization of Configuration Management Standards**		
	Vol: I 9.1.3	**Application of Configuration Management Standards**		
		Requirements for configuration management apply regardless of the specific technologies employed to all voting systems subject to the Standards. These system components include:		
Pass		Software components.	SLP-VC-07 PCA Doc Review PCA Doc - Configuration Management Plan Rev04	Document Review
Pass		Hardware components.	SLP-VC-07 PCA Doc Review PCA Doc - Configuration Management Plan Rev04	Document Review
Pass		Communications components.	SLP-VC-07 PCA Doc Review PCA Doc - Configuration Management Plan Rev04	Document Review
Pass		Documentation.	SLP-VC-07 PCA Doc Review PCA Doc - Configuration Management Plan Rev04	Document Review
Pass		Identification and naming and conventions (including changes to these conventions) for software programs and data files.	SLP-VC-07 PCA Doc Review PCA Doc - Configuration Management Plan Rev04	Document Review
Pass		Development and testing artifacts such as test data and scripts.	SLP-VC-07 PCA Doc Review PCA Doc - Configuration Management Plan Rev04	Document Review
Pass		File archiving and data repositories.	SLP-VC-07 PCA Doc Review PCA Doc - Configuration Management Plan Rev04	Document Review

Pass or Fail	VVSG Req. No.	VVSG Requirement Text	How requirement is satisfied	Audit method(s)
	Vol: I 9.2	**Configuration Management Policy**		
		The vendor shall describe its policies for configuration management in the TDP. This description shall address the following elements:		
Pass		Scope and nature configuration management program activities.	SLP-VC-07 PCA Doc Review PCA Doc - Configuration Management Plan Rev04	Document Review
Pass		Breadth of the application of the vendor's policies and practices to the voting system. (i.e. extent to which policies and practices apply to the total system and extent to which polices and practices of suppliers apply to particular components, subsystems, or other defined system elements.	SLP-VC-07 PCA Doc Review PCA Doc - Configuration Management Plan Rev04	Document Review
	Vol: II 7.4	**Examination of Configuration Management Practices**		
	Vol: II 7.4.1	**Configuration Management Policy**		
		The accredited test lab shall examine the vendor's documented configuration management policy to confirm that It:		
Pass	a.	Addresses the full scope of the system, including components provided by external suppliers	SLP-VC-07 PCA Doc Review PCA Doc - Configuration Management Plan Rev04	Document Review and Inspection
Pass	b.	Addresses the full breadth of system documentation	SLP-VC-07 PCA Doc Review PCA Doc - Configuration Management Plan Rev04	Document Review and Inspection

Pass or Fail	VVSG Req. No.	VVSG Requirement Text	How requirement is satisfied	Audit method(s)
	Vol: I 9.3	**Configuration Identification**		
	Vol: I 9.3.1	**Structuring and Naming Configuration Items**		
		The vendor shall describe the procedures and conventions used to:		
Pass		Classify configuration items into categories and subcategories.	SLP-VC-07 PCA Doc Review PCA Doc - Configuration Management Plan Rev04	Document Review and Inspection
Pass		Uniquely number or otherwise identify configuration items.	SLP-VC-07 PCA Doc Review PCA Doc - Configuration Management Plan Rev04	Document Review and Inspection
Pass		Name configuration items.	SLP-VC-07 PCA Doc Review PCA Doc - Configuration Management Plan Rev04	Document Review and Inspection
	Vol: II 7.4.2	**Configuration Identification**		
		The accredited test lab shall examine the vendor's documented configuration identification practices policy to confirm that it:		
	a.	Describes clearly the basis for classifying configuration items into categories and subcategories, for numbering of configuration items; and for naming of configuration items	SLP-VC-07 PCA Doc Review PCA Doc - Configuration Management Plan Rev04	Document Review and Inspection
Pass	b.	Describes clearly the conventions used to identify the version of the system as a whole and the versions of any lower level elements (e.g., subsystems, individual elements) if such lower level version designations are used	SLP-VC-07 PCA Doc Review PCA Doc - Configuration Management Plan Rev04	Document Review

