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1		**Technical Data Package Review per Voluntary Voting System Guidelines (VVSG) Ver. 1.0**				**Compliance Object**
2			# EVS5000 This matrix is the most up to date edition as of 3-15-2013	**Corresponding VVSG requirement(s) reference**	**I. WHVS07 Voting System Test Procedure** **1. Wyle Test Plan** **A. WHVS07.1, Technical Data Package** **B. WHVS07.10 Materials Required for Testing** **C. WHVS07TR, Test Report Template** **D. WHVS07.11, TDP Review Checklist Matrix** **1. WoP2a, Receiving TDP** **a. Vendor Media Receipt Log** **2. WoP 3, TDP Review** **a. WHV07.11TDP, (Review Matrix FINAL) Compliance Matrix** **b. Issues Matrix** **3. WHVS07.A6, Customer Communication Log** **E. WH1066, Notice of Anomaly** **According to the Election Systems & Software, EVS5000 Voting System Overview:** ES&S Voting System version 5.0.0.0 (EVS5000) is ES&S″s first voting system to fully comply with the EAC 2005 Voluntary Voting System Guidelines, Version 1.0. The system includes a number of new products and features including ES&S newest election management software solution, ElectionWare, and functionality to network multiple ES&S DS850 central ballot scanners to a single reporting PC for high-speed counting and results accumulation. ES&S Voting System version 5.0.0.0 is the next step in providing voting systems capable of meeting the varied needs of every voting jurisdiction, and reaffirms ES&S″s commitment to providing customers with the most accurate, reliable and secure voting systems in the world.	
3	**PREFACE**				ES&S Voting System 5.0.0.0 provides a scalable, end-to-end election system for jurisdictions with widely varied requirements. The system includes: - ElectionWare Election Management System software for defining contents, candidates and ballot formats and performing results post-processing. -The DS200 precinct ballot tabulator. - The ES&S AutoMARK, a proven ballot accessible marking system that supports audio, touchscreen and tactile keypad inputs for ballot marking. - The DS850 central ballot scanner for high speed tabulation of mail ballots, absentee ballots or Election Day ballots. Jurisdictions can network multiple DS850 scanners to a central reporting PC for large central count operations. - Election Reporting Manager software for results consolidation and report generation. ES&S Voting System 5.0.0.0 system components are divided into the following functional groups: - Election Management System - Central Ballot Tabulator - Electronic Ballot Marking Devices - Precinct Ballot Tabulators -Third party computing equipment and peripherals	
4		**Volume**	**VVSG Requirement**		**Location(s) where verified is located/comments by Wyle:**	
5		**VII, Sec. 2**	**Description of the Technical Data Package**			
6		**VII, 2.1**	**Scope**			

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7			This subsection [of the VVSG] contains a description of vendor documentation relating to the voting system that shall be submitted with the system as a precondition of national certification testing. **These items are necessary to define the product and its method of operation, to provide technical and test data supporting the vendor's claims of the system's functional capabilities and performance levels; and to document instructions and procedures governing system operation and field maintenance.** 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 Program Manual Vol. 1.0 Sect. 4.3.1.6*	EAC Approval of Voting System Testing Application Package Letter to ES&S, December 02, 2011	Letter
8			Both formal documentation and notes of the vendor's system development process shall be submitted for qualification tests. Documentation describing the system development process permits assessment of the vendor's systematic efforts to develop and test the system and correct defects. Inspection of this process also enables the design of a more precise test plan. 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.		EAC Approval of Voting System Testing Application Package Letter to ES&S, December 02, 2011	Letter
9		**VII, 2.1.1**	**Content and Format**			
10			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.		EVS5000_PRE03_TOC EVS5000_PRE01_BinderCover_3-in EVS5000_PRE02_Cover Page EVS5000_PRE05_Requirements Matrix	Spreadsheet
11		**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, Documentation*		
12			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*		
13		a.	System Configuration Overview		EVS5000_OVR00 EVS5000_OVR04_AppxD_CIF-AutoMark EVS5000_OVR05_AppxD_CIF-DS200 EVS5000_OVR07_AppxE_ConformityStatement	TDP
14		b.	System Functionality Description		EVS5000_SFD00	TDP

