DOMINION 4.0

		Corresponding VVSG requirement(s) reference	Location(s) where verified / Comments by Wyle *Because of the different numbering conventions found throughout the TDP and because numbering conventions that changed during testing all of the below references are denoted as "sections".*	Compliance Object
Volume	**VVSG Requirement**			

P R E F A C E			**Relevant Disclaimers** (2.02 Democracy Suite System Overview, Section 1.1) 1. Please be advised that the EMS Enterprise configuration outlined in this document is not a component of the current federal certification campaign, and any references to this configuration should be disregarded. 2. Please be advised that the Election Data Exchange Station, otherwise known as EDES, is not a component of the federal certification campaign. Any references to this component should be disregarded. 3. Please be advised that this document contains references to open primary, ranked choice voting, otherwise known as RCV and recall issues. These options are not components of the current federal certification campaign, and any references to them should be disregarded. 4. Please be advised that Modem functionality and Mode 2 and Mode 3 (asymmetric cryptography modes) outlined in this document are not part of the current federal certification campaign, and any references to this configuration should be disregarded. 5. This documentation contains references to landscape ballot orientation, otherwise known as the NYS General and Primary ballot template. This orientation is not a component of the current federal certification campaign, and any references to it should be disregarded. 6. Please be advised that this document may contain references to the Ballot Marking Device, otherwise known as the BMD. This option is not.	
VII, Sec. 2	**Description of the Technical Data Package**			
VII, 2.1	**Scope**			
	This subsection contains a description of the vendor documentation relating to the voting system that shall be submitted with the system as a precondition of national certification testing. Any information relevant to the system evaluation shall be submitted to include source code, object code, and sample output report formats.	*also Vol. I, 2.1.7.2 Voting Variations; Vol. II, 2.8.4 Operational Features EAC VSTL Testing and Certification Program Manual Vol. 1.0 Sect. 4.3.1.6*	April 20, 2010 Approval of Voting System Testing Application Package Letter from the EAC (DVS1001) _____ **The Democracy Suite platform consists of four main system components:** -The Democracy Suite Election Management System (EMS) software platform -The Democracy Suite ImageCast Precinct optical ballot counter (ICP) -The Democracy Suite ImageCast Evolution optical ballot counter (ICE) -The Democracy Suite ImageCast Central optical ballot counter (ICC)	Letter
	Both formal documentation and notes of the vendor's development process shall be submitted for qualification tests. If the vendor's developmental test data are incomplete, the accredited test lab shall design and conduct the appropriate tests to cover all elements of the system and to ensure conformance with all system requirements.		April 20, 2010 Approval of Voting System Testing Application Package Letter from the EAC (DVS1001)	Letter
VII, 2.1.1	**Content and Format**			
	The vendor shall provide a list of all documents submitted controlling the design, construction, operation, and maintenance of the system. Documents shall be listed in order of precedence.		DVS - EAC TDP Revisions (TDP Document List)	Spreadsheet
VII, 2.1.1.1	**Description of the Technical Data Package, Required Content for Initial Certification**	*Vol. I, 8.7 Quality Assurance Requirements, Documentation; Vol. II, 2.12.4 Quality Assurance Program,*		
	At a minimum, the TDP shall contain the following documentation:	*Vol. I, 3.1.1 Usability Testing; Vol. I, 3.2.2.1 Partial Vision; Vol. I, 3.2.2.2 Blindness; Vol. I, 3.2.3 Dexterity*		
a.	System configuration overview		2.02 - Democracy Suite System Overview Democracy_Suite_4_0_Supported_Functionality_Declaration_20110822_rev20111005_rev20120321 2.99 - Trace Listing	TDP
b.	System functionality description		2.03 - Democracy Suite ICP Functionality Description 2.03 - ICC Functionality Description 2.03 - ICE Functionality Description 2.03 - Democracy Suite ICP Functionality Description	TDP
c.	System hardware specifications		2.04 - ICE System Hardware Specification 2.04 - ICP System Hardware Specification 2.04.1 - ICE System Hardware Characteristics 2.04.1 - ICP System Hardware Characteristics Advanced Printing Systems ICE Approved Parts List ImageCast Printing Specification EngineeringProductDevelopmentProcesses-HWEngineering ImageCastPrecinctApprovedPartsList ImageCast Evolution Machine Behavioural Settings LTPC Series Line Thermal Printer Mechanism Technical Reference	TDP

Document is uncontrolled when printed.

Wyle, Huntsville, AL

d.	Software design and specifications		2.05 - EMS Software Design And Specification 2.05 - ICE Software Design and Specification 2.05 - ICP Software Design And Specification 2.05 - ICCSoftwareDesignAndSpecification EMS4.0-DatabaseDocumentation Creating Repository database_documentation.pdf DominionVotingC_C++CodingStandard EMS_BuildEnvironment_InstallDocument_Windows2008R2_v1.4.0_2 ICE Software Installation Update and Verification Procedures ICE Software Installation Update and Verification Procedures - edits 3-21-12 ICP Firmware Build and Install ICP_FirmwareUpdate ICPFirmwareUpdateProcedure ImageCast Central - Application Installation ImageCast Central - Build Environment Setup (Ver 1.0.9) ImageCast Central - Scanner (Canon DR-X10C) Installation (Ver 1.0.1) ImageCast Central - Software Build Procedure (Ver 2.0.2) ImageCast Evolution Build Procedure ImageCast Evolution Firmware Installation Procedure - Wyle edits 3-8-12 ImageCast Total Results File Format ImageCastCentralSoftwareBuildAndInstall ImageCastPrecinctDeviceConfigurationFiles ImageCastPrecinctElectionDefinitionFiles ImageCastPrecinctExtractingFirmwareContents	TDP
e.	System test and verification specifications	*see Vol. I 3.1.1 Usability Testing: per EAC RFI 2007-03 dated 9/5/07 - 2005 VVSG Vol. I Section 3.1.1: summative usability test report must be submitted.*	2.07 - Democracy Suite System Test and Verification 2.07 - SystemTestAndVerificationTestSuites ICP_MillionBallotScanTest ImageCast Evolution Usability Study ImageCastUsabilityStudy PCOS_300B_ImageCAST_Precinct_Manufacturing_Test_Procedure ReadinessTestProcedures	TDP
f.	System security specifications		2.06 - Democracy Suite System Security Specification	TDP
g.	User/system operations procedures		2.08 - EMS System Operation Procedures 2.08 - ICE System Operation Procedures 2.08 - ICC System Operation Procedures 2.08 - ICP System Operation Procedures Audio Studio User Manual Canon DRX10C User Manual Democracy Suite EMS EED Users Guide Democracy Suite EMS RTR User Manual Democracy Suite System ID Guide ICE Technical Guide ICP Technical Guide List of Permission Errors within EMS EED and RTR RTR User Manual	TDP
h.	System maintenance procedures		2.09 - ICE System Maintenance Manual 2.09 - ICP System Maintenance Manual 2.09 - EMSSystemMaintenanceManual	TDP
i.	Personnel deployment and training requirements		2.10 - Democracy Suite Personnel Deployment And Training Requirements	TDP
j.	Configuration management plan		2.11 - Configuration Management Process	TDP
k.	Quality assurance program		2.12 - Democracy Suite Quality Assurance Program	TDP
l.	System change notes		N/A - Not a Modification Submission	TDP
VII, 2.1.1.2	**Required Content for System Changes and Recertification**			
	For systems seeking re-certification, vendors shall submit System Change Notes as described in Subsection 2.13, as well as current versions of all documents that have been updated to reflect system changes.	*see Vol. II, 2.13 System Change Notes; Vol. I, Sec. 8.7 Quality Assurance Requirements, Documentation; Vol. II, 2.12.4 Quality Assurance Program, Documentation*	N/A - Not a Re-certification Submission	TDP
VII, 2.1.1.3	**Format**			
	The TDP shall include a detailed table of contents for the required documents, an abstract of each document, and a listing of each of the informational sections and appendices presented.		Included in Core Documents	TDP
	A cross-index shall be provided indicating the portions of the documents that are responsive to documentation requirements for any item presented.		2.99 - Trace Listing In addition the core documents contain cross-references to the VVSG requirements throughout.	TDP
VII, 2.1.3	**Protection of Proprietary Information**			
	The vendor shall identify all documents, or portions of documents, containing proprietary information not approved for public release.		Included in the Notice of Confidentiality and Nondisclosure page of the core documents	TDP
VII, 2.2	**System Overview**			
	In the system overview, the vendor shall provide information that enables the accredited test lab to identify the functional and physical components of the system, how the components are structured, and the interfaces between them.		2.02 - Democracy Suite System Overview	TDP
VII, 2.2.1	**System Description**			
	The system description shall include written descriptions, drawings and diagrams that present:			

Wyle, Huntsville, AL

O V E R V I E W	a.	A description of the functional components (or subsystems) as defined by the vendor (e.g., environment, election management and control, vote recording, vote conversion, reporting, and their logical relationships).		2.02 - Democracy Suite System Overview, Section 2, System Overview	TDP
	b.	A description of the operational environment of the system that provides an overview of the hardware, software, and communications structure.		2.02 - Democracy Suite System Overview, Section 3, Operational Environment	TDP
	c.	A concept of operations that explains each system function, and how the function is achieved in the design.		2.02 - Democracy Suite System Overview, Section 3, Operational Environment	TDP
	d.	Descriptions of the functional and physical interfaces between subsystems and components.		2.02 - Democracy Suite System Overview, Section 4, External and Internal Interfaces	TDP
	e.	Identification of all COTS hardware and software products and communications services used in the development and/or operation of the voting system, identifying the name, vendor, and version used for each such component, including:			
		1) Operating systems	also Vol. I, 7.5.2 Telecomm., Prot. Against External Threats	2.02 - Democracy Suite System Overview, Section 3, Operational Environment	TDP
		2) Database software	see Vol. II, 2.5.8 Sys. Database	2.02 - Democracy Suite System Overview, Section 4, External and Internal Interfaces	TDP
		3) Communications routers	see Vol. 1, 7.5.2 Prot. Against External Threats	2.02 - Democracy Suite System Overview, Section 4, External and Internal Interfaces	TDP
		4) Modem drivers	see Vol. 1, 7.5.2 Prot. Against External Threats	2.02 - Democracy Suite System Overview, Section 2, System Overview	TDP
		5) Dial-up networking software	see Vol. 1, 7.5.2 Prot. Against External Threats	2.02 - Democracy Suite System Overview, Section 3, Operational Environment	TDP
	f.	Interfaces among internal components, and interfaces with external systems. For components that interface with other components for which multiple products may be used, the TDP shall provide an identification of:	Vol. II, 2.5.9 Interfaces		
		1) File specifications, data objects, or other means used for information exchange.		2.02 - Democracy Suite System Overview, Section 4, External and Internal Interfaces	TDP
		2) The public standard used for such file specifications, data objects, or other means.		2.02 - Democracy Suite System Overview, Section 4, External and Internal Interfaces	TDP
	g.	Benchmark directory listings for all software (including firmware elements) and associated documentation included in the vendor's release in the order in which each piece of software would normally be installed upon system setup and installation.		2.02 - Democracy Suite System Overview, Section 4.9, Benchmark Directory	TDP
	VII, 2.2.2	**System Performance**			
		The vendor shall provide system performance information including:			
	a.	The performance characteristics of each operating mode and function in terms of expected and maximum speed, throughput capacity, maximum volume (maximum number of voting positions and maximum number of ballot styles supported), and processing frequency.	see Vol. I, 2.2.1.1c Ballot Prep., Gen. Capabilities.; see Vol. I, 4.1.5.1a Ballot Handling	2.02 - Democracy Suite System Overview, Section 5, System Performance	TDP
	b.	Quality attributes such as reliability, maintainability, availability, usability, and portability.	see Vol. I, 4.3.5 Availability; Vol. I, 7.9.3 VVPAT Requirements, Electronic and Paper Record Structure; Vol. I, 7.9.4 Equipment Security and Reliability	2.02 - Democracy Suite System Overview, Section 5, System Performance	TDP
	c.	Provisions for safety, security, privacy, and continuity of operation.		2.02 - Democracy Suite System Overview, Section 5.5, Quality Attributes	TDP
	d.	Design constraints, applicable standards, and compatibility requirements.		2.02 - Democracy Suite System Overview, Section 5.5, Quality Attributes	TDP
	VII, 2.3	**System Functionality Description**			
		The vendor shall declare the scope of the system's functional capabilities, thereby establishing the performance, design, test, manufacture, and acceptance context for the system.		2.03 - Democracy Suite EMS Functionality Description, Section 1, Purpose and Scope 2.03 - ICC Functionality Description, Section 1, Introduction 2.03 - ICE Functionality Description, Section 1.1, Purpose and Scope 2.03 - ICP Functionality Description, Section 1.2, Purpose	TDP
		The vendor shall provide a listing of the system's functional processing capabilities, encompassing capabilities required by the Guidelines and any additional capabilities provided by the system. This listing shall provide a simple description of each capability. Detailed specifications shall be provided in other documentation required for the TDP.	per VVSG V2, 3.2.3, additional capabilities are those added to respond to the requirements of an individual State(s).	2.03 - Democracy Suite EMSFunctionality Description, Section 2.6, System Capabilities 2.03 - ICC Functionality Description, Section 2.4, System Capabilities 2.03 - ICE Functionality Description, Section 2, Overall System Capabilities 2.03 - ICP Functionality Description, Section 2, Overall System Capabilities	TDP

WHVS07.11

Document is uncontrolled when printed.

Wyle, Huntsville, AL

a.	The vendor shall organize the presentation of required capabilities in a manner that corresponds to the structure and sequence of functional capabilities indicated in Volume I, Section 2. The contents of Volume I, Section 2 may be used as the basis for a checklist to indicate the specific functions provided and those not provided by the system. [see below for functional capabilities as listed in Vol. I, Sec. 2.1-2.5]		2.03 - Democracy Suite EMS Functionality Description, Section 2.6, System Capabilities 2.03 - ICC Functionality Description, Section 2.4, System Capabilities 2.03 - ICE Functionality Description, Section 2, Overall System Capabilities 2.03 - ICP Functionality Description, Section 2, Overall System Capabilities	TDP
	[Vol. I, 2.1 Overall System Capabilities]: These functional capabilities apply throughout the election process. They include:			
	2.1.1 Security		2.03 - Democracy Suite EMS Functionality Description, Section 2.6, System Capabilities 2.03 - ICC Functionality Description, Section 2.4, System Capabilities 2.03 - ICE Functionality Description, Section 2.1, Security 2.03 - ICP Functionality Description, Section 2.1, Security	TDP
	2.1.2 Accuracy		2.03 - Democracy Suite EMS Functionality Description, Section 2.6, System Capabilities 2.03 - ICC Functionality Description, Section 2.4, System Capabilities 2.03 - ICE Functionality Description, Section 2.2, Accuracy 2.03 - ICP Functionality Description, Section 2.2, Design of System for Accuracy	TDP
	2.1.3 Error Recovery		2.03 - Democracy Suite EMS Functionality Description, Section 2.6, System Capabilities 2.03 - ICC Functionality Description, Section 2.4, System Capabilities 2.03 - ICE Functionality Description, Section 2.3, Error Recovery 2.03 - ICP Functionality Description, Section 2.3, Error Recovery	TDP
	2.1.4 Integrity		2.03 - Democracy Suite EMS Functionality Description, Section 2.6, System Capabilities 2.03 - ICC Functionality Description, Section 2.4, System Capabilities 2.03 - ICE Functionality Description, Section 2.4, Integrity 2.03 - ICP Functionality Description, Section 2.5, Integrity	TDP
	2.1.5 System Auditability		2.03 - Democracy Suite EMS Functionality Description, Section 2.6, System Capabilities 2.03 - ICC Functionality Description, Section 2.4, System Capabilities 2.03 - ICE Functionality Description, Section 2.5, System Audit 2.03 - ICP Functionality Description, Section 2.4, Audit Functionality	TDP
	2.1.6 Election Management System		2.03 - Democracy Suite EMS Functionality Description 2.03 - ICC Functionality Description, Section 2.4, System Capabilities 2.03 - ICE Functionality Description, Section 2.6, Election Management System 2.03 - ICP Functionality Description, Section 2.6, Election Management System	TDP
	2.1.7 Vote Tabulation		2.03 - Democracy Suite EMS Functionality Description, Section 2.6, System Capabilities 2.03 - ICC Functionality Description, Section 2.4, System Capabilities 2.03 - ICE Functionality Description, Section 2.7, Voter Tabulation Program 2.03 - ICP Functionality Description, Section 2.7, Vote Tabulation	TDP
	2.1.8 Ballot Counters		2.03 - Democracy Suite EMS Functionality Description, Section 2.6, System Capabilities 2.03 - ICC Functionality Description, Section 2.4, System Capabilities 2.03 - ICE Functionality Description, Section 2.8, Ballot Counter 2.03 - ICP Functionality Description, Section 2.8, Ballot Counters	TDP
	2.1.9 Telecommunications		2.03 - Democracy Suite EMS Functionality Description, Section 2.6, System Capabilities 2.03 - ICC Functionality Description, Section 2.4, System Capabilities 2.03 - ICE Functionality Description, Section 2.9, Telecommunications 2.03 - ICP Functionality Description, Section 2.9, Telecommunications	TDP
	2.1.10 Data Retention	*see Vol. I, 2.1.10 Data Retention;* *see Vol. I, 4.1.3.2 Memory Stability;* *see Vol. I, 4.1.6.1 b. Paper-Based System Processing Requirements;* *see Vol. I, 4.1.6.2 c. DRE System Processing Requirements;* *see Vol. I, 4.1.7.1 Removable Storage Media;* *see Vol. I, 5.3 a. Data and Document Retention*	2.03 - Democracy Suite EMS Functionality Description, Section 2.6, System Capabilities 2.03 - ICC Functionality Description, Section 2.4, System Capabilities 2.03 - ICE Functionality Description, Section 2.10, Data Retention 2.03 - ICP Functionality Description, Section 2.10, Data Retention	TDP
	[Vo. I, 2.2 Pre-voting Capabilities]: These functional capabilities are used to prepare the voting system for voting. They include:			
	2.2.1 Ballot Preparation; 2.2.1.1 General Capabilities; 2.2.1.2 Ballot Formatting; 2.2.1.3 Ballot Production		2.03 - Democracy Suite EMS Functionality Description, Section 2.6, System Capabilities 2.03 - ICC Functionality Description, Section 2.4, System Capabilities 2.03 - ICE Functionality Description, Section 3, Pre-Voting Capabilities 2.03 - ICP Functionality Description, Section 2.11, Pre-Voting Capabilities	TDP
	2.2.2 Election Programming		2.03 - Democracy Suite EMS Functionality Description, Section 2.6, System Capabilities 2.03 - ICC Functionality Description, Section 2.4, System Capabilities 2.03 - ICE Functionality Description, Section 3, Pre-Voting Capabilities 2.03 - ICP Functionality Description, Section 2.1.1, Software and Firmware Installation	TDP
	2.2.3 Ballot and Program Installation and Control		2.03 - Democracy Suite EMS Functionality Description, Section 2.6, System Capabilities 2.03 - ICC Functionality Description, Section 2.4, System Capabilities 2.03 - ICE Functionality Description, Section 3, Pre-Voting Capabilities 2.03 - ICP Functionality Description, Section 2.1.1, Software and Firmware Installation	TDP
	2.2.4 Readiness Testing		2.03 - Democracy Suite EMS Functionality Description, Section 2.6, System Capabilities 2.03 - ICC Functionality Description, Section 2.4, System Capabilities 2.03 - ICE Functionality Description, Section 4.1.1, Precinct Count Systems 2.03 - ICP Functionality Description, Section 3.6.3.1, Diagnostic Test	TDP

	2.2.5 Verification at the Polling Place		2.03 - Democracy Suite EMS Functionality Description, Section 2.6, System Capabilities 2.03 - ICC Functionality Description, Section 2.4, System Capabilities 2.03 - ICE, Section 3.1. Verification at the Polling Place 2.03 - ICP Functionality Description, Section 2.11, Pre-Voting Capabilities	TDP
	2.2.6 Verification at the Central Location		2.03 - Democracy Suite EMS Functionality Description, Section 2.6, System Capabilities 2.03 - ICC Functionality Description, Section 2.4, System Capabilities N/A for ICE N/A for ICP	TDP
	[Vol. I, 2.3 Voting Capabilities]: These capabilities include:			
	2.3.1 Opening the Polls; 2.3.1.1 Precinct Count Systems; 2.3.1.2 Paper-based Systems; 2.3.1.3 DRE System Requirements		2.03 - Democracy Suite EMS Functionality Description, Section 2.6, System Capabilities 2.03 - ICC Functionality Description, Section 2.4, System Capabilities 2.03 - ICE Functionality Description, Section 4.1, Opening the Polls 2.03 - ICP Functionality Description, Section 3.6.3.3, Opening Poll	TDP
	2.3.2 Activating the Ballot (DRE Systems)		2.03 - Democracy Suite EMS Functionality Description, Section 2.6, System Capabilities 2.03 - ICC Functionality Description, Section 2.4, System Capabilities 2.03 - ICE Functionality Description, Section 4.2.2, Paper-based System Requirements: Casting a Ballot N/A for ICP	TDP
	2.3.3 Casting a Ballot; 2.3.3.1 Common Requirements; 2.3.3.2 Paper-based System Requirements; 2.3.3.3 DRE Requirements		2.03 - Democracy Suite EMS Functionality Description, Section 2.6, System Capabilities 2.03 - ICC Functionality Description, Section 2.4, System Capabilities 2.03 - ICE Functionality Description, Section 4.2, Casting a Ballot 2.03 - ICP Functionality Description, Section 2.3.1, Inserting a Paper Ballot	TDP
	Vol. I, 2.4 Post-voting Capabilities]: These capabilities apply after all votes have been cast. They include:			
	2.4.1 Closing the polls		2.03 - Democracy Suite EMS Functionality Description, Section 2.6, System Capabilities 2.03 - ICE Functionality Description, Section 5.1, Closing Poll 2.03 - ICC Functionality Description, Section 2.4, System Capabilities 2.03 - ICP Functionality Description, Section 3.6.3.5, Closing Poll	TDP
	2.4.2 Consolidating Vote Data		2.03 - Democracy Suite EMS Functionality Description, Section 2.6, System Capabilities 2.03 - ICC Functionality Description, Section 2.4, System Capabilities 2.03 - ICE Functionality Description, Section 5.2, Consolidating Vote Data 2.03 - ICP Functionality Description, Section 2.13.1, Consolidating Vote Data	TDP
	2.4.3 Producing Reports		2.03 - Democracy Suite EMS Functionality Description, Section 2.6, System Capabilities 2.03 - ICC Functionality Description, Section 2.4, System Capabilities 2.03 - ICE Functionality Description, Section 5.3, Producing Reports 2.03 - ICP Functionality Description, Section 3.6.3.6, Reports	TDP
	2.4.4 Broadcasting Results		2.03 - Democracy Suite EMS Functionality Description, Section 2.6, System Capabilities 2.03 - ICC Functionality Description, Section 2.4, System Capabilities 2.03 - ICE Functionality Description, Section 5.4, Broadcasting Results 2.03 - ICP Functionality Description, Section 3.1, ImageCast Precinct Tabulator Overview	TDP
	[Vol. I, 2.5 Maintenance, Transportation and Storage Capabilities]:			
	2.5 Maintenance, Transportation, and Storage		2.03 - Democracy Suite EMS Functionality Description, Section 2.6, System Capabilities ICC - Canon DRX10C User Manual 2.03 - ICE Functionality Description, Section 6, Maintenance, Transportation, and Storage 2.03 - ICP Functionality Description, Section 3.2, ImageCast Precinct Tabulator Chassis Functionality	TDP
b.	Additional capabilities shall be clearly indicated. They may be presented using the same structure as that used for required capabilities (i.e., overall system capabilities, pre-voting functions, voting functions, post-voting functions), or may be presented in another format of the vendor's choosing.	*per VVSG V2, 3.2.3, additional capabilities are those added to respond to the requirements of an individual State(s).*	2.03 - Democracy Suite EMS Functionality Description, ff 2.03 - ICC Functionality Description, Section 2, ImageCast Central Scanning Overview 2.03 - ICE Functionality Description, Section 2.11, Additional Capabilities 2.03 - ICP Functionality Description, Section 2.14, Additional Capabilities	TDP
c.	Required capabilities that may be bypassed or deactivated during installation or operation by the user shall be clearly indicated.		2.03 - Democracy Suite EMS Functionality Description, ff 2.03 - ICC Functionality Description, Section 2, ImageCast Central Scanning Overview 2.03 - ICE Functionality Description, Section 2.11, Additional Capabilities 2.03 - ICP Functionality Description, Section 2.14, Additional Capabilities	TDP
d.	Additional capabilities that function only when activated during installation or operation by the user shall be clearly indicated.		2.03 - Democracy Suite EMS Functionality Description, ff 2.03 - ICC Functionality Description, Section 2, ImageCast Central Scanning Overview 2.03 - ICE Functionality Description, Section 2.11, Additional Capabilities 2.03 - ICP Functionality Description, Section 2.14, Additional Capabilities	TDP
e.	Additional capabilities that normally are active but may be bypassed or deactivated during installation or operation by the user shall be clearly indicated.		2.03 - Democracy Suite EMS Functionality Description, ff 2.03 - ICC Functionality Description, Section 2, ImageCast Central Scanning Overview 2.03 - ICE Functionality Description, Section 2.11, Additional Capabilities 2.03 - ICP Functionality Description, Section 2.14, Additional Capabilities	TDP
VII, 2.4	**System Hardware Specification**			
	The vendor shall expand on the system overview by providing detailed specifications of the hardware components of the system, including specifications of hardware used to support the telecommunications capabilities of the system, if applicable.	*also Vol. I, 4.1.7.2 Printers;* *Vol. I, 4.2.1 Size;* *Vol. I, 4.2.2 Weight;*	2.04 - ICE System Hardware Specification 2.04 - ICP System Hardware Specification 2.04.1 - ICE System Hardware Characteristics 2.04.1 - ICP System Hardware Characteristics Advanced Printing Systems ICE Approved Parts List ImageCast Printing Specification EngineeringProductDevelopmentProcesses-HWEngineering ImageCastPrecinctApprovedPartsList ImageCast Evolution Machine Behavioural Settings LTPC Series Line Thermal Printer Mechanism Technical Reference	TDP
VII, 2.4.1	**System Hardware Characteristics**			
	The vendor shall provide a detailed discussion of the characteristics of the system, indicating how the hardware meets individual requirements defined in Volume I, Section 4, including:	*Vol. I, 4.1-4.1.8.2 Performance Requirements;* *Vol. I, 3.4.2 Durability*		