Pass or Fail	VVSG Req. No.	VVSG Requirement Text	How requirement is satisfied	Audit method(s)
	Vol: I 9.3.2	**Version Conventions**		
		When a system component is used to identify higher-level system elements, a vendor shall describe the conventions used to:		
Pass	a.	Identify the specific versions of individual configuration items and sets of items that are used by the vendor to identify higher level system elements such as subsystems.	SLP-VC-07 PCA Doc Review PCA Doc - Configuration Management Plan Rev04	Document Review
Pass	b.	Uniquely number or otherwise identify versions.	SLP-VC-07 PCA Doc Review PCA Doc - Configuration Management Plan Rev04	Document Review
Pass	c.	Name versions.	SLP-VC-07 PCA Doc Review PCA Doc - Configuration Management Plan Rev04	Document Review and Inspection
	Vol: I 9.4	**Baseline, Promotion and Demotion Procedures**		
		The vendor shall establish formal procedures and conventions for establishing and providing a complete description of the procedures and related conventions used to:	SLP-VC-07 PCA Doc Review PCA Doc - Configuration Management Plan Rev04	Document Review
Pass	a.	Establish a particular instance of a component as the starting baseline.	SLP-VC-07 PCA Doc Review PCA Doc - Configuration Management Plan Rev04	Document Review
Pass	b.	Promote subsequent instances of a component to baseline status as development progresses through to completion of the initial completed version released to the accredited test labs for certification testing.	SLP-VC-07 PCA Doc Review PCA Doc - Configuration Management Plan Rev04	Document Review
Pass	c.	Promote subsequent instances of a component to baseline status as the component is	SLP-VC-07 PCA Doc Review PCA Doc - Configuration	Document Review

Pass or Fail	VVSG Req. No.	VVSG Requirement Text	How requirement is satisfied	Audit method(s)
		maintained throughout its life cycle until system retirement (i.e., the system is no longer sold or maintained by the vendor).	Management Plan Rev04	
	Vol: II 7.4.3	**Baseline, Promotion, and Demotion Procedures**		
		The accredited test lab shall examine the vendor's documented baseline, promotion, and demotion procedures to confirm that they:		
Pass	a.	Provide a clear, controlled process that promotes components to baseline status when specific criteria defined by the vendor are met	SLP-VC-07 PCA Doc Review PCA Doc - Configuration Management Plan Rev04	Document Review
Pass	b.	Provied a clear, controlled process for demoting a component from baseline status when specific criteria defined by the vendor are met	SLP-VC-07 PCA Doc Review PCA Doc - Configuration Management Plan Rev04	Document Review
	Vol: I 9.5	**Configuration Control Procedures**		
		Configuration control is the process of approving and implementing changes to a configuration item to prevent unauthorized additions, changes, or deletions. The vendor shall establish such procedures and related conventions, providing a complete description of those procedures used to:		
Pass	a.	Develop and maintain internally developed items.	SLP-VC-07 PCA Doc Review PCA Doc - Configuration Management Plan Rev04	Document Review
Pass	b.	Acquire and maintain third-party items.	SLP-VC-07 PCA Doc Review PCA Doc - Configuration Management Plan Rev04	Document Review
Pass	c.	Resolve internally identified defects for items	SLP-VC-07 PCA Doc Review	Document Review

Pass or Fail	VVSG Req. No.	VVSG Requirement Text	How requirement is satisfied	Audit method(s)
		regardless of their origin.	PCA Doc - Configuration Management Plan Rev04	
Pass	d.	Resolve externally identified and reported defects (i.e., by customers and test labs).	SLP-VC-07 PCA Doc Review PCA Doc - Configuration Management Plan Rev04	Document Review
	Vol: II 7.4.4	**Configuration Control Procedures**		
		The accredited test lab shall examine the vendor's configuration control procedures to confirm that they:		
Pass	a.	Are capable of providing effective control of internally developed system components	SLP-VC-07 PCA Doc Review PCA Doc - Configuration Management Plan Rev04 SLP-VC-08 FCA Assessment	Document Review and Inspection
Pass	b.	Are capable of providing effective control of components developed or supplied by third parties	SLP-VC-07 PCA Doc Review PCA Doc - Configuration Management Plan Rev04 SLP-VC-08 FCA Assessment	Document Review and Inspection
	Vol: I 9.6	**Release Process Procedures**		
		The release process is the means by which the vendor installs, transfers, or migrates the system to the accredited test labs and, eventually, to its customers. The vendor shall establish such procedures and related conventions, providing a complete description of those used to:		
Pass	a.	Perform a first release of the system to an accredited test lab.	SLP-VC-13 Trusted Build SLP-VC-07 PCA Doc Review PCA Doc - Configuration	Document Review