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15		c.	System Hardware Specifications		EVS5000_SHS00_DS200 EVS5000_SHS00_DS850 AutoMARK_ESS_System_Hardware_Overview_AQS-18-5002-000-S AutoMARK_ESS_System_Hardware_Specification_AQS-18-5000-001-F EVS5000_SHS00_AutoMARK01_MODELS EVS5000_SHS00_AutoMARK02_BOM EVS5000_SHS00_DS20001_BOM EVS5000_SHS00_DS85001_BOM EVS5000_SHS01_AutoMARK1.1-1.2 BOM EVS5000_SHS01_AutoMARK1.3 BOM CABLE_PHASE2 5K509175-LA 5K509177-L- 5K509618_SIP_B PEB_RevB PSB_RevB SBC_640117-4000C-2AGP Scanner_PI211MC-B4DR May04 SD_GGB_REV_A SIB_A3 USD-A-SCH	TDP
16		d.	Software Design and Specifications		AutoMARK ESS Ballot Image Processing Specification AQS-18-5002-003-S.pdf AutoMARK ESS Ballot Scanning and Printing Specification AQS-18-5002-007-S.pdf AutoMARK ESS Driver API Specification AQS-18-5000-002-F.pdf AutoMARK ESS Embedded Database Interface Specifications AQS-18-5002-005-S AutoMARK ESS GUI Design Specifications AQS-18-5001-005-R AutoMARK ESS Operating Software Design Specifications AQS-18-5001-002-R AutoMARK ESS Operations and Diagnostic Log Specs AQS-18-5002-004-S AutoMARK ESS Programming Specifications Details AQS-18-5001-011-R AutoMARK ESS Software Design Spec AQS-18-5001-004-S AutoMARK ESS Software Development Environment AQS-18-5001-006-R AutoMARK ESS Software Diagnostics Specifications AQS-18-5000-004-F AutoMARK ESS Software Standards Specification AQS-18-4000-000-S ESSSYS_D_D_0100_Coding Standards ESSSYS_SG_P_1000_SystemDevProgram EVS5000_SDS00_AutoMARK SDS Overview EVS5000_SDS00_DS200 EVS5000_SDS00_DS20001_Flowcharts EVS5000_SDS00_DS20002_Reports EVS5000_SDS00_DS20005_System Messages EVS5000_SDS00_DS20006_Results Media XMLs EVS5000_SDS00_DS850 EVS5000_SDS00_ElectionWare EVS5000_SDS00_ElectionWare01_EW Specification and Interfaces EVS5000_SDS00_ElectionWare02_PB Specification and Interfaces EVS5000_SDS00_ElectionWare05_System Process Flowchart EVS5000_SDS00_ElectionWare07_PostGreSQL Description EVS5000_SDS00_ElectionWare08_Reports EVS5000_SDS00_ElectionWare11_DS200 and DS850 Media Desc EVS5000_SDS00_ElectionWare12_AutoMARK Media Description and Structure EVS5000_SDS00_ElectionWare13_ERM Media Description EVS5000_SDS00_ElectionWare14_System Messages EVS5000_SDS00_ERM EVS5000_SDS00_ERM01_Appendices EVS5000_SDS00_UELS	TDP

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17	TDP DOCUMENTS	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.***	EVS5000_STP00 EVS5000_TC00_AutoMARK EVS5000_TC00_DS200 EVS5000_TC00_DS850 EVS5000_TC00_ElectionWare01_Manage EVS5000_TC00_ElectionWare02_Define EVS5000_TC00_Electionware03_Design EVS5000_TC00_Electionware04_Deliver EVS5000_TC00_Electionware05_Resolve EVS5000_TC00_ERM	TDP
18		f.	System Security Specifications		AutoMARK ESS System Security Specification AQS-18-5002-001-S EVS5000_SSS00 EVS5000_SSS01_JSP Template EVS5000_SSS002.08_AutoMARK Quick Hash Procedure EVS5000_SSS02.01_EMS_PC_SecScriptDesc EVS5000_SSS02.01_UbuntuLiveCD EVS5000_SSS02.05_EMSWorkstation Validation Guide EVS5000_SSS02.06_DS200Quick Hash Procedure EVS5000_SSS02.07_DS850Quick Hash Procedure EVS5000_SSS02_Hardening Procedures EVS5000_SSS03_Voting System Validation Guide01_File Listing_DS200 EVS5000_SSS03_Voting System Validation Guide02_File Listing_AutoMARK EVS5000_SSS03_Voting System Validation Guide04_File Listing_ElectionWare EVS5000_SSS03_Voting System Validation Guide05_File Listing_RMS EVS5000_SSS03_Voting System Validation Guide06_File_Listing_ELS EVS5000_SSS03_Voting System Validation Guide07_File Listing_VATPreview EVS5000_SSS03_Voting System Validation Guide08_File Listing_ERM EVS5000_SSS03_Voting System Validation Guide09_File Listing_DS850 EVS5000_SSS07_PhysEquipmentSecurityBestPract EVS5000_SSS09_WinOS_SECBaseSettings EVS5000_SSS02.01_HardeningScripts [Folder] EVS5000_SSS02.06.01_DS200Quick Hash Scripts [Folder] EVS5000_SSS02.07.01_DS850QuickHashScripts [Folder] EVS5000_SSS02.08.01_AutoMARKHashTools [Folder] EVS5000_SSS02.09.01_EMS Quick Hash Scripts [Folder]	TDP
19		g.	User/System Operations Procedures		EVS5000_SOP00_AMVAT EVS5000_SOP00_DS200 EVS5000_SOP00_DS850 EVS5000_SOP00_ElectionWare01_Admin EVS5000_SOP00_ElectionWare02_Define EVS5000_SOP00_ElectionWare03_Design EVS5000_SOP00_ElectionWare04_Deliver EVS5000_SOP00_ElectionWare05_Results EVS5000_SOP00_ELS EVS5000_SOP00_ERM EVS5000_SOP00_NetworkConfigGuide EVS5000_SOP00_AMVAT.01_VerficationElection [Folder] EVS5000_ORPT02_BallotProductionGuide [In Folder 13_ATTACHMENTS]	TDP
20		h.	System Maintenance Procedures		EVS5000_SMM00_AMVAT EVS5000_SMM00_DS200 EVS5000_SMM00_DS850	TDP
21		i.	Personnel Deployment and Training Requirements		ESSSYS_T_D_1000_TrainingProgram	TDP