Wyle, Huntsville, AL

a.	**Performance characteristics:** This discussion addresses basic system performance attributes and operational scenarios that describe the manner in which system functions are invoked, describe environmental capabilities, describe life expectancy, and describe any other essential aspects of system performance.		2.04.1 - ICE System Hardware Characteristics, Section 2, Performance Characteristics 2.04.1 - ICP System Hardware Characteristics, Section 2, Performance Characteristics Canon DRX10C User Manual, *ff*	TDP
b.	**Physical characteristics:** This discussion addresses suitability for intended use, requirements for transportation and storage, health and safety criteria, security criteria, and vulnerability to adverse environmental factors.	*also Vol. I, 4.2-4.2.2 Hdw. Physical Characteristics Vol. I, 4.2.3 b.ii Transport and Storage of Precinct Systems*	2.04.1 - ICE System Hardware Characteristics, Section 3, Physical Characteristics 2.04.1 - ICP System Hardware Characteristics, Section 3, Physical Characteristics Canon DRX10C User Manual, *ff*	TDP
c.	**Reliability:** This discussion addresses system and component reliability stated in terms of the system's operating functions, and identification of items that require special handling or operation to sustain system reliability.	*Vol. I, 4.3.3 Reliability*	2.04.1 - ICE System Hardware Characteristics, Section 3.4.3, Reliability 2.04.1 - ICP System Hardware Characteristics, Section 3.4.3, Reliability Canon DRX10C User Manual, *ff*	TDP
d.	**Maintainability:** Maintainability represents the ease with which maintenance actions can be performed based on the design characteristics of equipment and software and the processes the vendor and election officials have in place for preventing failures and for reacting to failures. Maintainability includes the ability of equipment and software to self-diagnose problems and make non-technical election workers aware of a problem. Maintainability also addresses a range of scheduled and unscheduled events.	*Vol. I, 4.3.4-4.3.4.2 Maintainability*	2.04.1 - ICE System Hardware Characteristics, Section 3.5 Maintainability 2.04.1 - ICP System Hardware Characteristics, Section 3.5 Maintainability Canon DRX10C User Manual, *ff*	TDP
e.	**Environmental conditions:** This discussion addresses the ability of the system to withstand natural environments, and operational constraints in normal and test environments, including all requirements and restrictions regarding electrical service, telecommunications services, environmental protection, and any additional facilities or resources required to install and operate the system.	*Vol. I, 4.1.2-4.1.2.15 Environ. Requirements*	2.04.1 - ICE System Hardware Characteristics, Section 2.2, Environmental Requirements 2.04.1 - ICP System Hardware Characteristics, Section 2.2, Environmental Requirements Canon DRX10C User Manual, *ff*	TDP
VII, 2.4.2	**Design and Construction**			
	The vendor shall provide sufficient data, or references to data, to identify unequivocally the details of the system configuration submitted for testing.	*also Vol. I, 4.3 Design, Construction, and Maintenance Characteristics*	2.04.1 - ICE System Hardware Characteristics, Section 3.4, Design, Construction and Maintenance Characteristics 2.04.1 - ICP System Hardware Characteristics, Section 3.4, Design, Construction and Maintenance Characteristics Canon DRX10C User Manual, *ff*	TDP
	The vendor shall provide a list of materials and components used in the system and a description of their assembly into major system components and the system as a whole. Paragraphs and diagrams shall be provided that describe:		2.04.1 - ICE System Hardware Characteristics, *ff* 2.04.1 - ICP System Hardware Characteristics, *ff* ICE Approved Parts List, *ff* ImageCastPrecinctApprovedPartsList, *ff*	TDP
a.	Materials, processes, and parts used in the system, their assembly, and the configuration control measures to ensure compliance with the system specification.		2.04.1 - ICE System Hardware Characteristics 2.04.1 - ICP System Hardware Characteristics ICE Approved Parts List ImageCastPrecinctApprovedPartsList	TDP
b.	The electromagnetic environment generated by the system.		2.04.1 - ICE System Hardware Characteristics, Section 2.2, Environmental Requirements 2.04.1 - ICP System Hardware Characteristics, Section 2.2, Environmental Requirements	TDP
c.	Operator and voter safety considerations, and any constraints on system operations or the use environment.		2.04.1 - ICE System Hardware Characteristics, Section 3.5.6, Safety 2.04.1 - ICP System Hardware Characteristics, Section 3.5.6, Safety	TDP
d.	Human factors considerations, including provisions for access by disabled voters.		2.04 - ICE System Hardware Specification, Section 2.4, Physical Control 2.04 - ICP System Hardware Specification Section 2.3, Physical Access Control	TDP
VII, 2.5	**Software Design and Specification**			
	The vendor shall expand on the system overview by providing detailed specifications of the software components of the system, including software used to support the telecommunications capabilities of the system, if applicable.		2.05 - EMS Software Design And Specification 2.05 - ICE Software Design and Specification 2.05 - ICP Software Design And Specification 2.05 - ICCSoftwareDesignAndSpecification EMS4.0-DatabaseDocumentation Creating Repository database_documentation.pdf DominionVotingC_C++CodingStandard EMS_BuildEnvironment_InstallDocument_Windows2008R2_v1.4.0_2 ICE Software Installation Update and Verification Procedures ICE Software Installation Update and Verification Procedures - edits 3-21-12 ICP Firmware Build and Install ICP_FirmwareUpdate ICPFirmwareUpdateProcedure ImageCast Central - Application Installation ImageCast Central - Build Environment Setup (Ver 1.0.9) ImageCast Central - Scanner (Canon DR-X10C) Installation (Ver 1.0.1) ImageCast Central - Software Build Procedure (Ver 2.0.2) ImageCast Evolution Build Procedure ImageCast Evolution Firmware Installation Procedure - Wyle edits 3-8-12 ImageCast Total Results File Format ImageCastCentralSoftwareBuildAndInstall ImageCastPrecinctDeviceConfigurationFiles ImageCastPrecinctElectionDefinitionFiles ImageCastPrecinctExtractingFirmwareContents	TDP

Wyle, Huntsville, AL

VII, 2.5.1	**Purpose and Scope**			
	The vendor shall describe the function or functions that are performed by the software programs that comprise the system, including software used to support the telecommunications capabilities of the system, if applicable.		2.05 - EMS Software Design And Specification, Section 1.3, Purpose and Scope 2.05 - ICE Software Design and Specification, Section 1.2, Purpose 2.05 - ICP Software Design and Specification, Section 1.3, Purpose and Scope 2.05 -ICC SoftwareDesignAndSpecification, Section 1.2, Purpose	TDP
VII, 2.5.2	**Applicable Documents**			
	The vendor shall list all documents controlling the development of the software and its specifications. Documents shall be listed in order of precedence.		2.05 - EMS Software Design And Specification, Section 3, Applicable Documents 2.05 - ICE Software Design and Specification, Section 1.4, Applicable Documents 2.05 - ICP Software Design and Specification, Section 1.5, Applicable Documents 2.05 -ICC SoftwareDesignAndSpecification, Section 1.4, Applicable Documents	TDP
VII, 2.5.3	**Software Overview**			
	The vendor shall provide an overview of the software that includes the following items:			
a.	A description of the software system concept, including specific software design objectives, and the logic structure and algorithms used to accomplish these objectives.		2.05 - EMS Software Design And Specification, Section 4, Software Overview 2.05 - ICE Software Design and Specification, Section 2, Software Overview 2.05 - ICP Software Design And Specification, Section 2, Software Overview 2.05 - ICC SoftwareDesignAndSpecification, Section 2, Software Overview	TDP
b.	The general design, operational considerations, and constraints influencing the design of the software.		2.05 - EMS Software Design And Specification, Section 4.2, General Design, Operational Considerations and... 2.05 - ICE Software Design and Specification, Section 2.2, General Design, Operational Considerations and ... 2.05 - ICP Software Design and Specification, Section 2.0.2, General Design, Operational Considerations... 2.05 - ICC SoftwareDesignAndSpecification, Section 2.0.2, General Design, Operational Considerations...	TDP
c.	Identification of all software items, indicating items that were:		2.05 - EMS Software Design And Specification, Section 4.3, Identification of All Software Items 2.05 - ICE Software Design and Specification, Section 2.3, Identification of All Software Items 2.05 - ICP Software Design And Specification, Section 2.0.3, Identification of All Software Items 2.05 - ICC SoftwareDesignAndSpecification, Section 2.0.3, Identification of All Software Items	TDP
	1) Written in-house		2.05 - EMS Software Design And Specification, Section 4.3, Identification of All Software Items 2.05 - ICE Software Design and Specification, Section 2.3.1, Software Items Written In-House 2.05 - ICP Software Design And Specification, Section 2.0.3.1, Software Items Written In-House 2.05 - ICC SoftwareDesignAndSpecification, Section 2.0.3.1, Software Items Written In-House	TDP
	2) Procured and not modified		2.05 - EMS Software Design And Specification, Section 4.3, Identification of All Software Items 2.05 - ICE Software Design and Specification, Section 2.3.2, Software Items Procured and Not Modified 2.05 - ICP Software Design And Specification, Section 2.0.3.2, Procured and Not Modifies 2.05 - ICC SoftwareDesignAndSpecification, Section 2.0.3.2, Procured and Not Modifies	TDP
	3) Procured and modified, including descriptions of the modifications to the software and to the default configuration options.		2.05 - EMS Software Design And Specification, Section 4.3, Identification of All Software Items 2.05 - ICE Software Design and Specification, Section 2.3.3, Software Items Procured and Modified 2.05 - ICP Software Design And Specification, Section 2.0.3.3, Software Items Procured and Modified 2.05 - ICC SoftwareDesignAndSpecification, Section 2.0.3.3, Software Items Procured and Modified	TDP
d.	Additional information for each item that includes:			
	1) Item identification		2.05 - EMS Software Design And Specification, Section 4.3, Identification of All Software Items 2.05 - ICE Software Design and Specification, Section 2.3, Identification of All Software Items 2.05 - ICP Software Design And Specification, Section 2.0.3, Identification of All Software Items 2.05 - ICC SoftwareDesignAndSpecification, Section 2.0.3, Identification of All Software Items	TDP
	2) General description		2.05 - EMS Software Design And Specification, Section 4.3, Identification of All Software Items 2.05 - ICE Software Design and Specification, Section 2.3, Identification of All Software Items 2.05 - ICP Software Design And Specification, Section 2.0.3, Identification of All Software Items 2.05 - ICC SoftwareDesignAndSpecification, Section 2.0.3, Identification of All Software Items	TDP
	3) Software requirements performed by the item		2.05 - EMS Software Design And Specification, Section 4.3, Identification of All Software Items 2.05 - ICE Software Design and Specification, Section 2.3, Identification of All Software Items 2.05 - ICP Software Design And Specification, Section 2.0.3, Identification of All Software Items 2.05 - ICC SoftwareDesignAndSpecification, Section 2.0.3, Identification of All Software Items	TDP
	4) Identification of interfaces with other items that provide data to, or receive data from, the item		2.05 - EMS Software Design And Specification, Section 4.3, Identification of All Software Items 2.05 - ICE Software Design and Specification, Section 2.3, Identification of All Software Items 2.05 - ICP Software Design And Specification, Section 2.0.3, Identification of All Software Items 2.05 - ICC SoftwareDesignAndSpecification, Section 2.0.3, Identification of All Software Items	TDP
	5) Concept of execution for the item		2.05 - EMS Software Design And Specification, Section 4.3, Identification of All Software Items 2.05 - ICE Software Design and Specification, Section 2.3, Identification of All Software Items 2.05 - ICP Software Design And Specification, Section 2.0.3, Identification of All Software Items 2.05 - ICC SoftwareDesignAndSpecification, Section 2.0.3, Identification of All Software Items	TDP
	The vendor shall also include a certification that procured software items were obtained directly from the manufacturer or a licensed dealer or distributor.		2.05 - EMS Software Design And Specification, Section 4.5, Certification of Third Party Software Components 2.05 - ICE Software Design and Specification, Section 2.3.4, Certification of Procured Software 2.05 - ICP Software Design And Specification, Section 2.0.3.4, Certification of Procured Software 2.05 - ICC SoftwareDesignAndSpecification, Section 2.0.3.4, Certification of Procured Software	TDP
VII, 2.5.4	**Software Standards and Conventions**			
	The vendor shall provide information that can be used by an accredited test lab or state certification board to support software analysis and test design. The information shall address standards and conventions developed internally by the vendor as well as published industry standards that have been applied by the vendor. The vendor shall provide information that addresses the following standards and conventions:			
a.	Software System development methodology.		2.05 - EMS Software Design And Specification, Section 5, Software Standards and Conventions 2.05 - ICE Software Design and Specification, Section 3.1, Software Standards and Conventions 2.05 - ICP Software Design and Specification, Section 3.1, Software Standards and Conventions 2.05 - ICC SoftwareDesignAndSpecification, Section 3.1, Software Standards and Conventions	TDP
b.	Software design standards, including internal vendor procedures.		2.05 - EMS Software Design And Specification, Section 5, Software Standards and Conventions 2.05 - ICE Software Design and Specification, Section 3.1, Software Standards and Conventions 2.05 - ICP Software Design and Specification, Section 3.1, Software Standards and Conventions 2.05 - ICC SoftwareDesignAndSpecification, Section 3.1, Software Standards and Conventions	TDP

WHVS07.11

Wyle, Huntsville, AL

c.	Software specification standards, including internal vendor procedures.		2.05 - EMS Software Design And Specification, Section 5, Software Standards and Conventions 2.05 - ICE Software Design and Specification, Section 3.1, Software Standards and Conventions 2.05 - ICP Software Design And Specification, Section 3.1, Software Standards and Conventions 2.05 - ICC SoftwareDesignAndSpecification, Section 3.1, Software Standards and Conventions	TDP
d.	Software coding standards, including internal vendor procedures.		2.05 - EMS Software Design And Specification, Section 5, Software Standards and Conventions 2.05 - ICE Software Design and Specification, Section 3.1, Software Standards and Conventions 2.05 - ICP Software Design And Specification, Section 3.1, Software Standards and Conventions 2.05 - ICC SoftwareDesignAndSpecification, Section 3.1, Software Standards and Conventions	TDP
e.	Testing and verification standards, including internal vendor procedures, that can assist in determining the program's correctness and ACCEPT/REJECT criteria.	*also Vol. I, 5.2.6 Software Design and Coding Standards, Coding Conventions*	2.05 - EMS Software Design And Specification, Section 5, Software Standards and Conventions 2.05 - ICE Software Design and Specification, Section 3.1, Software Standards and Conventions 2.05 - ICP Software Design And Specification, Section 3.1, Software Standards and Conventions 2.05 - ICC SoftwareDesignAndSpecification, Section 3.1, Software Standards and Conventions	TDP
f.	Quality assurance standards or other documents that can be used to examine and test the software. These documents include standards for program flow and control charts, program documentation, test planning, and test data acquisition and reporting.		2.05 - EMS Software Design And Specification, Section 5, Software Standards and Conventions 2.05 - ICE Software Design and Specification, Section 3.1, Software Standards and Conventions 2.05 - ICP Software Design And Specification, Section 3.1, Software Standards and Conventions 2.05 - ICC SoftwareDesignAndSpecification, Section 3.1, Software Standards and Conventions	TDP
VII, 2.5.5	**Software Operating Environment**			
	This section shall describe or make reference to all operating environment factors that influence the software design.		2.05 - EMS Software Design And Specification, Section 6, Software Operating Environment 2.05 - ICE Software Design and Specification, Section 3.2, Software Operating Environment 2.05 - ICP Software Design And Specification, Section 3.2, Software Operating Environment 2.05 - ICC SoftwareDesignAndSpecification, Section 3.2, Software Operating Environment	TDP
VII, 2.5.5.1	**Hardware Environment and Constraints**			
	The vendor shall identify and describe the hardware characteristics that influence the design of the software, such as:			
a.	The logic and arithmetic capability of the processor		2.05 - EMS Software Design And Specification, Section 6.2, Hardware Environment and Constraints 2.05 - ICE Software Design and Specification, Section 3.2.1, Hardware Environment and Constraints 2.05 - ICP Software Design And Specification, Section 3.2.1, Hardware Environment and Constraints 2.05 - ICC SoftwareDesignAndSpecification, Section 3.2.1, Hardware Environment and Constraints	TDP
b.	Memory read-write characteristics		2.05 - EMS Software Design And Specification, Section 6.2, Hardware Environment and Constraints 2.05 - ICE Software Design and Specification, Section 3.2.1, Hardware Environment and Constraints 2.05 - ICP Software Design And Specification, Section 3.2.1, Hardware Environment and Constraints 2.05 - ICC SoftwareDesignAndSpecification, Section 3.2.1, Hardware Environment and Constraints	TDP
c.	External memory device characteristics		2.05 - EMS Software Design And Specification, Section 6.2, Hardware Environment and Constraints 2.05 - ICE Software Design and Specification, Section 3.2.1, Hardware Environment and Constraints 2.05 - ICP Software Design And Specification, Section 3.2.1, Hardware Environment and Constraints 2.05 - ICC SoftwareDesignAndSpecification, Section 3.2.1, Hardware Environment and Constraints	TDP
d.	Peripheral device interface hardware		2.05 - EMS Software Design And Specification, Section 6.2, Hardware Environment and Constraints 2.05 - ICE Software Design and Specification, Section 3.2.1, Hardware Environment and Constraints 2.05 - ICP Software Design And Specification, Section 3.2.1, Hardware Environment and Constraints 2.05 - ICC SoftwareDesignAndSpecification, Section 3.2.1, Hardware Environment and Constraints	TDP
e.	Data input/output device protocols		2.05 - EMS Software Design And Specification, Section 6.2, Hardware Environment and Constraints 2.05 - ICE Software Design and Specification, Section 3.2.1, Hardware Environment and Constraints 2.05 - ICP Software Design And Specification, Section 3.2.1, Hardware Environment and Constraints 2.05 - ICC SoftwareDesignAndSpecification, Section 3.2.1, Hardware Environment and Constraints	TDP
f.	Operator controls, indicators, and displays		2.05 - EMS Software Design And Specification, Section 6.2, Hardware Environment and Constraints 2.05 - ICE Software Design and Specification, Section 3.2.1, Hardware Environment and Constraints 2.05 - ICP Software Design And Specification, Section 3.2.1, Hardware Environment and Constraints 2.05 - ICC SoftwareDesignAndSpecification, Section 3.2.1, Hardware Environment and Constraints	TDP
VII, 2.5.5.2	**Software Environment**			
	The vendor shall identify the compilers or assemblers used in the generation of executable code, and describe the operating system or system monitor.	*Vol. I, 9.7.1b Physical Configuration Audit*	2.05 - EMS Software Design And Specification, Section 6.1, Software Environment 2.05 - ICE Software Design and Specification, Section 3.2.2, Software Environment 2.05 - ICP Software Design And Specification, Section 3.2.2, Software Environment 2.05 - ICC SoftwareDesignAndSpecification, Section 3.2.2, Software Environment	TDP
VII, VII, 2.5.6	**Software Functional Specification**			
	The vendor shall provide a description of the operating modes of the system and of software capabilities to perform specific functions.		2.05 - EMS Software Design And Specification, Section 7, Software Functional Specifications 2.05 - ICE Software Design and Specification, Section 3.3.2, Software Functions 2.05 - ICP Software Design And Specification, Section 3.3.2, Software Functions 2.05 - ICC SoftwareDesignAndSpecification, Section 3.3.2, Software Functions	TDP
VII, 2.5.6.1	**Configuration and Operating Modes**			
	The vendor shall describe all software configurations and operating modes of the system, such as ballot preparation, election programming, preparation for opening the polling place, recording votes and/or counting ballots, closing the polling place, and generating reports. For each software function or operating mode, the vendor shall provide:		2.05 - EMS Software Design And Specification, Section 7.1, Configuration and Operating Modes 2.05 - ICE Software Design and Specification, Section 3.3.1, Configurations and Operating Modes 2.05 - ICP Software Design And Specification, Section 3.3.1, Configurations and Operating Modes 2.05 - ICC SoftwareDesignAndSpecification, Section 3.3.1, Configurations and Operating Modes	TDP
a.	A definition of the inputs to the function or mode (with characteristics, tolerances or acceptable ranges, as applicable).		2.05 - EMS Software Design And Specification, Section 7.1.1, Operating Modes and Functions - Inputs 2.05 - ICE Software Design and Specification, Section 3.3.1, Configurations and Operating Modes 2.05 - ICP Software Design And Specification, Section 3.3.1, Configurations and Operating Modes 2.05 - ICC SoftwareDesignAndSpecification, Section 3.3.1, Configurations and Operating Modes	TDP
b.	An explanation of how the inputs are processed.		2.05 - EMS Software Design And Specification, Section 7.1.1, Operating Modes and Functions - Inputs 2.05 - ICE Software Design and Specification, Section 3.3.1, Configurations and Operating Modes 2.05 - ICP Software Design And Specification, Section 3.3.1, Configurations and Operating Modes 2.05 - ICC SoftwareDesignAndSpecification, Section 3.3.1, Configurations and Operating Modes	TDP