Pass or Fail	VVSG Req. No.	VVSG Requirement Text	How requirement is satisfied	Audit method(s)
			Management Plan Rev04	
Pass	b.	Perform a subsequent maintenance or upgrade release of the system, or a particular component, to an accredited test lab.	SLP-VC-13 Trusted Build SLP-VC-07 PCA Doc Review PCA Doc - Configuration Management Plan Rev04	Document Review
Pass	c.	Perform the initial delivery and installation of the system to a customer, including confirmation that the installed version of the system matches exactly the certified system version.	SLP-VC-13 Trusted Build TM_Readiness Suite SLP-VC-07 PCA Doc Review PCA Doc - Configuration Management Plan Rev04	Document Review
Pass	d.	Perform a subsequent maintenance or upgrade release of the system, or a particular component, to a customer, including confirmation that the installed version of the system matches exactly the certified system version.	SLP-VC-13 Trusted Build SLP-VC-07 PCA Doc Review PCA Doc - Configuration Management Plan Rev04	Document Review
	Vol: II 7.4.5	**Release Process**		
		The accredited test lab shall examine the vendor's release process to confirm that it:		
Pass	a.	Provides clear accountability for moving forward with the release of the initial system version and subsequent releases	SLP-VC-07 PCA Doc Review PCA Doc - Configuration Management Plan Rev04	Document Review
Pass	b.	Provides the means for clear identification of the system version being replaced	SLP-VC-07 PCA Doc Review PCA Doc - Configuration Management Plan Rev04	Document Review
Pass	c.	Confirms that all required internal vendor tests	SLP-VC-07 PCA Doc Review	Document Review

Pass or Fail	VVSG Req. No.	VVSG Requirement Text	How requirement is satisfied	Audit method(s)
		and audits prior to release have been completed successfully	PCA Doc - Configuration Management Plan Rev04	
Pass	d.	Confirms that each system version released to customers has been certified	SLP-VC-07 PCA Doc Review PCA Doc - Configuration Management Plan Rev04	Document Review
Pass	e.	Confirms that each system release has been received by the customer	SLP-VC-07 PCA Doc Review PCA Doc - Configuration Management Plan Rev04	Document Review
Pass	f.	Confirms that each system release has been installed successfully by the customer	SLP-VC-07 PCA Doc Review PCA Doc - Configuration Management Plan Rev04	Document Review
	Vol: I 9.7	**Configuration Audits**		
	Vol: I 9.7.1	**Physical Configuration Audit**		
		The PCA is conducted by the test lab to compare the voting system components submitted for certification to the vendor's technical documentation. For the PCA, a vendor shall provide:		
Pass	a.	Identification of all items that are to be a part of the software release.	SLP-VC-09 PCA Software & Hardware Configuration Audit SLP-VC-07 PCA Doc Review PCA Doc Software Design_Spec Rev02	Document Review
Pass	b.	Specification of compiler (or choice of compilers)	SLP-VC-07 PCA Doc Review	Document Review

Pass or Fail	VVSG Req. No.	VVSG Requirement Text	How requirement is satisfied	Audit method(s)
		to be used to generate executable programs.	PCA Doc Software Design_Spec Rev02	
Pass	c.	Identification of all hardware that interfaces with the software.	SLP-VC-09 PCA Software & Hardware Configuration Audit SLP-VC-07 PCA Doc Review PCA Doc Software Design_Spec Rev02 PCA Doc System Hardware Spec Rev03	Document Review
Pass	d.	Configuration baseline data for all hardware that is unique to the system.	SLP-VC-09 PCA Software & Hardware Configuration Audit	Document Review
Pass	e.	Copies of all software documentation intended for distribution to users, including program listings, specifications, operations manual, voter manual, and maintenance manual.	SLP-VC-09 PCA Software & Hardware Configuration Audit SLP-VC-07 PCA Doc Review PCA Doc Software Design_Spec Rev02	Document Review
Pass	f.	User acceptance test procedures and acceptance criteria.	TM_Readiness Suite	Document Review
Pass	g.	Identification of any changes between the physical configuration of the system submitted for the PCA and that submitted for the FCA, with a certification that any differences do not degrade the functional characteristics.	SLP-VC-07 PCA Doc Review PCA Doc - System Change Notes Rev01	Document Review
Pass	h.	Complete descriptions of its procedures and related conventions used to support this audit by:	SLP-VC-07 PCA Doc Review	Document Review
Pass	h. i.	Establishing a configuration baseline of the software and hardware to be tested.	SLP-VC-09 PCA Software & Hardware Configuration Audit	Document Review
Pass	h. ii.	Confirming whether the system documentation matches the corresponding system components.	SLP-VC-07 PCA Doc Review SLP-VC-08 FCA Assessment	Document Review