c.	A definition of the outputs produced (again, with characteristics, tolerances, or acceptable ranges, as applicable).		2.05 - EMS Software Design And Specification, Section 7.1.3, Definition of Outputs 2.05 - ICE Software Design and Specification, Section 3.3.1, Configurations and Operating Modes 2.05 - ICP Software Design And Specification, Section 3.3.1.1, Definition of the Outputs Produced 2.05 - ICC SoftwareDesignAndSpecification, Section 3.3.1.1, Definition of the Outputs Produced	TDP
VII, 2.5.6.2	**Software Functions**			
	The vendor shall describe the software's capabilities or methods for detecting or handling:			
a.	Exception conditions		2.05 - EMS Software Design And Specification, Section 8, Programming Specifications 2.05 - ICE Software Design and Specification, Section 3.3.2, Software Functions 2.05 - ICP Software Design And Specification, Section 3.3.2, Software Functions 2.05 - ICC SoftwareDesignAndSpecification, Section 3.3.2, Software Functions	TDP
b.	System failures		2.05 - EMS Software Design And Specification, Section 8, Programming Specifications 2.05 - ICE Software Design and Specification, Section 3.3.2, Software Functions 2.05 - ICP Software Design And Specification, Section 3.3.2, Software Functions 2.05 - ICC SoftwareDesignAndSpecification, Section 3.3.2, Software Functions	TDP
c.	Data input/output errors		2.05 - EMS Software Design And Specification, Section 8, Programming Specifications 2.05 - ICE Software Design and Specification, Section 3.3.2, Software Functions 2.05 - ICP Software Design And Specification, Section 3.3.2, Software Functions 2.05 - ICC SoftwareDesignAndSpecification, Section 3.3.2, Software Functions	TDP
d.	Error logging for audit record generation		2.05 - EMS Software Design And Specification, Section 8, Programming Specifications 2.05 - ICE Software Design and Specification, Section 3.3.2, Software Functions 2.05 - ICP Software Design And Specification, Section 3.3.2, Software Functions 2.05 - ICC SoftwareDesignAndSpecification, Section 3.3.2, Software Functions	TDP
e.	Production of statistical ballot data		2.05 - EMS Software Design And Specification, Section 8, Programming Specifications 2.05 - ICE Software Design and Specification, Section 3.3.2, Software Functions 2.05 - ICP Software Design And Specification, Section 3.3.2, Software Functions 2.05 - ICCSoftwareDesignAndSpecification, Section 3.3.2, Software Functions	TDP
f.	Data quality assessment		2.05 - EMS Software Design And Specification, Section 8, Programming Specifications 2.05 - ICE Software Design and Specification, Section 3.3.2, Software Functions 2.05 - ICP Software Design And Specification, Section 3.3.2, Software Functions 2.05 - ICC SoftwareDesignAndSpecification, Section 3.3.2, Software Functions	TDP
g.	Security monitoring and control		2.05 - EMS Software Design And Specification, Section 8, Programming Specifications 2.05 - ICE Software Design and Specification, Section 3.3.2, Software Functions 2.05 - ICP Software Design And Specification, Section 3.3.2, Software Functions 2.05 - ICC SoftwareDesignAndSpecification, Section 3.3.2, Software Functions	TDP
VII, 2.5.7	**Programming Specifications**			
	The vendor shall provide in this section an overview of the software design, its structure, and implementation algorithms and detailed specifications for individual software modules.		2.05 - EMS Software Design And Specification, Section 8, Programming Specifications 2.05 - ICE Software Design and Specification, Section 4, Programming Specifications 2.05 - ICP Software Design And Specification, Section 3.4, Programming Specifications 2.05 - ICC SoftwareDesignAndSpecification, Section 3.4, Programming Specifications	TDP
VII, 2.5.7.1	**Programming Specifications Overview**			
	This overview shall include such items as flowcharts, data flow diagrams, and other graphical techniques that facilitate understanding of the programming specifications. This section shall be prepared to facilitate understanding of the internal functioning of the individual software modules. Implementation of the functions shall be described in terms of the software architecture, algorithms, and data structures.		2.05 - EMS Software Design And Specification, Section 8, Programming Specifications 2.05 - ICE Software Design and Specification, Section 4, Programming Specifications 2.05 - ICP Software Design And Specification, Section 3.4, Programming Specifications 2.05 - ICC SoftwareDesignAndSpecification, Section 3.4, Programming Specifications	TDP
VII, 2.5.7.2	**Programming Specifications Details**			
	The programming specifications shall describe individual software modules and their component units, if applicable. For each module and unit, the vendor shall provide the following information:			
a.	Module and unit design decisions, if any, such as algorithms used		2.05 - EMS Software Design And Specification, Section 8, Programming Specifications 2.05 - ICE Software Design and Specification, Section 4, Programming Specifications 2.05 - ICP Software Design And Specification, Section 3.4, Programming Specifications 2.05 - ICC SoftwareDesignAndSpecification, Section 3.4, Programming Specifications	TDP
b.	Any constraints, limitations, or unusual features in the design of the software module or unit		2.05 - EMS Software Design And Specification, Section 8.2.5, Constraints, Limitations and Unusual Features 2.05 - ICE Software Design and Specification, Section 4, Programming Specifications 2.05 - ICP Software Design And Specification, Section 3.4, Programming Specifications 2.05 - ICC SoftwareDesignAndSpecification, Section 3.4, Programming Specifications	TDP
c.	The programming language used and rationale for its use, if other than the specified module or unit language		2.05 - EMS Software Design And Specification, Section 8.2.6, Programming Language 2.05 - ICE Software Design and Specification, Section 4, Programming Specifications 2.05 - ICP Software Design And Specification, Section 3.4, Programming Specifications 2.05 - ICC SoftwareDesignAndSpecification, Section 3.4, Programming Specifications	TDP
d.	If the software module or unit consists of, or contains, procedural commands (such as menu selections in a database management system for defining forms and reports, online queries for database access and manipulation, input to a graphical user interface builder for automated code generation, commands to the operating system, or shell scripts), a list of the procedural commands and reference to user manuals or other documents that explain them	*EAC RFI 2010-03 (Data Load) eff. Date 6/14/2010: 2005 VVSG [Vol. II Sec. 5.4 Source Code Review, Vol. II Sec. 5.4.2 a-v Assessment of Coding Conventions]; Vol. II, Sec. 2.5.7.2 d Programming Specifications Details*	2.05 - EMS Software Design And Specification, Section 8.2.7, Procedural Commands 2.05 - ICE Software Design and Specification, Section 4, Programing Specifications 2.05 - ICP Software Design And Specification, Section 3.4.1, Procedural Commands 2.05 - ICC Software Design and Specification, Section 4, Programing Specifications	TDP

WHVS07.11

Wyle, Huntsville, AL

EAC RFI 2010-03, effective date June 14, 2010	**EAC Decision on Request for Interpretation 2010-03: 2005 VVSG [Vol. II Sec. 5.4 Source Code Review, Vol. II Sec. 5.4.2 a-v Assessment of Coding Conventions]; Vol. II, Sec. 2.5.7.2 d Programming Specifications Details**		2.05 - EMS Software Design And Specification, *ff* 2.05 - ICE Software Design and Specification, *ff* 2.05 - ICP Software Design And Specification, *ff* 2.05 -ICC SoftwareDesignAndSpecification, *ff*	TDP
	Per EAC RFI 2010-03: Question: Shall database definition files be reviewed as source code under the guidelines found in Volume II, Section 5? Per EAC: "…*Volume II, Section 2.5.7.2.d states: The vendor shall provide the following information: If the software module or unit consists of, or contains, procedural commands (such as menu selections in a database management system for defining forms and reports, online queries for database access and manipulation, input to a graphical user interface builder for automated code generation, commands to the operating system, or shell scripts), a list of the procedural commands and reference to user manuals or other documents that explain them. In order to support the evaluation required in VVSG Volume II, Section 2.5.7.2.d, the manufacturer's documentation shall clearly specify: 1. If the DDL and DML presented for evaluation are using scripts, macros or other executable code. 2. If the DDL and DML could modify the results reported by modifying the database schema…….*		2.05 - EMS Software Design And Specification, Section 9.4, Potential Points of Attack 2.05 - ICE Software Design and Specification, Section 3.4, Potential Points of Attack 2.05 - ICP Software Design And Specification, Section 3.7, Potential Points of Attack 2.05 - ICC Software Design And Specification, Section 3.7, Potential Points of Attack	TDP
e.	If the software module or unit contains, receives, or outputs data, a description of its inputs, outputs, and other data elements as applicable. (Subsection 2.5.9 describes the requirements for documenting system interfaces.) Data local to the software module or unit shall be described separately from data input to, or output from, the software module or unit.		2.05 - EMS Software Design And Specification, Section 8.2.6, Programming Language 2.05 - ICE Software Design and Specification, Section 4, Programming Specifications 2.05 - ICP Software Design And Specification, Section 3.4, Programming Specifications 2.05 - ICC SoftwareDesignAndSpecification, Section 3.4, Programming Specifications	TDP
f.	If the software module or unit contains logic, the logic to be used by the software unit, including, as applicable:			
	1) Conditions in effect within the software module or unit when its execution is initiated		2.05 - EMS Software Design And Specification, Section 7.1, Configuration and Operating Modes 2.05 - ICE Software Design and Specification, Section 3.3.1, Configurations and Operating Modes 2.05 - ICP Software Design And Specification, Section 3.4.3.1 Conditions when execution is initiated and under… 2.05 - ICC SoftwareDesignAndSpecification, Section 3.3.1, Configurations and Operating Modes	TDP
	2) Conditions under which control is passed to other software modules or units		2.05 - EMS Software Design And Specification, Section 7.1, Configuration and Operating Modes 2.05 - ICE Software Design and Specification, Section 3.3.1, Configurations and Operating Modes 2.05 - ICP Software Design And Specification, Section 3.4.3.1 Conditions when execution is initiated and under… 2.05 - ICC SoftwareDesignAndSpecification, Section 3.3.1, Configurations and Operating Modes	TDP
	3) Response and response time to each input, including data conversion, renaming, and data transfer operations		2.05 - EMS SoftwareDesignAndSpecification, Section 8.2.10, Module Response and Response Time N/A - ICE N/A - ICP N/A - ICC	TDP
	4) Sequence of operations and dynamically controlled sequencing during the software module's or unit's operation, including:		2.05 - EMS SoftwareDesignAndSpecification, Section 8.2.11, Module Sequence of Operation 2.05 - ICE Software Design and Specification, Section 4, Programing Specifications 2.05 - ICP Software Design and Specification, Section 3.4.3.2, Sequence of Operations N/A - ICC	TDP
	4.i) The method for sequence control		2.05 - EMS SoftwareDesignAndSpecification, Section 8.2.11, Module Sequence of Operation 2.05 - ICE Software Design and Specification, Section 4, Programing Specifications 2.05 - ICP Software Design and Specification, Section 3.4.3.2, Sequence of Operations N/A - ICC	TDP
	4.ii) The logic and input conditions of that method, such as timing variations, priority assignments		2.05 - EMS SoftwareDesignAndSpecification, Section 8.2.11.2, Timing Variations and Priority Assignments 2.05 - ICE Software Design and Specification, Section 4, Programing Specifications 2.05 - ICP Software Design and Specification, Section 3.4.3.2, Sequence of Operations N/A - ICC	TDP
	4.iii) Data transfer in and out of memory		2.05 - EMS SoftwareDesignAndSpecification, Section 8.2.11.3, Data Transfer In and Out of Memory 2.05 - ICE Software Design and Specification, Section 4, Programing Specifications 2.05 - ICP Software Design and Specification, Section 3.4.3.2, Sequence of Operations N/A - ICC	TDP
	4.iv) The sensing of discrete input signals, and timing relationships between interrupt operations within the software module or unit		2.05 - EMS SoftwareDesignAndSpecification, Section 8.2.8, Module Inputs, Outputs, and Other Data Elements 2.05 - ICE Software Design and Specification, Section 4, Programing Specifications 2.05 - ICP Software Design and Specification, Section 3.4.3.2, Sequence of Operations N/A - ICC	TDP
	5) Exception and error handling		2.05 - EMS SoftwareDesignAndSpecification, Appendix 3, Exception Handling 2.05 - ICE Software Design and Specification, Section 4, Programing Specifications 2.05 - ICP Software Design and Specification, Section 3.4.4, Exception and Error Handling N/A - ICC	TDP
	If the software module is a database, provide the information described in Section 2.5.8 [System Database].		2.05 - EMS SoftwareDesignAndSpecification, Section 9, System Databases 2.05 - ICE Software Design and Specification, Section 4, Programing Specifications 2.05 - ICP Software Design and Specification, Section 3.5, System Database N/A - ICC	TDP
VII, 2.5.8	**System Database**			

Wyle, Huntsville, AL

	The vendor shall identify and provide a diagram and narrative description of the system's databases, and any external files used for data input or output. The information provided shall include for each database or external file:	*also Vol. II, 2.2.1e. System Description*		
a.	The number of levels of design and the names of those levels (such as conceptual, internal, logical, and physical).		2.05 - EMS SoftwareDesignAndSpecification, Section 9, System Databases 2.05 - ICE Software Design and Specification, Section 6, System Database 2.05 - ICP Software Design And Specification, Section 3.5, System Database 2.05 - ICC SoftwareDesignAndSpecification, Section 3.5, System Database	TDP
b.	Design conventions and standards (which may be incorporated by reference) needed to understand the design.		2.05 - EMS SoftwareDesignAndSpecification, Section 9, System Databases 2.05 - ICE Software Design and Specification, Section 6, System Database 2.05 - ICP Software Design And Specification, Section 3.5, System Database 2.05 - ICC SoftwareDesignAndSpecification, Section 3.5, System Database	TDP
c.	Identification and description of all database entities and how they are implemented physically (e.g., tables, files).		2.05 - EMS SoftwareDesignAndSpecification, Section 9, System Databases 2.05 - ICE Software Design and Specification, Section 6, System Database 2.05 - ICP Software Design And Specification, Section 3.5, System Database 2.05 - ICC SoftwareDesignAndSpecification, Section 3.5, System Database	TDP
d.	Entity relationship diagrams and description of relationships		2.05 - EMS SoftwareDesignAndSpecification, Section 9, System Databases N/A - ICE N/A - ICP N/A - ICC	TDP
e.	Details of table, record or file contents (as applicable) to include individual data elements and their specifications, including:			
	1) Names/identifiers		2.05 - EMS Software Design And Specification, Section 9.2, EMS Database Data Model EMS DATA-2011-03-29-11-34-23 Database Documentation N/A - ICE N/A - ICP N/A - ICC	TDP
	2) Data type (alphanumeric, integer, etc.)		2.05 - EMS Software Design And Specification, Section 9.2, EMS Database Data Model EMS DATA-2011-03-29-11-34-23 Database Documentation N/A - ICE N/A - ICP N/A - ICC	TDP
	3) Size and format (such as length and punctuation of a character string)		2.05 - EMS Software Design And Specification, Section 9.2, EMS Database Data Model EMS DATA-2011-03-29-11-34-23 Database Documentation N/A - ICE N/A - ICP N/A - ICC	TDP
	4) Units of measurement (such as meters, dollars, nanoseconds)		2.05 - EMS Software Design And Specification, Section 9.2, EMS Database Data Model EMS DATA-2011-03-29-11-34-23 Database Documentation N/A - ICE N/A - ICP N/A - ICC	TDP
	5) Range or enumeration of possible values (such as 0-99)		2.05 - EMS Software Design And Specification, Section 9.2, EMS Database Data Model EMS DATA-2011-03-29-11-34-23 Database Documentation N/A - ICE N/A - ICP N/A - ICC	TDP
	6) Accuracy (how correct) and precision (number of significant digits)		2.05 - EMS Software Design And Specification, Section 9.2, EMS Database Data Model EMS DATA-2011-03-29-11-34-23 Database Documentation N/A - ICE N/A - ICP N/A - ICC	TDP
	7) Priority, timing, frequency, volume, sequencing, and other constraints, such as whether the data element may be updated and whether business rules apply		2.05 - EMS Software Design And Specification, Section 10.2.1.2, Characteristics of Individual Data Elements N/A - ICE N/A - ICP N/A - ICC	TDP
	8) Security and privacy constraints		2.05 - EMS Software Design And Specification, Section 9.3, File Management and Security N/A - ICE N/A - ICP N/A - ICC	TDP
	9) Sources (setting/sending entities) and recipients (using/receiving entities)		2.05 - EMS Software Design And Specification, Section 10.2.1.2, Characteristics of Individual Data Elements N/A - ICE N/A - ICP N/A - ICC	TDP
f.	For external files, a description of the procedures for file maintenance, management of access privileges, and security.		2.05 - EMS Software Design And Specification, Section 9.3, File Management and Security N/A - ICE N/A - ICP N/A - ICC	TDP
VII, 2.5.9	**Interfaces**			
	The vendor shall identify and provide a complete description of all internal and external interfaces, using a combination of text and diagrams.	*also Vol. II, 2.2.1.f. System Description*	2.05 - EMS Software Design And Specification, Section 10, Interfaces 2.05 - ICE Software Design and Specification, Section 7, Interfaces 2.05 - ICP Software Design And Specification, Section 3.6, Interfaces 2.05 - ICC SoftwareDesignAndSpecification, Section 3.6, Interfaces	TDP
VII, 2.5.9.1	**Interface Identification**			
	For each interface identified in the system overview, the vendor shall:			
a.	Provide a unique identifier assigned to the interface.		2.05 - EMS Software Design And Specification, Section 10, Interfaces 2.05 - ICE Software Design and Specification, Section 7, Interfaces 2.05 - ICP Software Design And Specification, Section 3.6, Interfaces 2.05 - ICC SoftwareDesignAndSpecification, Section 3.6, Interfaces	TDP

WHVS07.11
Document is uncontrolled when printed.

Wyle, Huntsville, AL

b.	Identify the interfacing entities (systems, configuration items, users, etc.) by name, number, version, and documentation references, as applicable.		2.05 - EMS Software Design And Specification, Section 10, Interfaces 2.05 - ICE Software Design and Specification, Section 7, Interfaces 2.05 - ICP Software Design And Specification, Section 3.6, Interfaces 2.05 - ICC Software Design And Specification, Section 3.6, Interfaces	TDP
c.	Identify which entities have fixed interface characteristics (and therefore impose interface requirements on interfacing entities) and which are being developed or modified (thus having interface requirements imposed on them).		2.05 - EMS Software Design And Specification, Section 10, Interfaces 2.05 - ICE Software Design and Specification, Section 7, Interfaces 2.05 - ICP Software Design And Specification, Section 3.6, Interfaces 2.05 - ICC SoftwareDesignAndSpecification, Section 3.6, Interfaces	TDP
VII, 2.5.9.2	**Interface Description**			
	For each interface identified in the system overview, the vendor shall provide information that describes:			
a.	The type of interface (such as real-time data transfer, storage-and-retrieval of data) to be implemented		2.05 - EMS Software Design And Specification, Section 10, Interfaces 2.05 - ICE Software Design and Specification, Section 7, Interfaces 2.05 - ICP Software Design And Specification, Section 3.6, Interfaces 2.05 - ICC SoftwareDesignAndSpecification, Section 3.6, Interfaces	TDP
b.	Characteristics of individual data elements that the interfacing entity(ies) will provide, store, send, access, receive, etc., such as:			
	1) Names/identifiers		2.05 - EMS Software Design And Specification, Section 10.2.2.3, Characteristics of Communication Methods 2.05 - ICE Software Design And Specification, Section 7, Interfaces 2.05 - ICP Software Design And Specification, Section 3.6.2, Interface Description 2.05 - ICC SoftwareDesignAndSpecification, Section 3.6.2, Interface Description	TDP
	2) Data type (alphanumeric, integer, etc.)		2.05 - EMS Software Design And Specification, Section 10.2.2.3, Characteristics of Communication Methods 2.05 - ICE Software Design And Specification, Section 7, Interfaces 2.05 - ICP Software Design And Specification, Section 3.6.2, Interface Description 2.05 - ICC SoftwareDesignAndSpecification, Section 3.6.2, Interface Description	TDP
	3) Size and format (such as length and punctuation of a character string)		2.05 - EMS Software Design And Specification, Section 10.2.2.3, Characteristics of Communication Methods 2.05 - ICE Software Design And Specification, Section 7, Interfaces 2.05 - ICP Software Design And Specification, Section 3.6.2, Interface Description 2.05 - ICC SoftwareDesignAndSpecification, Section 3.6.2, Interface Description	TDP
	4) Units of measurement (such as meters, dollars, nanoseconds)		2.05 - EMS Software Design And Specification, Section 10.2.2.3, Characteristics of Communication Methods 2.05 - ICE Software Design And Specification, Section 7, Interfaces 2.05 - ICP Software Design And Specification, Section 3.6.2, Interface Description 2.05 - ICC SoftwareDesignAndSpecification, Section 3.6.2, Interface Description	TDP
	5) Range or enumeration of possible values (such as 0-99)		2.05 - EMS Software Design And Specification, Section 10.2.2.3, Characteristics of Communication Methods 2.05 - ICE Software Design And Specification, Section 7, Interfaces 2.05 - ICP Software Design And Specification, Section 3.6.2, Interface Description 2.05 - ICC SoftwareDesignAndSpecification, Section 3.6.2, Interface Description	TDP
	6) Accuracy (how correct) and precision (number of significant digits)		2.05 - EMS Software Design And Specification, Section 10.2.2.3, Characteristics of Communication Methods 2.05 - ICE Software Design And Specification, Section 7, Interfaces 2.05 - ICP Software Design And Specification, Section 3.6.2, Interface Description 2.05 - ICC SoftwareDesignAndSpecification, Section 3.6.2, Interface Description	TDP
	7) Priority, timing, frequency, volume, sequencing, and other constraints, such as whether the data element may be updated and whether business rules apply		2.05 - EMS Software Design And Specification, Section 10.2.2.3, Characteristics of Communication Methods 2.05 - ICE Software Design And Specification, Section 7, Interfaces 2.05 - ICP Software Design And Specification, Section 3.6.2, Interface Description 2.05 - ICC SoftwareDesignAndSpecification, Section 3.6.2, Interface Description	TDP
	8) Security and privacy constraints		2.05 - EMS Software Design And Specification, Section 9.4, Potential Points of Attack 2.05 - ICE Software Design and Specification, Section 3.4, Potential Points of Attack 2.05 - ICP Software Design And Specification, Section 3.7, Potential Points of Attack 2.05 - ICC Software Design And Specification, Section 3.7, Potential Points of Attack	TDP
	9) Sources (setting/sending entities) and recipients (using/receiving entities)		2.05 - EMS Software Design And Specification, Section 10.2.2.3, Characteristics of Communication Methods 2.05 - ICE Software Design And Specification, Section 7, Interfaces 2.05 - ICP Software Design And Specification, Section 3.6, Interfaces 2.05 - ICC Software Design And Specification, Section 3.6, Interfaces	TDP
c.	Characteristics of communication methods that the interfacing entity(ies) will use for the interface, such as:			
	1) Communication links/bands/frequencies/media and their characteristics		2.05 - EMS Software Design And Specification, Section 10.2.2.3, Characteristics of Communication Methods . N/A for ICE N/A for ICP N/A for ICC	TDP
	2) Message formatting		2.05 - EMS Software Design And Specification, Section 10.2.2.3, Characteristics of Communication Methods . N/A for ICE N/A for ICP N/A for ICC	TDP
	3) Flow control (such as sequence numbering and buffer allocation)		2.05 - EMS Software Design And Specification, Section 10.2.2.3, Characteristics of Communication Methods N/A for ICE N/A for ICP N/A for ICC	TDP
	4) Data transfer rate, whether periodic/aperiodic, and interval between transfers		2.05 - EMS Software Design And Specification, Section 10.2.2.3, Characteristics of Communication Methods N/A for ICE N/A for ICP N/A for ICC	TDP
	5) Routing, addressing, and naming conventions		2.05 - EMS Software Design And Specification, Section 10.2.2.3, Characteristics of Communication Methods N/A for ICE N/A for ICP N/A for ICC	TDP

WHVS07.11
Document is uncontrolled when printed.

Wyle, Huntsville, AL

	6) Transmission services, including priority and grade		2.05 - EMS Software Design And Specification, Section 10.2.2.3, Characteristics of Communication Methods N/A for ICE N/A for ICP N/A for ICC	TDP
	7) Safety/security/privacy considerations, such as encryption, user authentication, compartmentalization, and auditing		2.05 - EMS Software Design And Specification, Section 10.2.2.3, Characteristics of Communication Methods N/A for ICE N/A for ICP N/A for ICC	TDP
d.	Characteristics of protocols the interfacing entity(ies) will use for the interface, such as:			
	1) Priority/layer of the protocol		2.05 - EMS Software Design And Specification, Section 10.2.2.3, Characteristics of Communication Methods N/A for ICE N/A for ICP N/A for ICC	TDP
	2) Packeting, including fragmentation and reassembly, routing, and addressing		2.05 - EMS Software Design And Specification, Section 10.2.2.3, Characteristics of Communication Methods N/A for ICE N/A for ICP N/A for ICC	TDP
	3) Legality checks, error control, and recovery procedures		2.05 - EMS Software Design And Specification, Section 10.2.2.3, Characteristics of Communication Methods N/A for ICE N/A for ICP N/A for ICC	TDP
	4) Synchronization, including connection establishment, maintenance, termination		2.05 - EMS Software Design And Specification, Section 10.2.2.3, Characteristics of Communication Methods N/A for ICE N/A for ICP N/A for ICC	TDP
	5) Status, identification, and any other reporting features		2.05 - EMS Software Design And Specification, Section 10.2.2.3, Characteristics of Communication Methods N/A for ICE N/A for ICP N/A for ICC	TDP
e.	Other characteristics, such as physical compatibility of the interfacing entity(ies) (such as dimensions, tolerances, loads, voltages and plug compatibility)		2.05 - EMS Software Design And Specification, Section 10.2.2.3, Characteristics of Communication Methods N/A for ICE N/A for ICP N/A for ICC	TDP
VII, 2.5.10	Appendices			
	The vendor may provide descriptive material and data supplementing the various sections of the body of the Software Specifications. The content and arrangement of appendices shall be at the discretion of the vendor. Topics recommended for amplification or treatment in appendix form include:			
a.	**Glossary:** A listing and brief definition of all software module names and variable names, with reference to their locations in the software structure. Abbreviations, acronyms, and terms should be included, if they are either uncommon in data processing and software development or are used in an unorthodox semantic.		2.05 - EMS Software Design And Specification, Appendix 1, Glossary 2.05 - ICE Software Design and Specification, Section 8, Glossary 2.05 - ICP Software Design And Specification, Appendix G, Glossary None - 2.05 - ICC SoftwareDesignAndSpecification	TDP
b.	**References:** A list of references to all related vendor documents, data, standards, and technical sources used in software development and testing.		2.05 - EMS Software Design And Specification, Appendix 2, Reference Documentation None - 2.05 - ICE Software Design and Specification None - 2.05 - ICP Software Design And Specification None - 2.05 - ICC SoftwareDesignAndSpecification	TDP
c.	**Program Analysis:** The results of software configuration analysis algorithm analysis and selection, timing studies, and hardware interface studies that are reflected in the final software design and coding.		2.05 - EMS Software Design And Specification, Appendix 3, Exception Handling 2.05 - ICE Software Design and Specification, Appendixes None - 2.05 - ICP Software Design And Specification None - 2.05 - ICC SoftwareDesignAndSpecification	TDP
VII, 2.6	**System Security Specification**			
	Vendors shall submit a system security specification that addresses the security requirements of Volume I, Section 7. This specification shall describe the level of security provided by the system in terms of the specific security risks addressed by the system, the means by which each risk is addressed, the process used to test and verify the effective operation of security capabilities and, for systems that use public telecommunications networks as defined in Volume I, Section 6, the means used to keep the security capabilities of the system current to respond to the evolving threats against these systems.	*Vol. I, 2.1.1.g. Overall System Capabilities, Security;* *Vol. I, Sec. 7 Security Requirements;* *Vol. I, Sec. 6 Telecommunications Requirements*	2.06 - Democracy Suite System Security Specification	TDP
	Information provided by the vendor in this section of the TDP may be duplicative of information required by other sections. Vendors may cross-reference to information provided in other sections provided that the means used provides a clear mapping to the requirements of this section.		2.06 - Democracy Suite System Security Specification	TDP
	The Security Specification shall contain the sections identified below.			
VII, 2.6.1	**Access Control Policy**			

Wyle, Huntsville, AL

		The vendor shall specify the features and capabilities of the access control policy recommended to purchasing jurisdictions to provide effective voting system security. The access control policy shall address the general features and capabilities and individual access privileges indicated in Volume I, Subsection 7.2. [Access Control]	*also Vol. I, 7.2.1 Security Requirements, General Access Control Policy; also Vol. I, 7.2.1.1 Individual Access Privileges*	2.06 - Democracy Suite System Security Specification, Section 4, Access Control Policy and Measures	TDP
VII, 2.6.2	**Access Control Measures**				
		The vendor shall provide a detailed description of all system access control measures and mandatory procedures designed to permit access to system states in accordance with the access policy, and to prevent all other types of access to meet the specific requirements of Volume I, Subsection 7.2.	*also Vol. I, 7.2.1.2 Access Control Measures*	2.06 - Democracy Suite System Security Specification, Section 4, Access Control Policy and Measures	TDP
		The vendor also shall define and provide a detailed description of the methods used to preclude unauthorized access to the access control capabilities of the system itself.	*also Vol. I, 7.2.1.2 Access Control Measures*	2.06 - Democracy Suite System Security Specification, Section 4, Access Control Policy and Measures	TDP
VII, 2.6.3	**Equipment and Data Security**				
		The vendor shall provide a detailed description of system capabilities and mandatory procedures for purchasing jurisdictions to prevent disruption of the voting process and corruption of voting data to meet the specific requirements of Volume I, Subsection 7.3. [Physical Security Measures] This information shall address measures for polling place security and central count location security.	*Vol. I, 7.3.1 Physical Security Requirements, Polling Place Security; also Vol. I, 7.3- 7.3.2 Physical Security Measures*	2.06 - Democracy Suite System Security Specification, Section 5, Equipment and Data Security	TDP
VII, 2.6.4	**Software Installation**				
		The vendor shall provide a detailed description of the system capabilities and mandatory procedures for purchasing jurisdictions to ensure secure software (including firmware) installation to meet the specific requirements of Volume I, Subsection 7.4. [Software Security] This information shall address software installation for all system components.	*also Vol. I, 7.4-7.4.6 Software Security*	2.06 - Democracy Suite System Security Specification, Section 6, Software Installation	TDP
VII, 2.6.5	**Telecommunications and Data Transmission Security**				
		The vendor shall provide a detailed description of the system capabilities and mandatory procedures for purchasing jurisdictions to ensure secure data transmission to meet the specific requirements of Volume I, Subsection 7.5: [Telecommunications and Data Transmission].	*Vol. I, 7.5.2 b. Security Requirements, Telecommunications and Data Transmission, Protection Against External Threats*	2.06 - Democracy Suite System Security Specification, Section 7, Telecommunications, Data Transmission and Public Communication	TDP
a.		For all systems, this information shall address access control, and prevention of data interception.	*also Vol. I, 7.5.3 Security Requirements, Telecommunications and Data Transmission, Monitoring and Responding to External Threats*	2.06 - Democracy Suite System Security Specification, Section 7, Telecommunications, Data Transmission and Public Communication	TDP
b.	For systems that use public communications networks as defined in Volume I, Section 6 [Telecommunications Requirements], this information shall also include:		*Vol. I, 7.6.2.1 Security Requirements, Use of Public Communications Networks, Documentation of Mandatory Security Activities; also Vol. I, 7.5.2 Protection Against External Threats; also Vol. I, 7.5.3 Monitoring and Responding to External Threats Wireless: Vol. I, 7.7.1 Controlling Usage; 7.7.2 Identifying Usage*		
		i. Capabilities used to provide protection against threats to third party products and services.		2.06 - Democracy Suite System Security Specification, Section 7, Telecommunications, Data Transmission and Public Communication	TDP
		ii. Policies and processes used by the vendor to ensure that such protection is updated to remain effective over time.		2.06 - Democracy Suite System Security Specification, Section 7, Telecommunications, Data Transmission and Public Communication	TDP
		iii. Policies and procedures used by the vendor to ensure that current versions of such capabilities are distributed to user jurisdictions and are installed effectively by the jurisdiction.		2.06 - Democracy Suite System Security Specification, Section 7, Telecommunications, Data Transmission and Public Communication	TDP
		iv. A detailed description of the system capabilities and procedures to be employed by the jurisdiction to diagnose the occurrence of a denial of service attack, to use an alternate method of voting, to determine when it is appropriate to resume voting over the network, and to consolidate votes cast using the alternate method.		2.06 - Democracy Suite System Security Specification, Section 7, Telecommunications, Data Transmission and Public Communication	TDP

WHVS07.11
Document is uncontrolled when printed.

Wyle, Huntsville, AL

		v. A detailed description of all activities to be performed in setting up the system for operation that are mandatory to ensure effective system security, including testing of security before an election.		2.06 - Democracy Suite System Security Specification, Section 7, Telecommunications, Data Transmission and Public Communication	TDP
		vi. A detailed description of all activities that should be prohibited during system setup and during the timeframe for voting operations, including both the hours when polls are open and when polls are closed.		2.06 - Democracy Suite System Security Specification, Section 7, Telecommunications, Data Transmission and Public Communication	TDP
VII, 2.6.6	**Other Elements of an Effective Security Program**				
	The vendor shall provide a detailed description of the following additional procedures required for use by the purchasing jurisdiction:				
a.	Administrative and management controls for the voting system and election management, including access controls.		2.06 - Democracy Suite System Security Specification, Section 9, Other Elements of an Effective Security Program		TDP
b.	Internal security procedures, including operating procedures for maintaining the security of the software for each system function and operating mode.		2.06 - Democracy Suite System Security Specification, Section 9, Other Elements of an Effective Security Program		TDP
c.	Adherence to, and enforcement of, operational procedures (e.g., effective password management).		2.06 - Democracy Suite System Security Specification, Section 9, Other Elements of an Effective Security Program		TDP
d.	Physical facilities and arrangements.		2.06 - Democracy Suite System Security Specification, Section 9, Other Elements of an Effective Security Program		TDP
e.	Organizational responsibilities and personnel screening.		2.06 - Democracy Suite System Security Specification, Section 9, Other Elements of an Effective Security Program		TDP
	This documentation shall be prepared such that these requirements can be integrated by the jurisdiction into local administrative and operating procedures.		2.06 - Democracy Suite System Security Specification, Section 9, Other Elements of an Effective Security Program		TDP
VII, 2.7	**System Test and Verification Specification**				
	The vendor shall provide test and verification specifications for:				
		Development test specifications		2.07 - Democracy Suite System Test and Verification 2.07 - SystemTestAndVerificationTestSuites ICP_MillionBallotScanTest ImageCast Evolution Usability Study ImageCastUsabilityStudy PCOS_300B_ImageCAST_Precinct_Manufacturing_Test_Procedure ReadinessTestProcedures	TDP
		National certification test specifications		2.07 - Democracy Suite System Test and Verification, Section 2.2, National Certification Test Specifications	TDP
VII, 2.7.1	**Development Test Specifications**				
	The vendor shall describe the plans, procedures, and data used during software development and system integration to verify system logic correctness, data quality, and security. This description shall include:				
a.	Test identification and design, including:				
		1) Test structure		2.07 - Democracy Suite System Test and Verification, Section 2.1.1.1, Test Structure	TDP
		2) Test sequence or progression		2.07 - Democracy Suite System Test and Verification, Section 2.1.1.2, Test Sequence or Progression	TDP
		3) Test conditions		2.07 - Democracy Suite System Test and Verification, Section 2.1.1.3, Test Conditions	TDP
b.	Standard test procedures, including any assumptions or constraints		2.07 - Democracy Suite System Test and Verification, Section 2.1.2, Standard Test Procedures		TDP
c.	Special purpose test procedures including any assumptions or constraints		2.07 - Democracy Suite System Test and Verification, Section 2.1, Development Test Specifications		TDP
d.	Test data; including the data source, whether it is real or simulated, and how test data are controlled		2.07 - Democracy Suite System Test and Verification, Section 2.1.4, Test Data		TDP
e.	Expected test results		2.07 - Democracy Suite System Test and Verification, Section 2.1.5, Expected Test Results		TDP
f.	Criteria for evaluating test results		2.07 - Democracy Suite System Test and Verification, Section 2.1.6, Criteria for Evaluating Test Results		TDP
	Additional details for these requirements are provided by MIL-STD-498, Software Test Plan and Software Test Description. In the event that test data are not available, the accredited test lab shall design test cases and procedures equivalent to those ordinarily used during product verification.				
VII, 2.7.2	**National Certification Test Specifications**				
	The vendor shall provide specifications for verification and validation of overall software performance. These specifications shall cover:				
a.	Control and data input/output		2.07 - Democracy Suite System Test and Verification, Section 2.2.1, Control and Data Input/output		TDP
b.	Acceptance criteria		2.07 - Democracy Suite System Test and Verification, Section 2.2.2, Acceptance Criteria includes		TDP
c.	Processing accuracy		2.07 - Democracy Suite System Test and Verification, Section 2.2.3, Processing Accuracy		TDP

The left and right margins contain vertical text: **SYSTEM TEST AND VERIFICATION**

d.	Data quality assessment and maintenance		2.07 - Democracy Suite System Test and Verification, Section 2.2.4, Data Quality Assessment and Maintenance	TDP
e.	Ballot interpretation logic	*Vol. I, 7.9.3 e, VVPAT Requirements, Electronic and Paper Record Storage*	2.07 - Democracy Suite System Test and Verification, Section 2.2.5, Ballot Interpretation Logic	TDP
f.	Exception handling		2.07 - Democracy Suite System Test and Verification, Section 2.2.6, Exception Handling	TDP
g.	Security		2.07 - Democracy Suite System Test and Verification, Section 2.2.7, Security	TDP
h.	Production of audit trails and statistical data		2.07 - Democracy Suite System Test and Verification, Section 2.2.8, Production of Audit Trails and Statistical Data, ff	TDP
	The specifications shall identify procedures for assessing and demonstrating the suitability of the software for election use.		2.07 - SystemTestAndVerificationTestSuites	TDP
VII, 2.8	**System Operations Procedures**			
	This documentation shall provide all information necessary for system use by all personnel who support pre-election and election preparation, polling place activities and central counting activities, as applicable, with regard to all system functions and operations identified in Subsection 2.3 above [Ballot Prep.; Prep. of Elec.-specific software/firmware; ballot installation and ballot counting software; system and equip. tests; all polling place operations by voters and officials including status message generation; closing the polling place; reports by voting machine, polling place, precinct; consolidated reports; reports of audit trails]. The nature of the instructions for operating personnel will depend upon the overall system design and required skill level of system operations support personnel.		2.08 - EMS System Operation Procedures 2.08 - ICE System Operation Procedures 2.08 - ICC System Operation Procedures 2.08 - ICP System Operation Procedures Audio Studio User Manual Canon DRX10C User Manual Democracy Suite EMS EED Users Guide Democracy Suite EMS RTR User Manual Democracy Suite System ID Guide ICE Technical Guide ICP Technical Guide List of Permission Errors within EMS EED and RTR RTR User Manual	TDP
	The system operations procedures shall contain all information that is required for the preparation of detailed system operating procedures, and for operator training, as described below.		2.08 - EMS System Operation Procedures 2.08 - ICE System Operation Procedures 2.08 - ICC System Operation Procedures 2.08 - ICP System Operation Procedures Audio Studio User Manual Canon DRX10C User Manual Democracy Suite EMS EED Users Guide Democracy Suite EMS RTR User Manual Democracy Suite System ID Guide ICE Technical Guide ICP Technical Guide List of Permission Errors within EMS EED and RTR RTR User Manual	TDP
VII, 2.8.1	**Introduction**			
	The vendor shall provide a summary of system operating functions and modes, in sufficient detail to permit understanding of the system's capabilities and constraints.	*Vol. I, 2.5.1 System Audit*	2.08 - EMS System Operation Procedures, Section 2.1, The Democracy Suite EMS Operational Environment 2.08 - ICE System Operation Procedures, Section 2.3, ImageCastTM Evolution System Operating Functions 2.08 - ICC System Operation Procedures, Section 2, Operational Environment 2.08 - ICP System Operation Procedures, Section 2.3, ImageCastTM Precinct System Operating Functions	TDP
	The roles of operating personnel shall be identified and related to the operating modes of the system.		2.08 - EMS System Operation Procedures, Section 1.2, Purpose and Scope 2.08 - ICE System Operation Procedures, Section 2.5, Roles of Operating Personnel 2.08 - ICC System Operation Procedures, Section 1.2, Purpose and Scope 2.08 - ICP System Operation Procedures, Section 2.5 Roles of Operating Personnel	TDP
	Decision criteria and conditional operator functions (such as error and failure recovery actions) shall be described.		2.08 - EMS System Operation Procedures, Section 2.4.2, Failure Recovery 2.08 - ICE System Operation Procedures, Section 2.5.5, Decision Criterion and Conditional Operator Functions 2.08 - EMS System Operation Procedures, *ff* 2.08 - ICP System Operation Procedures, Section 2.5.5, Decision Criterion and Conditional Operator Functions	TDP
	The vendor shall also list all reference and supporting documents pertaining to the use of the system during election operations.		2.08 - EMS System Operation Procedures, Appendix B, References 2.08 - ICE System Operation Procedures, Appendix B, References 2.08 - ICC System Operation Procedures, Section 2, Operational Environment 2.08 - ICP System Operation Procedures, Section 2, Introduction	TDP
VII, 2.8.2	**Operational Environment**			
	The vendor shall describe the system environment, and the interface between the user or operator and the system. The vendor shall identify all facilities, furnishings, fixtures, and utilities that will be required for equipment operations, including equipment that operates at the:			
a.	Polling place		N/A - EMS 2.08 - ICE System Operation Procedures, Section 3.2 Requirements at Polling Place N/A - ICC 2.08 - ICP System Operation Procedures, Section 3.2, Requirements at Polling Place	TDP
b.	Central count facility		2.08 - EMS System Operation Procedures, Section 1.2, Purpose and Scope N/A - ICE 2.08 - ICC System Operation Procedures, Section 2.1, Requirements at Central Counting Place for Central Counters N/A - ICP	TDP
c.	Other locations		2.08 - EMS System Operation Procedures, Section 3, Operational Environment 2.08 - ICE System Operation Procedures, Section 3, Operational Environment 2.08 - ICC System Operation Procedures, Section 2, Operational Environment 2.08 - ICP System Operation Procedures, Section 3, Operational Environment	TDP
VII, 2.8.3	**System Installation and Test Specification**			

Wyle, Huntsville, AL

		The vendor shall provide specifications for validation of system installation, acceptance, and readiness. These specifications shall address all components of the system and all locations of installation (e.g., polling place, central count facility), and shall address all elements of system functionality and operations identified in Subsection 2.3 above, including:	*also Vol. I, 5.1.1 Software Requirements, Software Sources*		
	a.	Pre-voting functions	*Vol. I, 2.2.3 Ballot and Program Installation and Control*	2.08 - EMS System Operation Procedures, Section 2, EMS System Overview, *ff* 2.08 - ICE System Operation Procedures, Section 4.1, Pre-Voting Functions 2.08 - ICC System Operation Procedures, Section 3, System Installation and Test Specification 2.08 - ICP System Operation Procedures, Section 4.1, Pre-Voting Functions	TDP
	b.	Voting functions		N/A - EMS 2.08 - ICE System Operation Procedures, Section 4.2, Voting Functions 2.08 - ICC System Operation Procedures, Section 3, System Installation and Test Specification 2.08 - ICP System Operation Procedures, Section 4.2, Voting Functions	TDP
	c.	Post-voting functions		2.08 - EMS System Operation Procedures, Section 2, EMS System Overview, *ff* 2.08 - ICE System Operation Procedures, Section 4.3 Post-Voting Functions 2.08 - ICC System Operation Procedures, Section, Section 3, System Installation and Test Specification 2.08 - ICP System Operation Procedures, Section 4.3 Post-Voting Functions	TDP
	d.	General capabilities		2.08 - EMS System Operation Procedures, Section 2, EMS System Overview, *ff* 2.08 - ICE System Operation Procedures, Section 4.4, General Functions 2.08 - ICC System Operation Procedures, Section, Section 3.3, General Functions 2.08 - ICP System Operation Procedures, Section 4.4, General Functions	TDP
VII, 2.8.4		**Operational Features**			
		The vendor shall provide documentation of system operating features that meets the following requirements:			
	a.	A detailed description of all input, output, control, and display features accessible to the operator or voter		2.08 - EMS System Operation Procedures, Section 5, Operational Features 2.08 - ICE System Operation Procedures, Section 5, Operational Features 2.08 - ICC System Operation Procedures, Section, Section 5, Operating Features and Procedures 2.08 - ICP System Operation Procedures, Section 5, Operational Features	TDP
	b.	Examples of simulated interactions to facilitate understanding of the system and its capabilities		2.08 - EMS System Operation Procedures, Section 5, Operational Features 2.08 - ICE System Operation Procedures, Section 5, Operational Features 2.08 - ICC System Operation Procedures, Section, Section 5, Operating Features and Procedures 2.08 - ICP System Operation Procedures, Section 5, Operational Features	TDP
	c.	Sample data formats and output reports	*Vol. II, 2.1 Desc. Of the TDP, Scope* *Vol. I, 2.1.6 g. Election Management System*	2.08 - EMS System Operation Procedures, Section 5, Operational Features 2.08 - ICE System Operation Procedures, Section 5, Operational Features 2.08 - ICC System Operation Procedures, Section, Section 5, Operating Features and Procedures 2.08 - ICP System Operation Procedures, Section 5, Operational Features	TDP
	d.	Illustrate and describe all status indicators and information messages		2.08 - EMS System Operation Procedures, Section 5, Operational Features 2.08 - ICE System Operation Procedures, Section 5, Operational Features 2.08 - ICC System Operation Procedures, Section, Section 5, Operating Features and Procedures 2.08 - ICP System Operation Procedures, Section 5, Operational Features	TDP
VII, 2.8.5		**Operating Procedures**			
		The vendor shall provide documentation of system operating procedures that meets the following requirements:	*also Vol. I, 5.1.1 Software Requirements, Software Sources*		
	a.	Provides a detailed description of procedures required to initiate, control, and verify proper system operation.		2.08 - EMS System Operation Procedures, *ff* 2.08 - ICE System Operation Procedures, Section 6.1, System Start-up 2.08 - ICC System Operation Procedures, Section 3.1, System Setup and Configuration 2.08 - ICP System Operation Procedures, Section 6.1, System Start-up	TDP
	b.	Provides procedures that clearly enable the operator to assess the correct flow of system functions (as evidenced by system-generated status and information messages).		2.08 - EMS System Operation Procedures, *ff* 2.08 - ICE System Operation Procedures, Section 6.2, System Operation 2.08 - ICC System Operation Procedures, Section 2, Operational Environment 2.08 - ICP System Operation Procedures, Section 6.2, System Operation	TDP
	c.	Provides procedures that clearly enable the operator to intervene in system operations to recover from an abnormal system state.		2.08 - EMS System Operation Procedures, *ff* 2.08 - ICE System Operation Procedures, Section 6.2, System Operation 2.08 - ICC System Operation Procedures, Section 2, Operational Environment 2.08 - ICP System Operation Procedures, Section 6.2, System Operation	TDP
	d.	Defines and illustrates the procedures and system prompts for situations where operator intervention is required to load, initialize, and start the system.		2.08 - EMS System Operation Procedures, *ff* 2.08 - ICE System Operation Procedures, Section 6.2, System Operation 2.08 - ICC System Operation Procedures, Section 2, Operational Environment 2.08 - ICP System Operation Procedures, Section 6.2, System Operation	TDP
	e.	Defines and illustrates procedures to enable and control the external interface to the system operating environment if supporting hardware and software are involved. Such information also shall be provided for the interaction of the system with other data processing systems or data interchange protocols.		2.08 - EMS System Operation Procedures, *ff* 2.08 - ICE System Operation Procedures, Section 6.3, External Interface Controls 2.08 - ICC System Operation Procedures, Section 2.2, External Interface Controls 2.08 - ICP System Operation Procedures Section 6.3, External Interface Controls	TDP
	f.	Provides administrative procedures and off-line operator duties (if any) if they relate to the initiation or termination of system operations, to the assessment of system status, or to the development of an audit trail.		2.08 - EMS System Operation Procedures, *ff* 2.08 - ICE System Operation Procedures, Section 6.5, Administrative Procedures and Off-line Duties 2.08 - ICC System Operation Procedures, Section 5.2, Administration Mode 2.08 - ICP System Operation Procedures, Section 6.5, Administrative Procedures and Off-line Duties	TDP
	g.	Supports successful ballot and program installation and control by election officials, provides a detailed work plan or other form of documentation providing a schedule and steps for the software and ballot installation, which includes a table outlining the key dates, events and deliverables.	*also Vol. I, 2.2.3 a. Pre-Voting Capabilities, Ballot and Program Installation and Control*	2.08 - EMS System Operation Procedures, *ff* 2.08 - ICE System Operation Procedures, Section 6.6, Ballot and Program Installation & System Configuration 2.08 - ICC System Operation Procedures, Section 3.1, System Setup and Configuration 2.08 - ICP System Operation Procedures, Section 6.6, Ballot and Program Installation & System Configuration	TDP

WHVS07.11
Document is uncontrolled when printed.