Pass or Fail	VVSG Req. No.	VVSG Requirement Text	How requirement is satisfied	Audit method(s)
	Vol: II 7.4.6	**Configuration Audits**		
		The accredited test lab shall examine the vendor's configuration audit procedures to confirm that they:		
Pass	a.	Are sufficiently broad in scope to address the entire system, including system documentation	SLP-VC-07 PCA Doc Review SLP-VC-08 FCA Assessment	Document Review
Pass	b.	Are conducted with appropriate timing to enable effective control of system versions	SLP-VC-07 PCA Doc Review SLP-VC-08 FCA Assessment	Document Review
Pass	c.	Are sufficiently rigorous to confirm that all system documentation prepared and maintained by the vendor matches the actual system functionality, design, operation, and maintenance requirements	SLP-VC-07 PCA Doc Review SLP-VC-08 FCA Assessment	Document Review
	Vol: I 9.7.2	**Functional Configuration Audit**		
		The Functional Configuration Audit is conducted by the accredited test lab to verify that the system performs all the functions described in the system documentation. The vendor shall:		
Pass	a.	Completely describe its procedures and related conventions used to support this audit for all system components.	SLP-VC-08 FCA Assessment	Document Review
Pass	b.	Provide the following information to support this audit:		
Pass	b. i.	Copies of all procedures used for module or unit testing, integration testing, and system testing.	SLP-VC-07 PCA Doc Review PCA Doc - System Test_Verification Spec Rev03 SLP-VC-08 FCA Assessment	Document Review

Pass or Fail	VVSG Req. No.	VVSG Requirement Text	How requirement is satisfied	Audit method(s)
Pass	b. ii.	Copies of all test cases generated for each module and integration test, and sample ballot formats or other test cases used for system tests.	PCA Doc System Test_Verification Rev03	Document Review
Pass	b. iii.	Records of all tests performed by the procedures listed above, including error corrections and retests.	PCA Doc System Test_Verification Rev03	Document Review
	Vol: I 9.8	**Configuration Management Resources**		
		Often, configuration management activities are performed with the aid of automated tools. Assuring that such tools are available throughout the system life cycle, including if the vendor is acquired by or merged with another organization, is critical to effective configuration management. Vendors may choose the specific tools they use to perform the record keeping, audit, and reporting activities of the configuration management standards. The resources documentation standard provided below focus on assuring that procedures are in place to record information about the tools to help ensure that they, and the data they contain, can be transferred effectively and promptly to a third party should the need arise. Within this context, a vendor is required to develop and provide a complete description of the procedures and related practices for maintaining information about:		
Pass	a.	Specific tools used, current version, and operating environment specifications.	SLP-VC-07 PCA Doc Review Attachment E10 – Configuration Management Plan	Document Review

Pass or Fail	VVSG Req. No.	VVSG Requirement Text	How requirement is satisfied	Audit method(s)
Pass	b.	Physical location of the tools, including designation of computer directories and files.	SLP-VC-07 PCA Doc Review Attachment E10 – Configuration Management Plan	Document Review
Pass	c.	Procedures and training materials for using the tools.	SLP-VC-07 PCA Doc Review Attachment E10 – Configuration Management Plan	Document Review
	Vol: II 5.4	**Source Code Review**		
		The accredited test lab shall compare the source code to the vendor's software design documentation to ascertain how completely the software conforms to the vendor's specifications.	Attachment E7 - PCA Doc - Software Design_Spec • Assessment of Build design documentation against the system source code concluded that the system conforms to Harts written specifications. • Assessment of Central design documentation against the system source code concluded that the system conforms to Harts written specifications. • Assessment of Count design documentation against the system source code concluded that the system conforms to Harts written specifications. • Assessment of Touch Writer design documentation against the system source code concluded that the system conforms to Harts written	Document Review

Pass or Fail	VVSG Req. No.	VVSG Requirement Text	How requirement is satisfied	Audit method(s)
			specifications. • Assessment of Scan design documentation against the system source code concluded that the system conforms to Harts written specifications.	
		Source code inspection shall also assess the extent to which the code adheres to the requirements in Volume I, Section 5	Attachment C - List of Source Code Reviewed and Results Attachment J1 - HRT_C#_MSAllInOneStandard_SCRF Attachment J2 - HRT_C_&_C++_MSAllInOneStandard_SCRF	Document Review

End of FCA Summary