Wyle, Huntsville, AL

h.	Supports diagnostic testing, specifies diagnostic tests that may be employed to identify problems in the system, verifies the correction of maintenance problems; and isolates and diagnoses faults from various system states.		2.08 - EMS System Operation Procedures, *ff* 2.08 - ICE System Operation Procedures, Section 6.7, Diagnostic Testing 2.08 - ICC System Operation Procedures, Section 3.2, Logic and Accuracy Testing 2.08 - ICP System Operation Procedures, Section 6.7, Diagnostic Testing	TDP
VII, 2.8.6	**Operations Support**			
	The vendor shall provide documentation of system operating procedures that meets the following requirements:			
a.	Defines the procedures required to support system acquisition, installation, and readiness testing. These procedures may be provided by reference, if they are contained either in the system hardware specifications, or in other vendor documentation		2.08 - EMS System Operation Procedures, Section 7, Operations Support 2.08 - ICE System Operation Procedures, Section 7, Operations Support 2.08 - ICC System Operation Procedures, Section 6, Operations Support 2.08 - ICP System Operation Procedures, Section 7, Operations Support	TDP
b.	Describes procedures for providing technical support, system maintenance and correction of defects, and for incorporating hardware upgrades and new software releases.		2.08 - EMS System Operation Procedures, Section 7, Operations Support 2.08 - ICE System Operation Procedures, Section 7, Operations Support 2.08 - ICC System Operation Procedures, Section 6, Operations Support 2.08 - ICP System Operation Procedures, Section 7, Operations Support	TDP
VII, 2.8.7	**Appendices**			
	The vendor may provide descriptive material and data supplementing the various sections of the body of the System Operations Manual. The content and arrangement of appendices shall be at the discretion of the vendor. Topics recommended for discussion include:			
a.	**Glossary:** A listing and brief definition of all terms that may be unfamiliar to persons not trained in either voting systems or computer operations.		2.08 - EMS System Operation Procedures, Appendix A, Glossary None - 2.08 - ICE System Operation Procedures None - 2.08 - ICC System Operation Procedures None 2.08 - ICP System Operation Procedures	TDP
b.	**References:** A list of references to all vendor documents and to other sources related to operation of the system.		2.08 - EMS System Operation Procedures, Appendix B, References None -ICE System Operation Procedures None - 2.08 - ICC System Operation Procedures None 2.08 - ICP System Operation Procedures	TDP
c.	**Detailed Examples:** Detailed scenarios that outline correct system responses to faulty operator input; Alternative procedures may be specified depending on the system state.		None - 2.08 - EMS System Operation Procedures 2.08 - ICE System Operation Procedures, Appendix A, ImageCast Evolution Use Cases, *ff* None - 2.08 - ICC System Operation Procedures 2.08 - ICP System Operation Procedures, Appendix C, *ff*	TDP
d.	**Manufacturer's Recommended Security Procedures:** This appendix shall contain the security procedures that are to be executed by the system operator.		None - 2.08 - EMS System Operation Procedures 2.08 - ICE System Operation Procedures, Appendix C, Instructions on How and Where to Apply Security Seals None - 2.08 - ICC System Operation Procedures 2.08 - ICP System Operation Procedures, Appendix J, Instructions on How and Where to Apply Security Seals	TDP
VII, 2.9	**System Maintenance Manual**			
	The system maintenance procedures shall provide information in sufficient detail to support election workers, information systems personnel, or maintenance personnel in the adjustment or removal and replacement of components or modules in the field. Technical documentation needed solely to support the repair of defective components or modules ordinarily done by the manufacturer or software developer is not required.		2.09 - ICE System Maintenance Manual 2.09 - ICP System Maintenance Manual 2.09-EMSSystemMaintenanceManual ICC - Canon DRX10C User Manual	TDP
	Recommended service actions to correct malfunctions or problems shall be discussed, along with personnel and expertise required to repair and maintain the system; and equipment, materials, and facilities needed for proper maintenance. This manual shall include the sections listed below.		2.09 - ICE System Maintenance Manual, Section 3, Maintenance Procedures 2.09 - ICP System Maintenance Manual, Section 3, Maintenance Procedures 2.09 - EMSSystemMaintenanceManual, Section 2, Maintenance Procedures ICC - Canon DRX10C User Manual	TDP
VII, 2.9.1	**Introduction**			
	The vendor shall describe the structure and function of the equipment (and related software) for election preparation, programming, vote recording, tabulation, and reporting in sufficient detail to provide an overview of the system for maintenance, and for identification of faulty hardware or software. The description shall include a concept of operations that fully describes such items as:			
a.	The electrical and mechanical functions of the equipment.		2.09 - ICE System Maintenance Manual, Section 2.1, Electrical and Mechanical Functions 2.09 - ICP System Maintenance Manual, Section 2.1, Electrical and Mechanical Functions 2.09 - EMSSystemMaintenanceManual, *ff*	TDP
b.	How the processes of ballot handling and reading are performed (paper-based systems).		2.09 - ICE System Maintenance Manual, Section 2.2, Ballot Handling and Reading 2.09 - ICP System Maintenance Manual, Section 2.2, Ballot Handling and Reading	TDP
c.	How vote selection and casting of the ballot are performed (DRE systems).		2.09 - ICE System Maintenance Manual, Section 2.3, Vote Selection and Casting of the Ballot 2.09 - ICP System Maintenance Manual, Section 2.3, Vote Selection and Casting of the Ballot	TDP
d.	How transmission of data over a network is performed (DRE systems, where applicable.		2.09 - ICE System Maintenance Manual, Section 2.4, Network Data Transmission 2.09 - ICP System Maintenance Manual, Section 2.4, Network Data Transmission	TDP
e.	How data are handled in the processor and memory units.		2.09 - ICE System Maintenance Manual, Section 2.5, Data Handling in the Processor and Memory Units 2.09 - ICP System Maintenance Manual, Section 2.5, Data Handling in the Processor and Memory Units	TDP

Wyle, Huntsville, AL

f.	How data output is initiated and controlled.		2.09 - ICE System Maintenance Manual, Section 2.6, Data Output Initiation and Control 2.09 - ICP System Maintenance Manual, Section 2.6, Data Output Initiation and Control	TDP
g.	How power is converted or conditioned.		2.09 - ICE System Maintenance Manual, Section 2.7, Power Conversion/Conditioning 2.09 - ICP System Maintenance Manual, Section 2.7, Power Conversion/Conditioning	TDP
h.	How test and diagnostic information is acquired and used.		2.09 - ICE System Maintenance Manual, Section 2.8, Acquiring Test and Diagnostic Information 2.09 - ICP System Maintenance Manual, Section 2.8, Acquiring Test and Diagnostic Information	TDP
VII, 2.9.2	**Maintenance Procedures**			
	The vendor shall describe preventive and corrective maintenance procedures for hardware and software.		2.09 - ICE System Maintenance Manual, ff 2.09 - ICP System Maintenance Manual, ff 2.09 - EMSSystemMaintenanceManual, ff	TDP
VII, 2.9.2.1	**Preventive Maintenance Procedures**			
	The vendor shall identify and describe:			
a.	All required and recommended preventive maintenance tasks, including software tasks such as software backup, database performance analysis, and database tuning.		2.09 - ICE System Maintenance Manual, ff 2.09 - ICP System Maintenance Manual, ff 2.09 - EMSSystemMaintenanceManual, ff	TDP
b.	Number and skill levels of personnel required for each task.		2.09 - ICE System Maintenance Manual, Section 3, Maintenance Procedures 2.09 - ICP System Maintenance Manual, Section 3.1.4, Corrective Maintenance Procedures 2.09 - EMSSystemMaintenanceManual, Section 2.1.5, Personnel Requirements	TDP
c.	Parts, supplies, special maintenance equipment, software tools, or other resources needed for maintenance.		2.09 - ICE System Maintenance Manual, Section 4.2, Parts and Materials 2.09 - ICP System Maintenance Manual, Section 4.1.2, Parts and Materials 2.09 - EMSSystemMaintenanceManual, Section 2.5, Parts and Materials	TDP
d.	Any maintenance tasks that must be coordinated with the vendor or a third party (such as coordination that may be needed for off-the-shelf items used in the system).		2.09 - ICE System Maintenance Manual, Section 6, Maintenance Facilities and Support 2.09 - ICP System Maintenance Manual, Section 6, Maintenance Facilities and Support 2.09 - EMSSystemMaintenanceManual, Section 2.6, Maintenance Facilities and Support	TDP
VII, 2.9.2.2	**Corrective Maintenance Procedures**			
	The vendor shall provide fault detection, fault isolation, correction procedures, and logic diagrams for all operational abnormalities identified by design analysis and operating experience.		2.09 - ICE System Maintenance Manual, Section 3.2, Corrective Maintenance Procedures 2.09 - ICP System Maintenance Manual, Section 3.1.4, Corrective Maintenance Procedures 2.09 - EMSSystemMaintenanceManual, Section 2.3, Corrective Maintenance Procedures	TDP
	The vendor shall identify specific procedures to be used in diagnosing and correcting problems in the system hardware (or user-controlled software). Descriptions shall include:			
a.	Steps to replace failed or deficient equipment.		2.09 - ICE System Maintenance Manual, Section3.2.1, Replacement of Failed or Deficient Equipment 2.09 - ICP System Maintenance Manual, Section 3.1.4.1, Replacement of Failed or Deficient Equipment 2.09 - EMSSystemMaintenanceManual, Section 2.2, Direct Server Maintenance "Manufactures Manuals"	TDP
b.	Steps to correct deficiencies or faulty operations in software.		2.09 - ICE System Maintenance Manual, Section 3.2.2, Correction or Deficiencies of Faulty Operation in Software 2.09 - ICP System Maintenance Manual, Section 3.1.4.2, Correction of Deficiencies of Faulty Operation in Software 2.09 - EMSSystemMaintenanceManual, Section 2.2, Direct Server Maintenance "Manufactures Manuals"	TDP
c.	Modifications that are necessary to coordinate any modified or upgraded software with other software modules.		2.09 - ICE System Maintenance Manual, Section, 3.2.3, Coordination of Software Upgrades and Mods 2.09 - ICP System Maintenance Manual, Section 3.1.4.3, Coordination of Software Upgrades and Mods 2.09 - EMSSystemMaintenanceManual, Section 2.2, Direct Server Maintenance "Manufactures Manuals"	TDP
d.	The number and skill levels of personnel needed to accomplish each procedure.		2.09 - ICE System Maintenance Manual, Section 3, Maintenance Procedures 2.09 - ICP System Maintenance Manual, Section 3.1.4, Corrective Maintenance Procedures 2.09 - EMSSystemMaintenanceManual, Section 2.1.5, Personnel Requirements	TDP
e.	Special maintenance equipment, parts, supplies, or other resources needed to accomplish each procedure.		2.09 - ICE System Maintenance Manual, Section 3.2.5, Special Maintenance Equipment 2.09 - ICP System Maintenance Manual, Section 3.1.4.2, Correction of Deficiencies of Faulty Operation in Software 2.09 - EMSSystemMaintenanceManual, Section, ff	TDP
f.	Any coordination required with the vendor, or other party, for off the shelf items.		2.09 - ICE System Maintenance Manual, Section 3.2.6, Corrective Maintenance Procedures Coordination 2.09 - ICP System Maintenance Manual, Section 3.1.4.4, Off the Shelf Items 2.09 - EMSSystemMaintenanceManual, Section 2.2, Direct Server Maintenance "Manufactures Manuals"	TDP
VII, 2.9.3	**Maintenance Equipment**			
	The vendor shall identify and describe any special purpose test or maintenance equipment recommended for fault isolation and diagnostic purposes.		2.09 - ICE System Maintenance Manual, Section 3.2.2, Correction or Deficiencies of Faulty Operation in Software 2.09 - ICP System Maintenance Manual, Section 3.1.3.4, Correction of Deficiencies of Faulty Operation in Software 2.09 - EMSSystemMaintenanceManual, Section 2.2, Direct Server Maintenance "Manufactures Manuals"	TDP
VII, 2.9.4	**Parts and Materials**			
	Vendors shall provide detailed documentation of parts and materials needed to operate and maintain the system. Additional requirements apply for paper-based systems.			
VII, 2.9.4.1	**Parts and Materials, Common Standards**			
	The vendor shall provide a complete list of approved parts and materials needed for maintenance. This list shall contain sufficient descriptive information to identify all parts by:	*Vol. I, 4.3.1 b-c. Hardware Requirements, Design, Construction, and Maintenance Characteristics, Materials, Processes, and Parts*		
a.	Type		2.09 - ICE System Maintenance Manual, Section, 4.2, Parts and Materials 2.09 - ICP System Maintenance Manual, Section 5, Parts and Materials 2.09 - EMSSystemMaintenanceManual, Section 2.5, Parts and Materials	TDP
b.	Size		2.09 - ICE System Maintenance Manual, Section, 4.2, Parts and Materials 2.09 - ICP System Maintenance Manual, Section 5, Parts and Materials 2.09 - EMSSystemMaintenanceManual, Section 2.5, Parts and Materials	TDP
c.	Value or range		2.09 - ICE System Maintenance Manual, Section, 4.2, Parts and Materials 2.09 - ICP System Maintenance Manual, Section 5, Parts and Materials 2.09 - EMSSystemMaintenanceManual, Section 2.5, Parts and Materials	TDP

SYSTEM MAINTENANCE MANUALS

Wyle, Huntsville, AL

d.	Manufacturer's designation		2.09 - ICE System Maintenance Manual, Section, 4.2, Parts and Materials 2.09 - ICP System Maintenance Manual, Section 5, Parts and Materials 2.09 - EMSSystemMaintenanceManual, Section 2.5, Parts and Materials	TDP
e.	Individual quantities needed		2.09 - ICE System Maintenance Manual, Section, 4.2, Parts and Materials 2.09 - ICP System Maintenance Manual, Section 5, Parts and Materials 2.09 - EMSSystemMaintenanceManual, Section 2.5, Parts and Materials	TDP
f.	Sources from which they may be obtained		2.09 - ICE System Maintenance Manual, Section, 4.2, Parts and Materials 2.09 - ICP System Maintenance Manual, Section 5, Parts and Materials 2.09 - EMSSystemMaintenanceManual, Section 2.5, Parts and Materials	TDP
VII, 2.9.4.2	**Paper-Based Systems**			
	For marking devices manufactured by multiple external sources, the vendor shall provide a listing of sources and model numbers that are compatible with the system.		2.09 - ICE System Maintenance Manual, Section 5.2, Paper-Based Systems 2.09 - ICP System Maintenance Manual, Section 5.2, Paper-Based Systems	TDP
	The TDP shall specify the required paper stock, size, shape, opacity, color, watermarks, field layout, orientation, size and style of printing, size and location of punch or (sic) mark fields used for vote response fields and to identify unique ballot formats, placement of alignment marks, ink for printing, and folding and bleed-through limitations for preparation of ballots that are compatible with the system.	*also Vol. I, 2.2.1.3 c. and following paragraph Functional Requirements, Pre-voting Capabilities, Ballot Production; Vol. I, 4.1.4.2 a-b. Hardware Requirements, Vote Recording Requirements, Paper Based Recording Requirements*	2.09 - ICE System Maintenance Manual, Section 5.2, Paper-Based Systems 2.09 - ICP System Maintenance Manual, Section 5.2, Paper-Based Systems	TDP
VII, 2.9.5	**Maintenance Facilities and Support**			
	The vendor shall identify all facilities, furnishings, fixtures, and utilities that will be required for equipment maintenance. In addition, vendors shall specify the assumptions made with regard to any parameters that impact the mean time to repair. These factors shall include at a minimum:	*see Vol. I, 4.3.5 e.g. Hardware Requirements, Design, Construction, and Maintenance, Availability*		
a.	Recommended number and locations of spare devices or components to be kept on hand for repair purposes during periods of system operation.		2.09 - ICE System Maintenance Manual, Section, 6, Maintenance Facilities and Support 2.09 - ICP System Maintenance Manual, Section 6, Maintenance Facilities and Support 2.09 - EMSSystemMaintenanceManual, Section 2.6, Maintenance Facilities and Support	TDP
b.	Recommended number and locations of qualified maintenance personnel who need to be available to support repair calls during system operation.		2.09 - ICE System Maintenance Manual, Section, 6, Maintenance Facilities and Support 2.09 - ICP System Maintenance Manual, Section 6, Maintenance Facilities and Support 2.09 - EMSSystemMaintenanceManual, Section 2.1.5, Personnel Requirements	TDP
c.	Organizational affiliation (i.e., jurisdiction, vendor) of qualified maintenance personnel.		2.09 - ICE System Maintenance Manual, Section 3, Maintenance Procedures 2.09 - ICP System Maintenance Manual, Section 34, Maintenance Facilities and Support 2.09 - EMSSystemMaintenanceManual, Section 2.1.5, Personnel Requirements	TDP
VII, 2.9.6	**Appendices**			
	The vendor may provide descriptive material and data supplementing the various sections of the body of the System Maintenance Manual. The content and arrangement of appendices shall be at the discretion of the vendor. Topics recommended for amplification or treatment in appendices include:			
a.	**Glossary:** A listing and brief definition of all terms that may be unfamiliar to persons not trained in either voting systems or computer maintenance.		No glossaries appendices were noted in the core documents	TDP
b.	**References:** A list of references to all vendor documents and other sources related to maintenance of the system.		No references appendices were noted in the core documents	TDP
c.	**Detailed Examples:** Detailed scenarios that outline correct system responses to every conceivable faulty operator input; alternative procedures may be specified depending on the system state.		No detailed example appendices were noted in the core documents	TDP
d.	**Maintenance and Security Procedures:** This appendix shall contain technical illustrations and schematic representations of electronic circuits unique to the system.		No maintenance and security procedure appendices were noted in the core documents	TDP
VII, 2.10	**Personnel Deployment and Training Requirements**			
	The vendor shall describe the personnel resources and training required for a jurisdiction to operate and maintain the system.		2.10 - Democracy Suite Personnel Deployment And Training Requirements	TDP
VII, 2.10.1	**Personnel**			
	The vendor shall specify the number of personnel and skill levels required to perform each of the following functions:			
a.	Pre-election or election preparation functions (e.g., entering an election, contest and candidate information; designing a ballot; generating pre-election reports).		2.10 - Democracy Suite Personnel Deployment And Training Requirements, Section 2, Personnel Deployment and Training Requirements	TDP
b.	System operations for voting system functions performed at the polling place.		2.10 - Democracy Suite Personnel Deployment And Training Requirements, Section 2.1.1.2, System Operation for Voting System…	TDP
c.	System operations for voting system functions performed at the central count facility.		2.10 - Democracy Suite Personnel Deployment And Training Requirements, Section 2.1.1.4, Central Count Facility Technical Staff	TDP
d.	Preventive maintenance tasks.		2.10 - Democracy Suite Personnel Deployment And Training Requirements, Section 2.1.1.2, System Operation for Voting System…	TDP

e.	Diagnosis of faulty hardware or software.		2.10 - Democracy Suite Personnel Deployment And Training Requirements, Section 2.1.1.2, System Operation for Voting System…	TDP
f.	Corrective maintenance tasks.		2.10 - Democracy Suite Personnel Deployment And Training Requirements, Section 2.1.1.2, System Operation for Voting System…	TDP
g.	Testing to verify the correction of problems.		2.10 - Democracy Suite Personnel Deployment And Training Requirements, Section 2.1.1.2, System Operation for Voting System…	TDP
	A description shall be presented of which functions may be carried out by user personnel, and those that must be performed by vendor personnel.		2.10 - Democracy Suite Personnel Deployment And Training Requirements, Section 2.1.2, Vendor Personnel Tasks	TDP
VII, 2.10.2	**Training**			
	The vendor shall specify requirements for the orientation and training of the following personnel:			
a.	Poll workers supporting polling place operations		2.10 - Democracy Suite Personnel Deployment And Training Requirements, Section 2.3.1, Poll Workers Supporting Polling Place…	TDP
b.	System support personnel involved in election programming		2.10 - Democracy Suite Personnel Deployment And Training Requirements, Section 2.3.2, System Support Personnel Involved in…	TDP
c.	User system maintenance technicians		2.10 - Democracy Suite Personnel Deployment And Training Requirements, Section 2.3.3, User System Maintenance Technicians	TDP
d.	Network/system administration personnel (if a network is used)		2.10 - Democracy Suite Personnel Deployment And Training Requirements, Section 2.3.4, Network/System Administration Personnel	TDP
e.	Information systems personnel		2.10 - Democracy Suite Personnel Deployment And Training Requirements, Section 2.3.5, Information Systems Personnel	TDP
f.	Vendor personnel		2.10 - Democracy Suite Personnel Deployment And Training Requirements, Section 2.3.6, Vendor Personnel Training	TDP
VII, 2.11	**Configuration Management Plan**	*Vol. I, Sec. 9 Configuration*		
	Vendors shall submit a Configuration Management Plan that addresses the configuration management requirements of Volume I, Section 9 [Configuration Management Requirements]. This plan shall describe all policies, processes, and procedures employed by the vendor to carry out these requirements. The Configuration Management Plan shall contain the sections identified below.	*see Vol. I, 9.1.1 Configuration Management Requirements; see Vol. I, 9.1.3 Application of Configuration Management Requirements; Vol. II, 7.4 Examination of Configuration*	2.11 - Configuration Management Process	TDP
VII, 2.11.1	**Configuration Management Policy**			
	The vendor shall provide a description of its organizational policies for configuration management, addressing the specific requirements of Volume I, Subsection 9.2. These requirements pertain to:	*see Vol. I 9.2 Configuration Management Policy; see Vol. II, 7.4.1 Configuration Management Policy*		
a.	Scope and nature of configuration management program activities		2.11 - Configuration Management Process, Section 1, Introduction	TDP
b.	Breadth of application of vendor's policy and practices to the voting system		2.11 - Configuration Management Process, Section 2, Configuration Management Requirements	TDP
VII, 2.11.2	**Configuration Identification**			
	The vendor shall provide a description of the procedures and naming conventions used to address the specific requirements of Volume I, Subsection 9.3. These requirements pertain to:	*see Vol. I, 9.3.1 Config. Identification Class. and Naming Config. Items; Vol. I, 9.3.2 a-c. Configuration Identification, Version Conventions; Vol. II 7.4.2 Configuration Identification*		
a.	Classifying configuration items into categories and subcategories		2.11 - Configuration Management Process, Section 2, Configuration Management Requirements	TDP
b.	Uniquely numbering or otherwise identifying configuration items		2.11 - Configuration Management Process, Section 2, Configuration Management Requirements	TDP
c.	Naming configuration items		2.11 - Configuration Management Process, Section 2, Configuration Management Requirements	TDP
VII, 2.11.3	**Baseline and Promotion**			
	The vendor shall provide a description of the procedures and naming conventions used to address the specific requirements of Volume I, Subsection 9.4. These requirements pertain to:	*Vol. I, 9.4 a-c. Baseline and Promotion Procedures; Vol. II, 7.4.3 Baseline, Promotion, and Demotion Procedures*		
a.	Establishing a particular instance of a system component as the starting baseline.		2.11 - Configuration Management Process, Section 2, Configuration Management Requirements	TDP
b.	Promoting subsequent instances of a component to baseline throughout the system development process for the first complete version of the system submitted for testing.		2.11 - Configuration Management Process, Section 2, Configuration Management Requirements	TDP
c.	Promoting subsequent instances of a component to baseline status as the component is maintained throughout its life cycle until system retirement (i.e., the system is no longer sold or maintained).	*EAC Testing and Certification Program Manual, Ver. 1.0, Sec. 1.13 Records Retention-Manufacturers*	2.11 - Configuration Management Process, Section 2, Configuration Management Requirements	TDP
VII, 2.11.4	**Configuration Control Procedures**			
	The vendor shall provide a description of the procedures used by the vendor to approve and implement changes to a configuration item to prevent unauthorized additions, changes, or deletions to address the specific requirements of Volume I, Subsection 9.5. These requirements pertain to:	*Vol. I, 9.5 a-d. Configuration Control Procedures; Vol. II, 7.4.4 Configuration Control Procedures*		

Wyle, Huntsville, AL

	a.	Developing and maintaining internally developed items		2.11 - Configuration Management Process, Section 2, Configuration Management Requirements	TDP
	b.	Developing and maintaining third party items		2.11 - Configuration Management Process, Section 2.5, Description of the Configuration Control Process for Third Party Items	TDP
	c.	Resolving internally identified defects		2.11 - Configuration Management Process, Section 2, Configuration Management Requirements	TDP
	d.	Resolving externally identified and reported defects		2.11 - Configuration Management Process, Section 2.5, Description of the Configuration Control Process for Third Party Items	TDP
VII, 2.11.5	**Release Process**				
		The vendor shall provide a description of the contents of a system release, and the procedures and related conventions by which the vendor installs, transfers, or migrates the system to accredited voting system testing laboratories and customers to address the specific requirements of Volume I, Subsection 9.6. These requirements pertain to:	*see Vol. I, 9.6 Release Process; Vol. II, 7.4.5 Release Process*		
	a.	A first release of the system to an accredited test lab.		2.11 - Configuration Management Process, Section 2, Configuration Management Requirements	TDP
	b.	A subsequent maintenance or upgrade release of a system, or particular components, to an accredited test lab.		2.11 - Configuration Management Process, Section 2, Configuration Management Requirements	TDP
	c.	The initial delivery and installation of the system to a customer.		2.11 - Configuration Management Process, Section 2, Configuration Management Requirements	TDP
	d.	A subsequent maintenance or upgrade release of a system, or particular components, to a customer.		2.11 - Configuration Management Process, Section 2, Configuration Management Requirements	TDP
VII, 2.11.6	**Configuration Audits**				
		The vendor shall provide a description of the procedures and related conventions for the two audits required by Volume I, Subsection 9.7. These requirements pertain to:			
	a.	Physical configuration audit that verifies the voting system components submitted for certification testing to the vendor's technical documentation.	*see Vol. I, 9.7.1 a–h. Configuration Audits, Physical Configuration Audit; Vol. II, 6.6 Physical Configuration Audit; Vol. II, 7.4.6 Configuration Audits*	2.11 - Configuration Management Process, Section 2.6.1, Physical Configuration	TDP
	b.	Functional configuration audit that verifies the system performs all the functions described in the system documentation.	*see Vol. I, 9.7.2 a-b. Configuration Audits, Functional Configuration Audit; Vol. II, 6.7 Functional Configuration Audit; Vol. II, 7.4.6 Configuration Audits*	2.11 - Configuration Management Process, Section 2.6.2, Functional Configuration	TDP
VII, 2.11.7	**Configuration Management Resources**				
		The vendor shall provide a description of the procedures and related conventions for maintaining information about configuration management tools required by Volume I, Subsection 9.8. These requirements pertain to information regarding:	*Vol. I, 9.8 Configuration Management Resources; Vol. II, 7.4.7 Configuration Management Resources*		
	a.	Specific tools used, current version, and operating environment		2.11 - Configuration Management Process, Section 2.7, Configuration Management Resources	TDP
	b.	Physical location of the tools, including designation of computer directories and files		2.11 - Configuration Management Process, Section 2.7, Configuration Management Resources	TDP
	c.	Procedures and training materials for using the tools		2.11 - Configuration Management Process, Section 2.7, Configuration Management Resources	TDP
VII, 2.12	**Quality Assurance**				
		Vendors shall submit a Quality Assurance Program that addresses the quality assurance requirements of Volume I, Section 8. This plan shall describe all policies, processes, and procedures employed by the vendor to ensure the overall quality of the system for its initial development and release and for subsequent modifications and releases. The Quality Assurance Program shall, at a minimum, address the topics indicated below.	*also Vol. I, 8.2 a-e. Quality Assurance Requirements, General Requirements; Vol. II, 7.5 Examination of Quality Assurance Practices; Vol. I, 4.3.7 Workmanship; Vol. I, 8.3 Components from Third Parties*	2.12 - Democracy Suite Quality Assurance Program	TDP
VII, 2.12.1	**Quality Assurance Policy**				
		The vendor shall provide a description of its organizational policies for quality assurance, including:	*specific requirements listed in Vol. II, 7.5.1 Quality Assurance Policy*		
	a.	Scope and nature of Quality Assurance activities		2.12 - Democracy Suite Quality Assurance Program, Section 2.1.1, The Scope and Nature of Quality Policy Activities	TDP
	b.	Breadth of application of vendor's policy and practices to the voting system		2.12 - Democracy Suite Quality Assurance Program, Section 2.1.2, Application of Policy and Practices to the Voting System contains information.	TDP
VII, 2.12.2	**Parts and Materials Test**				
		The vendor shall provide a description of its practices for parts and materials tests and examinations that meet the requirements of Volume I, Subsection 8.5.	*see Vol. I, 8.5 c. Parts and Materials Special Tests and Examinations; Vol. II, 7.5.2 Parts and Materials Tests*	2.12 - Democracy Suite Quality Assurance Program, Section 2.5, Parts and Materials Test includes	TDP
VII, 2.12.3	**Quality Conformance Inspections**				
		The vendor shall provide a description of its practices for quality conformance inspections that meet the requirements of Volume I, Subsection 8.6. For each test performed, the record of tests provided shall include:	*see also Vol. I 8.6 Quality Conformance Inspections; Vol. II, 7.5.3 Quality Conformance Inspections*		
	a.	Test location		2.12 - Democracy Suite Quality Assurance Program, Section 2.6.1.5, Test Deliverables	TDP

ID		Requirement	Reference	Documentation	
	b.	Test date		2.12 - Democracy Suite Quality Assurance Program, Section 2.6.1.5, Test Deliverables	TDP
	c.	Individual who conducted the test		2.12 - Democracy Suite Quality Assurance Program, Section 2.6.1.5, Test Deliverables	TDP
	d.	Test outcomes		2.12 - Democracy Suite Quality Assurance Program, Section 2.6.1.5, Test Deliverables	TDP
VII, 2.12.4		**Documentation**			
		The vendor shall provide a description of its practices for documentation of the system and system development process that meet the requirements of Volume I, Subsection 8.7.	*see Vol. I, 8.7 Quality Assurance Requirements, Documentation; Vol. I, 2.1.1.1 Description of TDP, Required Content for Initial Certification; Vol. I, 2.1.1.2 Required Content for System Changes and Recertification; Vol. II, 7.5.4 Quality Assurance, Documentation*	2.12 - Democracy Suite Quality Assurance Program, Section 2.7, Quality Documentation	TDP
VII, 2.13		**System Change Notes**			
		Vendors submitting modifications for a system that has been tested previously and received national certification shall submit system change notes. These will be used by the accredited test lab to assist in developing and executing the test plan for the modified system. The system change notes shall include the following information:	*Vol. II, 2.1.1.2 Required Content for System Changes and Recertification*		
	a.	Summary description of the nature and scope of the changes, and reasons for each change.		N/A - Tested system is not a modification	TDP
	b.	A listing of the specific changes made, citing the specific system configuration items changed and providing detailed references to the documentation sections changed.		N/A - Tested system is not a modification	TDP
	c.	The specific sections of the documentation that are changed (or completely revised documents, if more suitable to address a large number of changes).		N/A - Tested system is not a modification	TDP
	d.	Documentation of the test plan and procedures executed by the vendor for testing the individual changes and the system as a whole, and records of test results.		N/A - Tested system is not a modification	TDP
VI Sec. 2		**Functional Requirements**			
VI, 2.1		**Overall System Capabilities**			
VI, 2.1.1		**Security**			
		To ensure security, all systems shall:			
	g.	Provide documentation of mandatory administrative procedures for effective system security.	*see Vol. I, Sec. 7 Security Requirements see Vol. II. 2.6 Software Security Specification*	2.06 - Democracy Suite System Security Specification 2.08 - ICE System Operation Procedures, Appendix C, Instructions on How and Where to Apply Security Seals 2.08 - ICP System Operation Procedures, Appendix J, Instructions on How and Where to Apply Security Seals 2.03 - ICC Functionality Description, Section 8.11, Hardware and Software Security of Counting Equipment 2.03 - EMS Functional Description, Section 4.3, System Level Security 2.03 - ICE Functionality Description, Section 2.1, Security, *ff* 2.03 - ICP Functional Description, Section 2.1, Security, *ff*	TDP
VI Sec. 2.1.5		**System Audit**			
		Because the actual implementation of [system's] specific characteristics may vary from system to system, it is the responsibility of the vendor to describe each system's characteristics in sufficient detail so that test labs and system users can evaluate the adequacy of the system's audit trail. This description shall be incorporated in the System Operations Manual, which is part of the Technical Data Package.	*see Vol. II, 2.8.1 TDP, System Operations Procedures, Introduction*	2.08 - EMS System Operation Procedures, *ff* 2.08 - ICE System Operation Procedures, *ff* 2.08 - ICC System Operation Procedures, *ff* 2.08 - ICP System Operation Procedures, *ff*	TDP
VI, 2.1.6		**Election Management System**			
		The Election Management System (EMS) shall generate and maintain a database, or one or more interactive databases, that enables election officials or their designees to perform the following functions:			
	g.	Accumulate vote totals at multiple reporting levels as indicated in the system documentation.	*Vol. II, 2.8.4 System Operations Procedures, Operational Features*	2.08 EMS Systems Operations Procedures, *ff*	TDP
VI, 2.1.7		**Vote Tabulating Program**			
VI, 2.1.7.1		**Vote Tabulating Program, Functions**			
VI, 2.1.7.2		**Voting Variations**			
		The Technical Data Package accompanying the system shall specifically identify which of the following items *can* and *cannot* be supported by the voting system, as well as *how* the voting system can implement the items supported:	*Vol. II, 2.1 Description of the Tech. Data Package, Scope*		
		Closed primaries		Democracy_Suite_4_0_Supported_Functionality_Declaration_20110822_rev20111005_rev20120321 (Supported) 2.03 - ICE Functionality Description, Section 2.7.2, Voting Variations (Supported) 2.03 - ICC Functionality Description, Section 2.3.1, Voting Variations (Supported) 2.03 - ICP Functionality Description, Section 2.3.1, Voting Variations (Supported) Democracy Suite EMS EED User Guide, Section 3.6, Creating Closed Primaries	TDP

	Open primaries		Democracy_Suite_4_0_Supported_Functionality_Declaration_20110822_rev20111005_rev20120321 (NOT Supported)	TDP
	Partisan offices		Democracy_Suite_4_0_Supported_Functionality_Declaration_20110822_rev20111005_rev20120321 (Supported) 2.03 - ICE Functionality Description, Section 2.7.2, Voting Variations (Supported) 2.03 - ICC Functionality Description, Section 2.3.1, Voting Variations (Supported) 2.03 - ICP Functionality Description, Section 2.3.1, Voting Variations (Supported) Democracy Suite EMS EED User Guide, Section 4.2.3.7, Divisioning	TDP
	Non-partisan offices		Democracy_Suite_4_0_Supported_Functionality_Declaration_20110822_rev20111005_rev20120321 (Supported) 2.03 - ICE Functionality Description, Section 2.7.2, Voting Variations (Supported) 2.03 - ICC Functionality Description, Section 2.3.1, Voting Variations (Supported) 2.03 - ICP Functionality Description, Section 2.3.1, Voting Variations (Supported) Democracy Suite EMS EED User Guide, Section 4.2.3.7, Divisioning	TDP
	Write-in voting		Democracy_Suite_4_0_Supported_Functionality_Declaration_20110822_rev20111005_rev20120321 (Supported) 2.03 - ICE Functionality Description, Section 2.7.2, Voting Variations (Supported) 2.03 - ICC Functionality Description, Section 2.3.1, Voting Variations (Supported) 2.03 - ICP Functionality Description, Section 2.3.1, Voting Variations (Supported) Democracy Suite EMS EED User Guide, Section 4.3.2.2.1, Contest Properties	TDP
	Primary presidential delegation nominations		Democracy_Suite_4_0_Supported_Functionality_Declaration_20110822_rev20111005_rev20120321 (Supported) 2.03 - ICE Functionality Description, Section 2.7.2, Voting Variations (Supported) 2.03 - ICC Functionality Description, Section 2.3.1, Voting Variations (Supported) 2.03 - ICP Functionality Description, Section 2.3.1, Voting Variations (Supported) Democracy Suite EMS EED User Guide, Section 4.3.2.3.2, Choice Units	TDP
	Ballot rotation		Democracy_Suite_4_0_Supported_Functionality_Declaration_20110822_rev20111005_rev20120321 (Supported) 2.03 - ICE Functionality Description, Section 2.7.2, Voting Variations (Supported) 2.03 - ICC Functionality Description, Section 2.3.1, Voting Variations (Supported) 2.03 - ICP Functionality Description, Section 2.3.1, Voting Variations (Supported) 2.03 - Democracy Suite ICP Functionality Description, Section 3.4.4.9, District Rotation Democracy Suite EMS EED User Guide, Section 4.3.1.7, District Rotation	TDP
	Straight party voting		Democracy_Suite_4_0_Supported_Functionality_Declaration_20110822_rev20111005_rev20120321 (Supported) 2.03 - ICE Functionality Description, Section 2.7.2, Voting Variations (Supported) 2.03 - ICC Functionality Description, Section 2.3.1, Voting Variations (Supported) 2.03 - ICP Functionality Description, Section 2.3.1, Voting Variations (Supported) Democracy Suite EMS EED User Guide, Section 4.2.3.3, Set Project Parameters	TDP
	Cross-party endorsement		Democracy_Suite_4_0_Supported_Functionality_Declaration_20110822_rev20111005_rev20120321 (Supported) 2.03 - ICE Functionality Description, Section 2.7.2, Voting Variations (Supported) 2.03 - ICC Functionality Description, Section 2.3.1, Voting Variations (Supported) 2.03 - ICP Functionality Description, Section 2.3.1, Voting Variations (Supported) Democracy Suite EMS EED User Guide, Section 4.3.2.3.1, Choice Properties	TDP
	Split precincts		Democracy_Suite_4_0_Supported_Functionality_Declaration_20110822_rev20111005_rev20120321 (Supported) 2.03 - ICE Functionality Description, Section 2.7.2, Voting Variations (Supported) 2.03 - ICC Functionality Description, Section 2.3.1, Voting Variations (Supported) 2.03 - ICP Functionality Description, Section 2.3.1, Voting Variations (Supported) Democracy Suite EMS EED User Guide, Section 4.3.1.7, District Rotation	TDP
	Vote for N of M		Democracy_Suite_4_0_Supported_Functionality_Declaration_20110822_rev20111005_rev20120321 (Supported) 2.03 - ICE Functionality Description, Section 2.7.2, Voting Variations (Supported) 2.03 - ICC Functionality Description, Section 2.3.1, Voting Variations (Supported) 2.03 - ICP Functionality Description, Section 2.3.1, Voting Variations (Supported) Democracy Suite EMS EED User Guide, Section 4.3.4.3.5, Contest Header Template	TDP
	Recall issues with options		Democracy Suite EMS EED User Guide, Section 4.3.1.6.1, Office Properties (NOT Supported)	TDP
	Cumulative voting		Democracy_Suite_4_0_Supported_Functionality_Declaration_20110822_rev20111005_rev20120321 (NOT Supported)	TDP
	Support of ranked order voting		Democracy_Suite_4_0_Supported_Functionality_Declaration_20110822_rev20111005_rev20120321 (NOT Supported)	TDP
	Provisional or challenged ballots		Democracy_Suite_4_0_Supported_Functionality_Declaration_20110822_rev20111005_rev20120321 (Supported) 2.03 - ICE Functionality Description, Section 2.7.2, Voting Variations (Supported) 2.03 - ICC Functionality Description, Section 2.3.1, Voting Variations (Supported) 2.03 - ICP Functionality Description, Section 2.3.1, Voting Variations (Supported) Democracy Suite EMS EED User Guide, Section, Section 4.3.1.5.1, Elector Group Combinations Properties	TDP
VI, 2.1.10	**Data Retention**			
	All systems shall maintain integrity of voting and audit data during an election and for at least 22 months thereafter.	*Vol. II, Sec. 2.3 System Functionality Description*	2.03 - Democracy Suite ICP Functionality Description, Section 4.1.4 Data Retention 2.03 - ICE Functionality Description, Section 2.10, Data Retention 2.03 - ICC Functionality Description, Section 9.1, Transparency and Accuracy 2.03 - ICP Functionality Description, Section 2.10, Data Retention	TDP
VI, 2.2	**Pre-Voting Capabilities**			
VI, 2.2.1	**Ballot Preparation**			
VI, 2.2.1.1	**General Capabilities**			
	All systems shall provide the general capabilities for ballot preparation. All systems shall be capable of:			
c.	Supporting the maximum number of potentially active voting positions as indicated in the system documentation.	*Vol. II, 2.2.2a, System Performance*	2.03 - Democracy Suite ICP Functionality Description, Section 3.4.5.11, Ballot Production	TDP
VI, 2.2.1.3	**Ballot Production**			
	Vendor documentation for mark sense systems shall include specifications for ballot materials to ensure that vote selections are read from only a single ballot at a time, without detection of marks from multiple ballots concurrently (e.g., reading of bleed-through from other ballots)	*see also Vol. II, 2.9.4.2 TDP, System Maintenance Manual, Parts and Materials, Paper-based Systems* *Vol. I, 4.1.4.2 a-b, Vote Recording Requirements, Paper-based Systems*	2.09 - ICE System Maintenance Manual, Section 5.2, Paper-Based Systems 2.09 - ICP System Maintenance Manual, Section 2.3.2, Paper-Based System 2.03 - ICC Functionality Description, Section 5, Ballot Functionality 2.03 - ICP Functionality Description, Section 3.5, Ballot Functionality 2.03 - Democracy Suite ICP Functionality Description, Section 3.4.5.11, Ballot Production 2.03 - ICE Functionality Description, Section 3, Pre-voting Capabilities	TDP
VI, 2.2.3	**Ballot and Program Installation and Control**			

	All systems provide a means of installing ballots and programs on each piece of polling place or central count equipment according to the ballot requirements of the election and the jurisdiction. All systems shall include the following at the time of ballot and program installation:			
a.	A detailed work plan or other documentation providing a schedule and steps for the software and ballot installation, including a table outlining the key dates, events, and deliverables.	*see also Vol II, 2.8.5g. TDP, System Operation Procedures, Operating Procedures*	2.08 - EMS System Operations Procedures, Section 6.1, Detailed Work Plan for Successful Ballot and Software…	TDP
VI, Sec. 3	**Usability and Accessibility Requirements**			
3.1	**Usability Requirements**			
VI, 3.1.1	**Usability Testing**			
	The vendor shall conduct summative usability tests on the voting system using individuals representative of the general population. The vendor shall document the testing performed and report the test results using the Common Industry Format. This documentation shall be included in the Technical Data Package submitted to the EAC for national certification.	*Vol. II, 2.1.1 Description of the TDP, Required Content…*	2.07 - Democracy Suite System Test and Verification 2.07 - SystemTestAndVerificationTestSuites ICP_MillionBallotScanTest ImageCast Evolution Usability Study ImageCastUsabilityStudy PCOS_300B_ImageCAST_Precinct_Manufacturing_Test_Procedure ReadinessTestProcedures	TDP
	Discussion: Voting system vendors are required to conduct realistic usability tests on the final product. For the present, vendors can define their own testing protocols.	*EAC RFI 2007-03 dated 9/5/07: 2005 VVSG Vol. I Sec. 3.1.1*	2.07 - Democracy Suite System Test and Verification 2.07 - SystemTestAndVerificationTestSuites ICP_MillionBallotScanTest ImageCast Evolution Usability Study ImageCastUsabilityStudy PCOS_300B_ImageCAST_Precinct_Manufacturing_Test_Procedure ReadinessTestProcedures	TDP
EAC RFI 2007-03 dated Sept. 5, 2007	**EAC Decision on Request for Interpretation 2007-03, 2005 VVSG Vol. I Section 3.1.1**			
	Per EAC RFI 2007-03, the question was asked whether the manufacturer is required to submit the summative usability testing report to the VSTL conducting the testing of the voting system, or to the EAC. The EAC conclusion: " *The EAC concludes that manufacturers must submit the summative usability test report required by Section 3.1.1 of the 2005 VVSG Vol. 1 to the VSTL for review. In addition, the usability test report shall be submitted to the EAC as part of the documentation manufacturers are required to file with the application to test a voting system.* (continued below)*		2.07 - Democracy Suite System Test and Verification 2.07 - SystemTestAndVerificationTestSuites ICP_MillionBallotScanTest ImageCast Evolution Usability Study ImageCastUsabilityStudy PCOS_300B_ImageCAST_Precinct_Manufacturing_Test_Procedure ReadinessTestProcedures	TDP
	(continued from above) *This interpretation is consistent with the intent of the requirement which was to ensure that the voting system meets the usability requirements of the 2005 VVSG. Consistent with the 2005 VVSG the manufacturer must submit the usability test report to the VSTL as part of the technical data package submitted to the laboratory. The VSTL will then check the technical data package to ensure that the report is present and reported in the common industry format. If the VSTL finds the usability test report to be inconsistent with the common industry format the VSTL shall note the discrepancy in its final report to the EAC"*		2.07 - Democracy Suite System Test and Verification 2.07 - SystemTestAndVerificationTestSuites ICP_MillionBallotScanTest ImageCast Evolution Usability Study ImageCastUsabilityStudy PCOS_300B_ImageCAST_Precinct_Manufacturing_Test_Procedure ReadinessTestProcedures	TDP
VI, 3.2.2.1	**Partial Vision**			
a.	The vendor shall conduct summative usability tests on the voting system using partially sighted individuals. The vendor shall document the testing performed and report the test results using the Common Industry Format. This documentation shall be included in the Technical Data Package submitted to the EAC for national certification.	*Vol. II, 2.1.1 Description of the TDP, Required Content…*	ImageCastUsabilityStudy	TDP
	Discussion: Voting system vendors are required to conduct realistic usability tests on the final product. For the present, vendors can define their own testing protocols.		ImageCastUsabilityStudy	TDP
VI, 3.2.2.2	**Blindness**			
	The vendor shall conduct summative usability tests on the voting system using individuals who are blind. The vendor shall document the testing performed and report the test results using the Common Industry Format. This documentation shall be included in the Technical Data Package submitted to the EAC for national certification.	*Vol. II, 2.1.1 Description of the TDP, Required Content…*	ImageCastUsabilityStudy	TDP

Wyle, Huntsville, AL

	Discussion: Voting system vendors are required to conduct realistic usability tests on the final product. For the present, vendors can define their own testing protocols.		ImageCastUsabilityStudy	TDP
c.	All voting stations that provide audio presentation of the ballot shall conform to the following requirements:			
c. iv.	A sanitized headphone or handset shall be made available to each voter.		ImageCast Evolution Usability Study, Section 3.2.3.2, Audio Devices	TDP
	Discussion: this requirement can be achieved in various ways, including the use of "throwaway" headphones, or of sanitary coverings.		ImageCast Evolution Usability Study, Section 3.2.3.2, Audio Devices	TDP
VI, 3.2.3	**Dexterity**			
a.	The vendor shall conduct summative usability tests on the voting system using individuals lacking fine motor control. The vendor shall document the testing performed and report the test results using the Common Industry Format. This documentation shall be included in the Technical Data Package submitted to the EAC for national certification.	*Vol. II, 2.1.1 Description of the TDP, Required Content…*	2.03 - ICP Functionality Description, Section 2.13, Relevant Requirement References 2.03 - ICE Functionality Description, Section 7, Relevant Requirement References	TDP
	Discussion: Voting system vendors are required to conduct realistic usability tests on the final product. For the present, vendors can define their own testing protocols.		2.03 - ICP Functionality Description, Section 3.9, Relevant Requirement References 2.03 - ICE Functionality Description, Section 7, Relevant Requirement References	TDP
VI, 4	**Hardware Requirements**			
VI, 4.1.2	**Environmental Requirements**			
	The Technical Data Package supplied by the vendor shall include a statement of all requirements and restrictions regarding environmental protection, electrical service, recommended auxiliary power, telecommunications service, and any other facility or resource required for the proper installation and operation of the system.	*also Vol. II, 2.4.1 TDP, System Hardware Characteristics*	2.08 - ICE System Operations Procedures, Section 2.3.1.5, Battery Types and Purpose of Environmental Regulations 2.08 - ICP System Operations Procedures, Section 2.3.1.6, Battery Types and Purpose of Environmental Regulations 2.09 - EMSSystemMaintenanceManual, Section 2.2, Direct Server Maintenance "Manufactures Manuals" 2.04.1 - ICE System Hardware Characteristics, Section 2.2, Environmental Requirements 2.04.1 - ICP System Hardware Characteristics, Section 2.2, Environmental Requirements	TDP
VI, 4.1.3.2	**Memory Stability**			
	Memory devices used to retain election management data shall have demonstrated error-free data retention for a period of 22 months.	*Vol. II, 2.3 System Functionality Description*	2.03 - Democracy Suite ICP Functionality Description, Section 4.1.4 Data Retention 2.03 - ICE Functionality Description, Section 2.10, Data Retention 2.03 - ICC Functionality Description, Section 9.1, Transparency and Accuracy 2.03 - ICP Functionality Description, Section 2.10, Data Retention	TDP
VI, 4.1.4	**Vote Recording Requirements**			
VI, 4.1.4.2	**Paper Based Recording Requirements**			
a.iii.	The Technical Data Package shall specify the required paper stock, size, shape, opacity, color, watermarks, field layout, orientation, size and style of printing, size and location of mark fields used for vote response fields and to identify unique ballot formats, placement of alignment marks, ink for printing, and folding and bleed-through limitations for preparation of ballots that are compatible with the system.	*Vol. II, 2.9.4.2 TDP, System Maintenance Manual, Parts and Materials, Paper-based Systems* *also Vol. I, 2.2.1.3 Ballot Production*	2.09 - ICE System Maintenance Manual, Section 5.2, Paper-Based Systems 2.09 - ICP System Maintenance Manual, Section 2.3.2, Paper-Based System ImageCast Printing Specification	TDP
b.	The Technical Data Package shall specify marking devices, which, if used to make the prescribed form of mark, produce readable marked ballots such that the system meets the performance requirements for accuracy in Subsection 4.1.1. Marking devices can be either manual (such as pens or pencils) or electronic. These specifications shall identify:	*Vol. II, 2.9.4.2 TDP, System Maintenance Manual, Parts and Materials, Paper-based Systems* *also Vol. I, 2.2.1.3 Ballot Production*	2.09 - ICE System Maintenance Manual, Section 5.2, Paper-Based Systems 2.09 - ICP System Maintenance Manual, Section 2.3.2, Paper-Based System 2.04 - ICE System Hardware Specifications, Section 2.9, Imaging Technology 2.04 - ICP System Hardware Characteristics, Section 2.9, Imaging Technology	TDP
	i. Specific characteristics of marking devices that affect readability of marked ballots		2.09 - ICE System Maintenance Manual, Section 5.2, Paper-Based Systems 2.09 - ICP System Maintenance Manual, Section 2.3.2, Paper-Based System 2.04 - ICE System Hardware Specifications, Section 2.9, Imaging Technology 2.04 - ICP System Hardware Characteristics, Section 2.9, Imaging Technology	TDP
	ii. Performance capabilities with regard to each characteristic		2.09 - ICE System Maintenance Manual, Section 5.2, Paper-Based Systems 2.09 - ICP System Maintenance Manual, Section 2.3.2, Paper-Based System 2.04 - ICE System Hardware Specifications, Section 2.9, Imaging Technology 2.04 - ICP System Hardware Characteristics, Section 2.9, Imaging Technology	TDP
	iii. For marking devices manufactured by multiple external sources, a listing of sources and model numbers that are compatible with the system		2.09 - ICE System Maintenance Manual, Section 5.2, Paper-Based Systems 2.09 - ICP System Maintenance Manual, Section 2.3.2, Paper-Based System 2.04 - ICE System Hardware Specifications, Section 2.9, Imaging Technology 2.04 - ICP System Hardware Characteristics, Section 2.9, Imaging Technology	TDP
d.	Ballot boxes and ballot transfer boxes, which serve as secure containers for the storage and transportation of ballots, shall:			
	ii. Incorporate locks and seals, the specifications of which are described in the system documentation.	*also Vol. II, 2.9.4.2 TDP, System Maintenance Manual, Parts and Materials, Paper-based Systems*	2.06 - Democracy Suite System Security Specification, Section 5.4, Summary of Physical Security Measures 2.08 - ICP System Operation Procedures, Appendix D, How and Where to Apply Security Seals 2.08 - ICP System Operation Procedures, Appendix J, How and Where to Apply Security Seals	TDP
VI, 4.1.5	**Paper-based Conversion Requirements**			
VI, 4.1.5.1	**Ballot Handling**			

Wyle, Huntsville, AL

a.	Ballot handling consists of a ballot card's acceptance, movement through the read station, and transfer into a collection station or receptacle. The capacity to convert the marks on individual ballots into signals is uniquely important to central count systems. The capacity for a central count system shall be documented by the vendor. This documentation shall include the capacity for individual components that impact the overall capacity.	*Vol. II, 2.2.2 System Performance*	2.03 - ICC Functionality Description, Section 6.4.1, Inserting Ballots 2.03 - ICP Functionality Description, Section 3.3.2, Inserting Ballots 2.03 - ICC Functionality Description, Section 4.2, Inserting Ballot	TDP
VI, 4.1.6	**Tabulation Processing Requirements**			
VI, 4.1.6.1	**Paper-based System Processing Requirements**			
b.	Paper-based system memory devices, used to retain control programs and data, shall have demonstrated error-free data retention for a period of 22 months, under the environmental conditions for operation and non-operation (i.e., storage).	*Vol. II, 2.3 System Functionality Description*	2.03 - Democracy Suite ICP Functionality Description, Section 4.1.4 Data Retention 2.03 - ICE Functionality Description, Section 2.10, Data Retention 2.03 - ICC Functionality Description, Section 9.1, Transparency and Accuracy 2.03 - ICP Functionality Description, Section 2.10, Data Retention	TDP
VI, 4.1.6.2	**DRE System Processing Requirements**			
	The DRE voting systems processing requirements address all mechanical devices, electromechanical devices, electronic devices, and software required to process voting data after the polls are closed.			
c.	DRE system memory devices used to retain control programs and data shall have demonstrated error-free data retention for a period of 22 months. Error-free retention may be achieved by the use of redundant memory elements, provided that the capability for conflict resolution or correction among elements is included.	*Vol. II, 2.3 System Functionality Description*	N/A	TDP
VI, 4.1.7	**Reporting Requirements**			
VI, 4.1.7.1	**Removable Storage Media**			
	In voting systems that use storage media that can be removed from the voting system and transported to another location for readout and report generation, these media shall use devices with demonstrated error-free retention for a period of 22 months under the environmental conditions for operation and non-operation contained in Subsection 4.1.2. Examples of removable storage media include: programmable read-only memory (PROM), random access memory (RAM) with battery backup, magnetic media, or optical media.	*Vol. II, 2.3 System Functionality Description*	2.03 - Democracy Suite ICP Functionality Description, Section 4.1.4 Data Retention 2.03 - ICE Functionality Description, Section 2.10, Data Retention 2.03 - ICC Functionality Description, Section 9.1, Transparency and Accuracy 2.03 - ICP Functionality Description, Section 2.10, Data Retention	TDP
VI, 4.1.7.2	**Printers**			
	All printers used to produce reports of the vote count shall be capable of producing:	*Vol. II, 2.4 System Hardware*		
a.	Alphanumeric headers;		Advanced Printing Systems LTPC Series Line Thermal Printer Mechanism Technical Reference ICP - Printed Report from Unit ICE - Printed report from Unit	TDP
b.	Election, office and issue labels; and		Advanced Printing Systems LTPC Series Line Thermal Printer Mechanism Technical Reference ICP - Printed Report from Unit ICE - Printed report from Unit	TDP
c.	Alphanumeric entries generated as part of the audit record.		Advanced Printing Systems LTPC Series Line Thermal Printer Mechanism Technical Reference ICP - Printed Report from Unit ICE - Printed report from Unit	TDP
VI, 4.2	**Physical Characteristics**	*also Vol II, 2.4.1 System Hardware Characteristics*		
VI, 4.2.1	**Size**			
	There is no numerical limitation on the size of any voting equipment, but the size of each voting should be compatible with its intended use and the location at which the equipment is to be used.	*Vol. II, 2.4 System Hardware*	2.04 - ICE System Hardware Specifications, Section 2.8 Ballot Box 2.04 - ICP System Hardware Specifications, Section 2.8 Ballot Box 2.04.1 - ICE System Hardware Characteristics, Section 3, Physical Characteristics 2.04.1 - ICP System Hardware Characteristics, Section 3, Physical Characteristics 2.03 - ICP Functionality Description, Section, 2.10.1, Description	TDP
VI, 4.2.2	**Weight**			
	There is no numerical limitation on the weight of any voting equipment, but the weight of each voting machine should be compatible with its intended use and the location at which the equipment is to be used.	*Vol. II, 2.4 System Hardware*	2.04 - ICE System Hardware Specifications, Section 2.8 Ballot Box 2.04 - ICP System Hardware Specifications, Section 2.8 Ballot Box 2.04.1 - ICE System Hardware Characteristics, Section 3, Physical Characteristics 2.04.1 - ICP System Hardware Characteristics, Section 3, Physical Characteristics 2.03 - ICP Functionality Description, Section, 2.10.1, Description	TDP
VI, 4.2.3	**Transport and Storage of Precinct Systems**			
	All precinct voting systems shall:			
b.	[precinct voting systems] Be capable of using, or be provided with, a protective enclosure rendering the equipment capable of withstanding:			

Wyle, Huntsville, AL

	ii. Stacking loads associated with storage.	*Vol. II, 2.4.1 b, System Hardware*	2.04.1 - ICE System Hardware Characteristics, Section 3, Physical Characteristics 2.04.1 - ICP System Hardware Characteristics, Section 3, Physical Characteristics	TDP
VI, 4.3	**Design, Construction, and Maintenance Characteristics**			
VI, 4.3.1	**Materials, Processes, and Parts**			
	All voting systems shall:			
b.	Include, as part of the accompanying TDP, an approved parts list.	*see Vol. II, 2.9.4.1 TDP, System Maintenance Manual, Parts and Materials...*	2.09 - ICE System Maintenance Manual, Section 4.2, Parts and Materials 2.09 - ICP System Maintenance Manual, Section 4.1.2, Parts and Materials 2.09 - EMSSystemMaintenanceManual, Section 2.5, Parts and Materials 2.04.1 - ICE System Hardware Characteristics, Section 3.4.1, Materials, Processes and Parts 2.04.1 - ICP System Hardware Characteristics, Section 3.4.1, Materials, Processes and Parts ICE Approved Parts List ImageCastPrecinctApprovedPartsList	TDP
VI, 4.3.2	**Durability**			
	All voting systems shall be designed to withstand normal use without deterioration and without excessive maintenance cost for a period of ten years.	*Vol. II, 2.4.1 System Hardware Design, System Hardware Characteristics; EAC RFI 2008-05 eff. Date 7/30/08; 2005 VVSG Vol. I Sec. 4.3.2 Durability*	2.04.1 - ICE System Hardware Characteristics, Section 3.4.2.2, Durability of Mechanical Parts 2.04.1 - ICP System Hardware Characteristics, Section 3.4.2.2, Durability of Mechanical Parts	TDP
EAC RFI 2008-05, effective date July 30, 2008	**EAC Decision on Request for Interpretation 2008-05: 2005 VVSG Vol. I Section 4.3.2, Durability**			
	Per EAC RFI 2008-05: Question: How are the VSTLs expected to evaluate this requirement? Per EAC:"…*Until more research is done on this issue and clear scientific guidance is available, voting system manufacturers shall provide the VSTL with a signed statement of compliance for this standard. VSTLs should review the compliance statement and accept the statement unless VSTL engineering analysis and interaction with the system during the testing process would bring the durability of the system into question. In addition, additional review may be required in those instances where experience with fielded versions of the certified voting system show obvious problems related to the lack of durability*".		February 8, 2012 Attestation Letter from Edwin B Smith, III	Letter
VI, 4.3.5	**Availability**			
	The availability of a voting system is defined as the probability that the equipment (and supporting software) needed to perform designated voting functions will respond to operational commands and accomplish each function. The voting system shall meet the availability standard for each of the following voting functions:	*Vol. I, 2.2.2 b. System Performance; Vol. II, 2.9.5 a-c TDP, System Maintenance Manual, Maintenance Facilities and Support*		
	Vendors shall specify the typical system configuration that is to be used to assess availability and any assumptions made with regard to any parameters that impact the MTTR. These factors shall include at a minimum:			
e.	Recommended number and locations of spare devices or components to be kept on hand for repair purposes during periods of system operation.		2.09 - ICE System Maintenance Manual, Section, 6, Maintenance Facilities and Support 2.09 - ICP System Maintenance Manual, Section 2.4, Maintenance Facilities and Support 2.09 - EMSSystemMaintenanceManual, Section 2.6, Maintenance Facilities and Support	TDP
f.	Recommended number and locations of qualified maintenance personnel who need to be available to support repair calls during system operation.		2.09 - ICE System Maintenance Manual, Section, 6, Maintenance Facilities and Support 2.09 - ICP System Maintenance Manual, Section 2.4, Maintenance Facilities and Support 2.09 - EMSSystemMaintenanceManual, Section 2.1.5, Personnel Requirements	TDP
g.	Organizational affiliation (i.e., jurisdiction, vendor) of qualified maintenance personnel.		2.09 - ICE System Maintenance Manual, Section 3, Maintenance Procedures 2.09 - ICP System Maintenance Manual, Section 2.4, Maintenance Facilities and Support 2.09 - EMSSystemMaintenanceManual, Section 2.1.5, Personnel Requirements	TDP
VI, 4.3.7	**Workmanship**			
	To help ensure proper workmanship, all manufacturers of voting systems shall:	*Vol. I, 8.2 QA Requirements, General Requirements; Vol. II, 2.12 Quality Assurance*		
a.	Adopt and adhere to practices and procedures to ensure that their products are free from damage or defect making them unsatisfactory for their intended purpose; and		2.04.1 - ICE System Hardware Characteristics, Section 3.5.5, Workmanship 2.04.1 - ICP System Hardware Characteristics, Section 3.5.5, Workmanship	TDP
b.	Ensure that components provided by external suppliers are free from damage or defect making them unsatisfactory for their intended purpose.	*Vol. II, 7.5 Examination of Quality Assurance Practices*	2.12 - Democracy Suite Quality Assurance Program, Section 2.3, Components From Third Parties	TDP
VI, Sec. 5	**Software Requirements**			
VI, 5.1.1	**Software Sources**			

WHVS07.11
Document is uncontrolled when printed.

Wyle, Huntsville, AL

	Configuration of software, both operating systems and applications, is critical to proper system functioning. ... Therefore, the vendors shall submit a record of all user selections made during software installation as part of the Technical Data Package.	*VII, 2.8.3, System Installation and Test Specification*	2.08 - EMS System Operation Procedures, Section 4, System Installation and Test Specification, *ff* EED - included w/2.08 EMS System Operation Procedures 2.08 - ICE System Operation Procedures, Section 6.6, Ballot and Program Installation & System Configuration 2.08 - ICC System Operation Procedures, Section 3, System Installation and Test Specification 2.08 - ICP System Operation Procedures, Section 6.6, Ballot and Program Installation & System Configuration 2.08 RTR User Guide, Section 3, Software Start	TDP
	The vendor shall also submit a record of all configuration changes made to the software following its installation.		2.08 - EMS System Operation Procedures, Section 4, System Installation and Test Specification, *ff* EED - included w/2.08 EMS System Operation Procedures 2.08 - ICE System Operation Procedures, Section 6.6, Ballot and Program Installation & System Configuration 2.08 - ICC System Operation Procedures, Section 3, System Installation and Test Specification 2.08 - ICP System Operation Procedures, Section 6.6, Ballot and Program Installation & System Configuration 2.08 RTR User Guide, Section 3, Software Start	TDP
VI, 5.2.6	**Coding Conventions**			
	Voting system software shall adhere to basic coding conventions. The coding conventions used shall meet one of the following conditions:	*also Vol. II, 2.5.4 e. TDP, Software Design and Specification, Software Standards and Conventions*		
a.	The vendors shall identify the published, reviewed, and industry-accepted coding conventions used and the accredited test lab shall test for compliance.		2.05 - EMS Software Design And Specification, Section 4, Software Overview 2.05 - ICE Software Design and Specification, Section 2, Software Overview 2.05 - ICP Software Design And Specification, Section 2, Software Overview 2.05 - ICCSoftwareDesignAndSpecification, Section 2, Software Overview DominionVotingC_C++CodingStandard	TDP
VI, 5.3	**Data and Document Retention**			
	All systems shall:			
a.	Maintain the integrity of voting and audit data during an election, and for at least 22 months thereafter, a time sufficient to resolve most contested elections and support other activities related to the reconstruction and investigation of a contested election.	*Vol. II, Sec. 2.3 System Functionality Description*	2.03 - Democracy Suite ICP Functionality Description, Section 4.1.4 Data Retention 2.03 - ICE Functionality Description, Section 2.10, Data Retention 2.03 - ICC Functionality Description, Section 9.1, Transparency and Accuracy 2.03 - ICP Functionality Description, Section 2.10, Data Retention	TDP
VI, Sec. 7	**Security Requirements**	*Vol. I, 2.1.1 Overall System, Security; Vol. II, 2.6 Security Specifications; Vol. I, Sec. 6 Telecommunications Requirements*		
VI, 7.2.1	**General Access Control Policy**			
	The vendor shall specify the general features and capabilities of the access control policy recommended to provide effective voting system security.	*also Vol. II, 2.6.1 TDP, System Security Specification, Access Control Policy*	2.06 - Democracy Suite System Security Specification, Section 4, Access Control Policy and Measures	TDP
	Although the jurisdiction in which the voting system is operated is responsible for determining the access policies for each election, the vendor shall provide a description of recommended policies for:			
a.	Software access controls;		2.06 - Democracy Suite System Security Specification, Section 4.5.1.1, Software Access Control Policy	TDP
b.	Hardware access controls;		2.06 - Democracy Suite System Security Specification, Section 4.5.1.1, Software Access Control Policy	TDP
c.	Communications;		2.06 System Security Specification, Section 4.5.1.3, Communications	TDP
d.	Effective password management;		2.06 - Democracy Suite System Security Specification, Section 4.5.1.4, Effective Password Management	TDP
e.	Protection abilities of a particular operating system;		2.06 - Democracy Suite System Security Specification, Section 4.5.1.5, Protection Abilities of a Particular Operating System	TDP
f.	General characteristics of supervisory access privileges;		2.06 - Democracy Suite System Security Specification, Section 4.5.1.10, General Characteristics of Supervisory Access Privileges	TDP
g.	Segregation of duties; and		2.06 - Democracy Suite System Security Specification, Section 4.5.1.11, Segregation of Duties	TDP
h.	Any additional relevant characteristics.		2.06 - Democracy Suite System Security Specification, Section 4.5.1.12, Any Additional Relevant Characteristics	TDP
VI, 7.2.1.1	**Individual Access Privileges**			
	Voting system vendors shall:	*also Vol. II, 2.6.1 TDP, System Security Specification, Access Control Policy*		
a.	a. Identify each person to whom access is granted, and the specific functions and data to which each person holds authorized access.		2.06 - Democracy Suite System Security Specification, Section 4.5, Summary of Access Control Requirements	TDP
b.	b. Specify whether an individual's authorization is limited to a specific time, time interval, or phase of the voting or counting operations.		2.06 - Democracy Suite System Security Specification, Section 4.5, Summary of Access Control Requirements	TDP
c.	c. Permit the voter to cast a ballot expeditiously, but preclude voter access to all aspects of the vote counting process.		2.06 System Security Specification, Section 4.5.4.1, Voter Access Control and Privileges.	TDP
VI, 7.2.1.2	**Access Control Measures**	*Vol. II, 2.6.2 TDP, System Security Specification, Access Control Measures*		
	Vendors shall provide a detailed description of all system access control measures designed to permit authorized access to the system and prevent unauthorized access.		2.06 System Security Specification, Section 4.5.3, Access Control Measures	TDP
	Examples of such measures include:			
a.	Use of data and user authorization		2.06 System Security Specification, Section, 4.5.3.1, Use of Data and User Authorization	TDP
b.	Program unit ownership and other regional boundaries		2.06 System Security Specification, Section 4.5.3.2, Program Unit Ownership and Other Regional Boundaries	TDP
c.	One-end or two-end port protection devices		2.06 System Security Specification, Section 4.5.3.3, One-end or two-end port protection devices	TDP

d.	Security kernels		2.06 System Security Specification, Section 4.5.3.3, Security Kernels.	TDP
e.	Computer-generated password keys		2.06 System Security Specification, Section 4.5.3.5, Computer-generated Password Keys	TDP
f.	Special protocols		2.06 System Security Specification, Section, 4.5.3.6 Special Protocols	TDP
g.	Message encryption		2.06 System Security Specification, Section 4.5.3.6, Message Encryption contains information.	TDP
h.	Controlled access security		2.06 System Security Specification, Section 4.5.3.7, Controlled Access Security discusses.	TDP
	Vendors also shall define and provide a detailed description of the methods used to prevent unauthorized access to the access control capabilities of the system itself.		2.06 System Security Specification, Section 4.5.3.9, Unauthorized Access to the Access Control Capabilities…	TDP
VI, 7.3	**Physical Security Measures**			
	Security procedures shall address physical threats and the corresponding means to defeat them.	*Vol. II, 2.6.3 TDP, System Security Specification, Equipment and Data Security*		
VI, 7.3.1	**Polling Place Security**			
	For polling place operations, vendors shall develop and provide detailed documentation of measures to enable poll workers to physically protect and perform orderly shutdown of voting equipment to counteract vandalism, civil disobedience, and similar occurrences.	*Vol. II, 2.6.3 Equipment and Data Security*	2.06 System Security Specification, Section 5.4.1, Polling Place Physical Security	TDP
	The measures shall allow the immediate detection of tampering with vote casting devices and precinct ballot counters.		2.06 System Security Specification, Section 5.4.1.1, Immediate Detection of Tampering	TDP
	They shall also control physical access to a telecommunications link if such a link is used.		2.06 - Democracy Suite System Security Specification, Section 5.4.1.2, Physical Access to Telecommunication Links	TDP
VI, 7.3.2	**Central Count Location Security**			
	Vendors shall develop and document in detail the measures to be taken in a central counting environment. These measures shall include physical and procedural controls related to the handling of ballot boxes, preparing of ballots for counting, counting operations and reporting data.	*Vol. II, 2.6.3 Equipment and Data Security*	2.06 - Democracy Suite System Security Specification, Section 5.4.2, Central Count Location Physical Security	TDP
VI, 7.4	**Software Security**			
	Voting systems shall meet specific security requirements for the installation and for protection against malicious software.	*Vol.II, 2.6.4 TDP, System Security Specification, Software Installation*		
VI, 7.4.1	**Software and Firmware Installation**			
	The system shall meet the following requirements for installation of software, including hardware with embedded firmware.	*also Vol.II, 2.6.4 TDP, System Security Specification, Software Installation*		
a.	If software is resident in the system as firmware, the vendor shall require and state in the system documentation that every device is to be retested to validate each ROM prior to the start of elections operations.		2.06 - Democracy Suite System Security Specification, Section 6.2, ImageCast Software Installation	TDP
b.	To prevent alteration of executable code, no software shall be permanently installed or resident in the voting system unless the system documentation states that the jurisdiction must provide a secure physical and procedural environment for the storage, handling, preparation, and transportation of the system hardware.		2.04.1 - ICE System Hardware Characteristics, Section 3, Physical Characteristics 2.04.1 - ICP System Hardware Characteristics, Section 3, Physical Characteristics 2.03 - ICE Functional Spec, Section 6, Maintenance, Transportation, and Storage 2.03 - ICC Functionality Description, Section 7.2, Ballot Paper Workflow 2.03 - ICC Functionality Description, Section 2.5 Democracy Suite EMS Operational Environment Canon DRX10C User Manual	TDP
VI, 7.4.2	**Protection Against Malicious Software**			
	Voting systems shall deploy protection against the many forms of threats to which they may be exposed such as file and macro viruses, worms, Trojan horses, and logic bombs. Vendors shall develop and document the procedures to follow to ensure that such protection against is maintained in a current status.	*Vol. II, 2.6.4 TDP, System Security Specification, Software Installation*	2.06 - Democracy Suite System Security Specification, Section 6.1.3, Installation of Any Other Prerequisite System Components	TDP
VI, 7.4.3	**Software Distribution and Setup Validation**			
	Voting system software is considered to be all executable code and associated configuration files critical for proper operation of the voting system regardless of the location of installation and functionality provided. This includes third party software such as operating systems, drivers, and database management systems.	*Vol.II, 2.6.4 TDP, System Security Specification, Software Installation*		
VI, 7.4.4	**Software Distribution**			
a.	The vendor shall document all software including voting system software, third party software (such as operating systems and drivers) to be installed on the certified voting system, and installation programs.	*Vol. II, 2.6.4 TDP, System Security Specification, Software Installation*	2.05 - EMS Software Design and Specification, Section 4.5, Certification of Third Party Software Components 2.05 - ICC Software Design and Specifications, Section 2.0.3, Identification of All Software Items 2.05 - ICE Software Design and Specifications, Section 2.3, Identification of All Software Items 2.05 - ICP Software Design and Specifications, Section 2.0.3, Identification of All Software Items	TDP

	i. The documentation shall have a unique identifier (such as a serial number or part number) for the following set of information: documentation, software vendor name, product name, version, the certification application number of the voting system, file names and paths or other location information (such as storage addresses) of the software.	*Vol. II, 2.6.4 TDP, System Security Specification, Software Installation*	2.05 - EMS Software Design and Specification, Section 4.5, Certification of Third Party Software Components 2.05 - ICC Software Design and Specifications, Section 2.0.3, Identification of All Software Items 2.05 - ICE Software Design and Specifications, Section 2.3, Identification of All Software Items 2.05 - ICP Software Design and Specifications, Section 2.0.3, Identification of All Software Items	TDP
	ii. The documentation shall designate all software files as static, semi-static, or dynamic.	*Vol. I, 2.6.4 TDP, System Security Specification, Software Installation*	2.06 - Democracy Suite System Security Specification, Section 6.1.11.1, Static Semi-Static and Dynamic Files	TDP
	Discussion: Static voting system software such as executable code does not change based on the election being conducted or the voting equipment upon which it is installed. Semi-static voting system software contains configuration information for the voting system based on the voting equipment that is installed and the election being conducted. Semi-static software is only modified during the installation of (a) the voting system software on voting equipment or (b) the election-specific software such as ballot formats. Dynamic voting system software changes over time once installed on voting equipment. However, the specific time or value of the change in the dynamic software is usually unknown in advance, making it impossible to create reference information to verity the software.		2.06 - Democracy Suite System Security Specification, Section 6.1.11.1, Static Semi-Static and Dynamic Files	TDP
VI, 7.4.6	**Software Setup Validation**			
b.	The vendor shall have a process to verify that the correct software is loaded, that there is no unauthorized software, and that voting system software on voting equipment has not been modified, using the reference information from the NSRL or from a State designated repository.	*Vol. II, 2.6.4 TDP, System Security Specification, Software Installation*	2.06 - Democracy Suite System Security Specification, Section 6.1.10, Software Setup Validation	TDP
	ii. The vendor shall document the process used to verify software on voting equipment.		2.06 - Democracy Suite System Security Specification, Section 6.1.10, Software Setup Validation	TDP
f.	Setup validation methods shall verify that registers and variables of the voting system equipment contain the proper static and initial values.		2.06 - Democracy Suite System Security Specification, Section 6.1.10, Software Setup Validation	TDP
	ii. The vendor shall document the values of all static registers and variables, and the initial starting values of all dynamic registers and variables listed for voting system software, except for the values set to conduct a specific election.		2.06 - Democracy Suite System Security Specification, Section 6.1.10, Software Setup Validation	TDP
VI, 7.5	**Telecommunications and Data Transmission**			
VI, 7.5.2	**Protection Against External Threats**			
a.	Voting systems that use public telecommunications networks shall implement protections against external threats to which commercial products used in the system may be susceptible.	*Vol. II, 2.6.5 Telecommunications and Data Transmission Security*		
b.	Voting systems that use public telecommunications networks shall provide system documentation that clearly identifies all COTS hardware and software products and communications services used in the development and/or operation of the voting system, including operating systems, communications routers, modem drivers, and dial-up networking software.	*Vol. II, 2.6.5 TDP, System Security Specification, Telecommunications and Data Transmission Security; Vol. II, 2.2.1 e. System Description*	2.06 - Democracy Suite System Security Specification, Section 7, Telecommunications, Data Transmission and Public Communication	TDP
	i. Such documentation shall identify the name, vendor, and version used for each such component.		2.06 - Democracy Suite System Security Specification, Section 7, Telecommunications, Data Transmission and Public Communication	TDP
VI, 7.5.3	**Monitoring and Responding to External Threats**			
	Therefore, vendors of such [voting systems that use public telecommunications] shall document how they plan to monitor and respond to known threats to which their voting systems are vulnerable. This documentation shall provide a detailed description, including scheduling information, of the procedures the vendor will use to:	*also Vol. II, 2.6.5 TDP, System Security Specification, Telecommunications and Data Transmission Security*		
a.	Monitor threats, such as through the review of assessments, advisories, and alerts for COTS components issued by the Computer Emergency Response Team (CERT), the National Infrastructure Protection Center (NIPC), and the Federal Computer Incident Response Capability (FedCIRC);		2.06 - Democracy Suite System Security Specification, Section 7.3, Monitoring and Responding to External Threats	TDP

b.	Evaluate the threats and, if any, proposed responses;		2.06 - Democracy Suite System Security Specification, Section 7.3, Monitoring and Responding to External Threats	TDP
c.	Develop responsive updates to the system and/or corrective procedures;		2.06 - Democracy Suite System Security Specification, Section 7.3, Monitoring and Responding to External Threats	TDP
d.	Submit the proposed response to test labs and appropriate states for approval, identifying the exact changes and whether or not they are temporary or permanent;		2.06 - Democracy Suite System Security Specification, Section 7.3, Monitoring and Responding to External Threats	TDP
e.	After implementation of the proposed response is approved by the state, assist clients, either directly or through detailed written procedures, how to update their systems and/or to implement the corrective procedures within the timeframe established by the state.		2.06 - Democracy Suite System Security Specification, Section 7.3, Monitoring and Responding to External Threats	TDP
f.	Address threats emerging too late to correct the system by:			
	i. Providing prompt, emergency notification to the accredited test labs and the affected states and user jurisdictions;		2.06 - Democracy Suite System Security Specification, Section 7.3, Monitoring and Responding to External Threats	TDP
	ii. Assisting client jurisdictions directly, or advising them through detailed written procedures, to disable the public telecommunications mode of the system; and		2.06 - Democracy Suite System Security Specification, Section 7.3, Monitoring and Responding to External Threats	TDP
	iii. Modifying the system after the election to address the threat, submitting the modified system to an accredited test lab and the EAC or appropriate state certification authority for approval, and assisting client jurisdictions directly or advising them through detailed written procedures, to update their systems and/or to implement the corrective procedures after approval.		2.06 - Democracy Suite System Security Specification, Section 7.3, Monitoring and Responding to External Threats	TDP
VI, 7.6	**Use of Public Communications Networks**			
VI, 7.6.2	**Casting Individual Ballots**			
VI, 7.6.2.1	**Documentation of Mandatory Security Activities**			
	Vendors of voting systems that cast individual ballots over a public telecommunications network shall provide detailed descriptions of:	*Vol. II, 2.6.5 TDP, System Security Specification, Telecommunications and Data Transmission Security*		
a.	All activities mandatory to ensuring effective system security to be performed in setting up the system for operation, including testing of security before an election.		2.06 - Democracy Suite System Security Specification, Section 7.3, Monitoring and Responding to External Threats	TDP
b.	All activities that should be prohibited during system setup and during the time frame for voting operations, including both the hours when polls are open and when polls are closed.		2.06 - Democracy Suite System Security Specification, Section 7.3, Monitoring and Responding to External Threats	TDP
VI, 7.7	**Wireless Communications**			
	Wireless is defined as any means of communications that occurs without wires. This normally covers the entire electromagnetic spectrum. For the purposes of this section, wireless includes radio frequency, infrared, and microwave.			
VI, 7.7.1	**Controlling Usage**	*see also Vol. II, 2.6.5 TDP, System Security Specification, Telecommunications and Data Transmission Security*		
a.	If wireless communications are used in a voting system, then the vendor shall supply documentation describing how to use all aspects of wireless communications in a secure manner. This documentation shall include:		2.06 - Democracy Suite System Security Specifications, Section 8, Wireless Communications	TDP
	i. A complete description of the uses of wireless in the voting system including descriptions of the data elements and signals that are to be carried by the wireless mechanism.		2.06 - Democracy Suite System Security Specifications, Section 8, Wireless Communications	TDP
	ii. A complete description of the vulnerabilities associated with this proposed use of wireless, including vulnerabilities deriving from the insertion, deletion, modification, capture, or suppression of wireless messages.		2.06 - Democracy Suite System Security Specifications, Section 8, Wireless Communications	TDP

WHVS07.11

Wyle, Huntsville, AL

	iii. A complete description of the techniques used to mitigate the risks associated with the described vulnerabilities including techniques used by the vendor to ensure that wireless cannot send or receive messages other than those situations specified in the documentation. Cryptographic techniques shall be carefully and fully described, including a description of cryptographic key generation, management, use, certification, and destruction.		2.06 - Democracy Suite System Security Specifications, Section 8, Wireless Communications	TDP
	iv. A rationale for the inclusion of wireless in the proposed voting system, based on a careful and complete description of the perceived advantages and disadvantages of using wireless for the documented uses compared to using non-wireless approaches.		2.06 - Democracy Suite System Security Specifications, Section 8, Wireless Communications	TDP
	iv. Discussion: In general, convenience is not a sufficiently compelling reason, on its own, to justify the inclusion of wireless communications in a voting system. Convenience must be balanced against the difficulty of working with cryptographic keys.		2.06 - Democracy Suite System Security Specifications, Section 8, Wireless Communications	TDP
b.	The details of all cryptographic protocols used for wireless communications, including the specific features and data, shall be documented.		2.06 - Democracy Suite System Security Specifications, Section 8, Wireless Communications	TDP
e.	If a voting system includes wireless capabilities, then the voting system shall be able to accomplish the same function if wireless capabilities are not available due to an error or no service.		2.06 - Democracy Suite System Security Specifications, Section 8, Wireless Communications	TDP
	i. The vendor shall provide documentation how to accomplish these functions when wireless is not available.		2.06 - Democracy Suite System Security Specifications, Section 8, Wireless Communications	TDP
VI, 7.7.2	**Identifying Usage**			
	If a voting system provides wireless capabilities, then the type of wireless communications used (such as radio frequencies) shall be identified either via a label or via the voting system documentation.	*see also Vol. II, 2.6.5 TDP, System Security Specification, Telecommunications and Data Transmission Security*	2.06 - Democracy Suite System Security Specifications, Section 8, Wireless Communications	TDP
VI, 7.9	**Voter Verifiable Paper Audit Trail Requirements**			
	VVPAT is not required for national certification. However, these requirements will be applied for certification testing of DRE systems that are intended for use in states that require DREs to provide this capability.		N/A - VVPAT is not part of the tested system	TDP
VI, 7.9.2	**Voter Verifiable Paper Audit Trail Requirements, Approve or Void the Paper Record**			
e.	Vendor documentation shall include procedures to enable the election official to return a voting machine to correct operation after a voter has used it incompletely or incorrectly. **This procedure shall not cause discrepancies between the tallies of the electronic and paper records.**	*Vol. II, 2.3 System Functionality Description*	N/A - VVPAT is not part of the tested system	TDP
VI, 7.9.3	**Voter Verifiable Paper Audit Trail Requirements, Electronic and Paper Record Structure**			
e.	iii. The voting system vendor shall provide documentation as to the structure of the exported ballot image records and how they shall be read and processed by software.	*Vol. II, 2.7.2e, National Certification Test Specifications*	N/A - VVPAT is not part of the tested system	TDP
e.	v. The voting system vendor shall provide full documentation of procedures for exporting electronic ballot image records and reconciling those records with the paper audit records.	*Vol. II, 2.2.2 b. System Performance*	N/A - VVPAT is not part of the tested system	TDP
VI, 7.9.4	**Equipment Security and Reliability**	*Vol. II, 2.2.2 b. System Performance*		
k.	Vendor documentation shall include procedures for investigating and resolving printer malfunctions including, but not limited to; printer operations, misreporting of votes, unreadable paper records, and power failures.		Advanced Printing Systems LTPC Series Line Thermal Printer Mechanism Technical Reference 2.04 - ICE System Hardware Specifications 2.04 - ICP System Hardware Characteristics	TDP
l.	Vendor documentation shall include printer reliability specifications including Mean Time Between Failure estimates, and shall include recommendations for appropriate quantities of backup printers and supplies.		Advanced Printing Systems LTPC Series Line Thermal Printer Mechanism Technical Reference2.04 - ICE System Hardware Specifications 2.04 - ICP System Hardware Characteristics	TDP
VI, Sec. 8	**Quality Assurance Requirements**			
VI, 8.1	**Scope**			
VI, 8.2	**General Requirements**			

Wyle, Huntsville, AL

	The voting system vendor is responsible for designing and implementing a quality assurance program to ensure that the design, workmanship, and performance requirements are achieved in all delivered systems and components. At a minimum this program shall:	*also Vol. II, 2.12 TDP, Quality Assurance Program; also Vol. II, 7.5 Examination of Quality Assurance Practices*		
a.	Include procedures for specifying, procuring, inspecting, accepting, and controlling parts and raw materials of the requisite quality;		2.12 - Democracy Suite Quality Assurance Program, Section 2.3, Components From Third Parties	TDP
b.	Require the documentation of the hardware and software development process;		2.12 - Democracy Suite Quality Assurance Program, Section 2.2.2, Pre-testing Conformance Inspections in the Hardware's Development and Build Phase discusses.	TDP
c.	Identify and enforce all requirements for:			
	i. In-process inspection and testing that the manufacturer deems necessary to ensure proper fabrication and assembly of hardware		2.12 - Democracy Suite Quality Assurance Program, Section 2.3, Components From Third Parties	TDP
	ii. Installation and operation of software and firmware		2.12 - Democracy Suite Quality Assurance Program, Section 2.12, Quality Assurance Process, Sec. 2.2.1 Pre-Testing Conformance Inspections in Software Development and Build Phases	TDP
d.	Include plans and procedures for post-production environmental screening and acceptance testing		2.12 - Democracy Suite Quality Assurance Program, Section 2.2, Quality Assurance Procedures	TDP
e.	Include a procedure for maintaining all data and records required to document and verify the quality inspections and tests.		2.12 - Democracy Suite Quality Assurance Program, Section 2, Quality Assurance Program.	TDP
VI, 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.	*Vol. II, 2.12 Quality Assurance*	2.12 - Democracy Suite Quality Assurance Program, Section 2.3, Components From Third Parties	TDP
VI, 8.4	**Responsibility for Tests**			
	The manufacturer or vendor shall be responsible for performing all quality assurance tests, acquiring and documenting test data, and providing test reports for examination by the test lab as part of the national certification process.		2.12 - Democracy Suite Quality Assurance Program, Section 2.4, Responsibility of Tests 2.07 Democracy Suite System Test And Verification, Section 2, System Test and Verification Specification	TDP
VI, 8.5	**Parts and Materials Special Tests and Examinations**			
	In order to ensure that voting system parts and materials function properly, vendors shall:	*also Vol. II, 2.12 .2, Quality Assurance Program, Parts and Materials Tests; Vol. II, 7.5.2 Parts and Materials Tests*		
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.		2.12 - Democracy Suite Quality Assurance Program, Section 2.5, Parts and Materials Test includes.	TDP
b.	Design special tests, if needed, to evaluate the part or material under conditions accurately simulating the actual voting system operating environment.		2.12 - Democracy Suite Quality Assurance Program, Section 2.5, Parts and Materials Test includes.	TDP
c.	Maintain the resulting test data as part of the quality assurance program documentation.		2.12 - Democracy Suite Quality Assurance Program, Section 2.6.2, Parts and Materials Test includes.	TDP
VI, 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 national certification testing and to the jurisdiction for implementation. To meet the conformance inspection requirements, the vendor or manufacturer shall:	*see Vol. II, 2.12.3, Quality Assurance Program, Quality Conformance Inspections; Vol. II, 7.5.3 Quality Conformance Inspections*		
a.	Inspect and test each voting system or component to verify that it meets all inspection and test requirements for the system.		2.12 - Democracy Suite Quality Assurance Program, Section 2.6.1.5, Test Deliverables includes.	TDP
b.	Deliver a record of tests or a certificate of satisfactory completion with each system or component		2.12 - Democracy Suite Quality Assurance Program, Section 2.6.1.5, Test Deliverables includes.	TDP
VI, 8.7	**Documentation**			

Wyle, Huntsville, AL

	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 Data Package (TDP) required for the national certification testing process. This documentation shall be sufficient to serve the needs of the test lab, election officials, and maintenance technicians. It shall include, at a minimum, the following:	*Vol. II, 2.1.1.1 TDP, Scope, Required Content for Initial Certification; Vol. II, 2.1.1.2 Required Content for System Changes and Recertification; Vol. II, 2.12.4 Quality Assurance Program, Documentation; Vol. II, 7.5.4 Quality Assurance, Documentation*		
	System overview		2.02 - Democracy Suite System Overview Democracy_Suite_4_0_Supported_Functionality_Declaration_20110822_rev20111005_rev20120321 2.99 - Trace Listing	TDP
	System functionality description		2.03 - Democracy Suite ICP Functionality Description 2.03 - ICC Functionality Description 2.03 - ICE Functionality Description 2.03 - Democracy Suite ICP Functionality Description	TDP
	System hardware specification		2.04 - ICE System Hardware Specification 2.04 - ICP System Hardware Specification 2.04.1 - ICE System Hardware Characteristics 2.04.1 - ICP System Hardware Characteristics Advanced Printing Systems ICE Approved Parts List ImageCast Printing Specification EngineeringProductDevelopmentProcesses-HWEngineering ImageCastPrecinctApprovedPartsList ImageCast Evolution Machine Behavioural Settings LTPC Series Line Thermal Printer Mechanism Technical Reference	TDP
	Software design and specifications		2.05 - EMS Software Design And Specification 2.05 - ICE Software Design and Specification 2.05 - ICP Software Design And Specification 2.05 - ICCSoftwareDesignAndSpecification EMS4.0-DatabaseDocumentation Creating Repository database_documentation.pdf DominionVotingC_C++CodingStandard EMS_BuildEnvironment_InstallDocument_Windows2008R2_v1.4.0_2 ICE Software Installation Update and Verification Procedures ICE Software Installation Update and Verification Procedures - edits 3-21-12 ICP Firmware Build and Install ICP_FirmwareUpdate ICPFirmwareUpdateProcedure ImageCast Central - Application Installation ImageCast Central - Build Environment Setup (Ver 1.0.9) ImageCast Central - Scanner (Canon DR-X10C) Installation (Ver 1.0.1) ImageCast Central - Software Build Procedure (Ver 2.0.2) ImageCast Evolution Build Procedure ImageCast Evolution Firmware Installation Procedure - Wyle edits 3-8-12 ImageCast Total Results File Format ImageCastCentralSoftwareBuildAndInstall ImageCastPrecinctDeviceConfigurationFiles ImageCastPrecinctElectionDefinitionFiles ImageCastPrecinctExtractingFirmwareContents	TDP
	System security specification		2.06 - Democracy Suite System Security Specification	TDP
	System test and verification specification		2.07 - Democracy Suite System Test and Verification 2.07 - SystemTestAndVerificationTestSuites ICP_MillionBallotScanTest ImageCast Evolution Usability Study ImageCastUsabilityStudy PCOS_300B_ImageCAST_Precinct_Manufacturing_Test_Procedure ReadinessTestProcedures	TDP
	System operations procedures		2.08 - EMS System Operation Procedures 2.08 - ICE System Operation Procedures 2.08 - ICC System Operation Procedures 2.08 - ICP System Operation Procedures Audio Studio User Manual Canon DRX10C User Manual Democracy Suite EMS EED Users Guide Democracy Suite EMS RTR User Manual Democracy Suite System ID Guide ICE Technical Guide ICP Technical Guide List of Permission Errors within EMS EED and RTR RTR User Manual	TDP
	System maintenance procedures		2.09 - ICE System Maintenance Manual 2.09 - ICP System Maintenance Manual 2.09 - EMSSystemMaintenanceManual	TDP
	Personnel deployment and training requirements		2.10 - Democracy Suite Personnel Deployment And Training Requirements	TDP
	Configuration management plan		2.11 - Configuration Management Process	TDP
	Quality assurance program		2.12 - Democracy Suite Quality Assurance Program	TDP
	System change notes		N/A - Tested system is not a modification	TDP
VI, Sec. 9	**Configuration Management Requirements**	*see Vol. II, 2.11 TDP, Configuration Management Plan*		
VI, 9.1	**Scope**			

	This section contains specific requirements for configuration management of voting systems. Vendors are required to submit these procedures as part of the Technical Data Package for system certification.			
VI, 9.1.1	**Configuration Management Requirements**			
	Configuration management addresses a broad set of record keeping, auditing, and reporting activities that contribute to full knowledge and control of a system and its components. These activities include:	*Vol. II, 2.11 TDP, Configuration Management Plan*		
	Identifying discrete system components.		2.11 - Configuration Management Process, Section 2, Configuration Management Requirements	TDP
	Creating records of a formal baseline and later versions of components.		2.11 - Configuration Management Process, Section 2.4, Configuration Management	TDP
	Controlling changes made to the system and its components.		2.11 - Configuration Management Process, Section 2.2, Change Control Procedures	TDP
	Releasing new versions of the system.		2.11 - Configuration Management Process, Section 2.4, Configuration Management	TDP
	Auditing the system, including its documentation, against configuration management records.		2.11 - Configuration Management Process, Section 2.6, Configuration Audits	TDP
	Controlling interfaces to other systems.		2.11 - Configuration Management Process, Section 2.6.1, Physical Configuration	TDP
	Identifying tools used to build and maintain the system.		2.11 - Configuration Management Process, Section 2.7, Configuration Management Resources	TDP
VI, 9.1.3	**Application of Configuration Management Requirements**			
	Requirements for configuration management apply to all components of voting systems regardless of the specific technologies employed. These components include:	*Vol. II, 2.11 TDP, Configuration Management Plan*		
	Software		2.11 - Configuration Management Process, Section 2.4, Configuration Management	TDP
	Hardware		2.11 - Configuration Management Process, Section 2.4, Configuration Management	TDP
	Communications		2.11 - Configuration Management Process, *ff*	TDP
	Documentation			TDP
	Identification and naming and conventions (including changes to these conventions) for software programs and data files;		2.11 - Configuration Management Process, Section 2, Configuration Management Requirements	TDP
	Development and testing artifacts such as test data and scripts		2.11 - Configuration Management Process, Section 2.2, Change Control Procedures	TDP
	File archiving and data repositories.		2.11 - Configuration Management Process, Section 2.4, Configuration Management	TDP
VI, 9.2	**Configuration Management Policy**			
	The vendor shall describe its policies for configuration management in the Technical Data Package. This description shall address the following elements:	*Vol. II, 2.11.1 TDP, Configuration Management Plan, Configuration Management Policy; Vol. II, 7.4.1 Configuration Management Policy*		
	Scope and nature of configuration management program activities		2.11 - Configuration Management Process, Section 2, Configuration Management Requirements	TDP
	Breadth of 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 policies and practices of suppliers apply to particular components, subsystems or other defined system elements.		2.11 - Configuration Management Process, Section 2, Configuration Management Requirements	TDP
VI, 9.3	**Configuration Identification**			
	Configuration identification is the process of identifying, naming, and acquiring configuration items. Configuration identification encompasses all system components.			
VI, 9.3.1	**Structuring and Naming Configuration Items**			
	The vendor shall describe the procedures and conventions used to classify configuration items into categories and subcategories, uniquely number or otherwise identify items and name configuration items.	*Vol. II, 2.11.2 TDP, Configuration Identification; Vol. II, 7.4.2 Configuration Identification*	2.11 - Configuration Management Process, Section 2, Configuration Management Requirements	TDP
VI, 9.3.2	**Version Conventions**			
	When a system component is part of a higher level system element such as a subsystem, the vendor shall describe the conventions used to:	*Vol. II, 2.11.2 TDP, Configuration Identification; Vol. II 7.4.2 Configuration Identification*		
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;		2.11 - Configuration Management Process, Section 2, Configuration Management Requirements	TDP
b.	Uniquely number or otherwise identify versions; and		2.11 - Configuration Management Process, Section 2, Configuration Management Requirements	TDP
c.	Name versions.		2.11 - Configuration Management Process, Section 2, Configuration Management Requirements	TDP
VI, 9.4	**Baseline and Promotion Procedures**			

Document is uncontrolled when printed.

Wyle, Huntsville, AL

	The vendor shall establish formal procedures and conventions for establishing and providing a complete description of the procedures and related conventions used to:	*Vol. II, 2.11.3 TDP, Configuration Management Plan, Baseline and Promotion; Vol. II, 7.4.3 Baseline, Promotion, and Demotion Procedures*		
a.	Establish a particular instance of a component as the starting baseline;		2.11 - Configuration Management Process, Section 2, Configuration Management Requirements	TDP
b.	Promote subsequent instances of a component to baseline status as development progresses through to completion of the initial completed version released to accredited test lab for qualification testing; and		2.11 - Configuration Management Process, Section 2, Configuration Management Requirements	TDP
c.	Promote subsequent instances of a component to baseline status as the component is maintained throughout its life cycle until system retirement (i.e., the system is no longer sold or maintained by the vendor).		2.11 - Configuration Management Process, Section 2, Configuration Management Requirements	TDP
VI, 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:	*Vol. II, 2.11.4 TDP, Configuration Management Plan, Configuration Control Procedures; Vol. II, 7.4.4 Configuration Control Procedures*		
a.	Develop and maintain internally developed items;		2.11 - Configuration Management Process, Section 2.3, Problem and Incident Management	TDP
b.	Acquire and maintain third-party items;		2.11 - Configuration Management Process, Section 2.3, Problem and Incident Management	TDP
c.	Resolve internally identified defects for items regardless of their origin; and		2.11 - Configuration Management Process, Section 2.3, Problem and Incident Management	TDP
d.	Resolve externally identified and reported defects (i.e., by customers and accredited test labs).		2.11 - Configuration Management Process, Section 2.3, Problem and Incident Management	TDP
VI, 9.6	**Release Process**			
	The release process is the means by which the vendor installs, transfers, or migrates the system to the accredited test lab and, eventually, to its customers. The vendor shall establish such procedures and related conventions, providing a complete description of those used to:	*Vol. II, 2.11.5 TDP, Configuration Management Plan, Release Process; Vol. II, 7.4.5 Release Process*		
a.	Perform a first release of the system to an accredited test lab;		2.11 - Configuration Management Process, Section 2.4, Configuration Management Requirements	TDP
b.	Perform a subsequent maintenance or upgrade release of the system, or a particular components, to an accredited test lab;		2.11 - Configuration Management Process, Section 2.4, Configuration Management Requirements	TDP
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 version		2.11 - Configuration Management Process, Section 2.4, Configuration Management Requirements	TDP
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 qualified system version.		2.11 - Configuration Management Process, Section 2.4, Configuration Management Requirements	TDP
VI, 9.7	**Configuration Audits**			
VI, 9.7.1	**Configuration Audits, Physical Configuration Audit**			
	The Physical Configuration Audit is conducted by the accredited test lab to compare the voting system components submitted for certification to the vendor's technical documentation. For the PCA, a vendor shall provide:	*Vol. II, 2.11.6 TDP, Configuration Management Plan, Configuration Audits; Vol. II, 6.6 System Integration Testing, Physical Configuration Audit; Vol. II, 7.4.6 Configuration Audits*		
a.	Identification of all items that are to be a part of the software release		2.05 - EMS Software Design And Specification, Section 6, Software Operating Environment 2.05 - ICE Software Design and Specification, Section 3.2, Software Operating Environment 2.05 - ICP Software Design And Specification, Section 3.2, Software Operating Environment 2.05 - ICCSoftwareDesignAndSpecification, Section 3.2, Software Operating Environment 2.11 - Configuration Management Process, Section 2.4, Configuration Management	TDP
b.	Specification of compiler (or choice of compilers) to be used to generate executable programs	*see Vol. II, 2.5.5.2 Software Environment*	2.05 - EMS Software Design And Specification, Section 6, Software Operating Environment 2.05 - ICE Software Design and Specification, Section 3.2, Software Operating Environment 2.05 - ICP Software Design And Specification, Section 3.2, Software Operating Environment 2.05 - ICCSoftwareDesignAndSpecification, Section 3.2, Software Operating Environment 2.11 - Configuration Management Process, Section 2.4, Configuration Management	TDP
c.	Identification of all hardware that interfaces with the software		2.11 - Configuration Management Process, Section 2.4, Configuration Management	TDP
d.	Configuration baseline data for all hardware that is unique to the system		2.11 - Configuration Management Process, Section 2.4, Configuration Management	TDP
e.	Copies of all software documentation intended for distribution to users, including program listings, specifications, operations manual, voter manual, and maintenance manual		2.11 - Configuration Management Process, Section 2.4, Configuration Management	TDP
f.	User acceptance test procedures and acceptance criteria		2.11 - Configuration Management Process, Section 2.4, Configuration Management	TDP

Wyle, Huntsville, AL

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		2.11 - Configuration Management Process, Section 2.4, Configuration Management	TDP
h.	Complete descriptions of its procedures and related conventions used to support this audit by:			
	i. Establishing a configuration baseline of the software and hardware to be tested		2.11 - Configuration Management Process, Section 2.4, Configuration Management	TDP
	ii. Confirming whether the system documentation matches the corresponding system components		2.11 - Configuration Management Process, Section 2.4, Configuration Management	TDP
VI, 9.7.2	**Configuration Audits, 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:	*Vol. II, 2.11.6 TDP, Configuration Management Plan, Configuration Audits; Vol. II, 6.7 System Integration Testing, Functional Configuration Audit; Vol. II, 7.4.6 Configuration Audits*		
a.	Completely describe its procedures and related conventions used to support this audit for all system components		2.11 - Configuration Management Process, Section 2.6.2 Functional Configuration	TDP
b.	Provide the following information to support this audit:			
	i. Copies of all procedures used for module or unit testing, integration testing, and system testing		2.11 - Configuration Management Process, Section 2.6.2 Functional Configuration	TDP
	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		2.11 - Configuration Management Process, Section 2.6.2 Functional Configuration	TDP
	iii. Records of all tests performed by the procedures listed above, including error corrections and retests		2.11 - Configuration Management Process, Section 2.6.2 Functional Configuration	TDP
VI, 9.8	**Configuration Management Resources**			
	Vendors may choose the specific [automated] tools they use to perform the record keeping, auditing, and reporting activities of the configuration management standards. The resources documentation requirements 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 proved a complete description of procedures and related practices to maintaining information about:	*Vol. II, 2.11.7 TDP, Configuration Management Plan, Configuration Management Resources; VII 7.4.7 Configuration Management Resources*		
a.	Specific tools used, current version, and operating environment;		2.11 - Configuration Management Process, Section 2.7, Configuration Management Resources.	TDP
b.	Physical location of the tools, including designation of computer directories and files; and		2.11 - Configuration Management Process, Section 2.7, Configuration Management Resources.	TDP
c.	Procedures and training materials for using the tools.		2.11 - Configuration Management Process, Section 2.7, Configuration Management Resources.	TDP

WHVS07.11
Document is uncontrolled when printed.

Wyle, Huntsville, AL