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22		j.	Configuration Management Plan		ESSSYS_CM_P_1000_ESSCMProgram ESSSYS_DOC_P_1000_TDProgram EVS5000_CMP10_BUILD DOCUMENTATION [Folder] EVS5000_CMP10_BLD00_SEC00_FinalTrustedBuildOutputStagingGuide EVS5000_CMP10_BLD01_SEC01_EMSBuildProcedure EVS5000_CMP10_BLD01_SEC02_EMSBuildEnvironment EVS5000_CMP10_BLD01_SEC03_WindowsAndVirusProtectionUpdates EVS5000_CMP10_BLD02_SEC01_AutoMARKBuildProcedure EVS5000_CMP10_BLD02_SEC02_AutoMARKBuildEnvironment EVS5000_CMP10_BLD03_SEC01_DS200AncillaryBuildProcedure EVS5000_CMP10_BLD03_SEC02_DS200AncillaryBuildEnvironment EVS5000_CMP10_BLD05_SEC01_DS850FirmwareBuildProcedure EVS5000_CMP10_BLD07_SEC01_DS200FirmwareBuildProcedure	TDP
23		k.	Quality Assurance Program		ESSSYS_M_I_0501_WhatRequriesECO ESSSYS_M_P_0500_ECOProcess ESSSYS_M_P_1000_MNFQualityAssurancePlan ESSSYS_Q_P_0100_SoftwareQualityAssuranceProgram EVS5000_QAP00_MN03_ECOPolicies and Procedures EVS5000_QAP00_SWF01_Software_Firmware_Acceptance EVS5000_QAP01_ISO cert Pivot EVS5000_QAP03_QA manual Pivot EVS5000_QAP07_DataWin Quality Assurance Manual EVS5000_QAP08_DATAWIN ISO Certification Certificate ESSSYS_M_FM_AcceptanceChecklists [folder] 850_AccptChklst_revC 850_OAccptChklst_revB AutoMark_AccptChklst_001_Rev.A AutoMark_QC_Chklst_001Rev.A Carrying Case QC sheet rev 1.0 DS200_AccptChklst_001Rev.A DS200_AccptChklst_001RevB EVS5000_QAP00_MN01_AcceptanceTesting [folder] 850_AccptChklst_revB.pdf 850_DemoChklst_revA.pdf 850_OAccptChklst_revA.pdf AutoMark_AccptChklst_001_Rev.A.pdf AutoMark_QC_Chklst_001Rev.A.pdf DS200_AccptChklst_001Rev.A.pdf EVS5000_QAP00_MN01.01_AcceptanceTestProcedure_DS200.pdf EVS5000_QAP00_MN02.01_AcceptanceTestProcedure_DS850.pdf	TDP
24		l.	System Change Notes		None	TDP
25		**VII, 2.1.1.2**	**Required Content for System Changes and Recertification**			
26			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 - EVS500 is an Initial Certification	TDP
27		**VII, 2.1.1.3**	**Format**			
28	**PREFA**		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.		EVS5000_PRE03_TOC EVS5000_PRE01_BinderCover_3-in EVS5000_PRE02_Cover Page EVS5000_PRE05_Requirements Matrix	TDP

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29	CE		A cross-index shall be provided indicating the portions of the documents that are responsive to documentation requirements for any item presented.		EVS5000_PRE03_TOC EVS5000_PRE01_BinderCover_3-in EVS5000_PRE02_Cover Page EVS5000_PRE05_Requirements Matrix	TDP
30		**VII, 2.1.3**	**Protection of Proprietary Information**			
31			The vendor shall identify all documents, or portions of documents, containing proprietary information not approved for public release.		Cover Pages & "Proprietary Information" Sections of Individual TDP Core Documents	TDP
32		**VII, 2.2**	**System Overview**			
33			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.		EVS5000_OVR00 EVS5000_OVR04_AppxD_CIF-AutoMark EVS5000_OVR05_AppxD_CIF-DS200 EVS5000_OVR07_AppxE_ConformityStatement	TDP
34		**VII, 2.2.1**	**System Description**			
35			The system description shall include written descriptions, drawings and diagrams that present:			
36		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).		EVS5000_OVR00, Voting Systems Overview, Section 1.2, Functional Components and Subsystems	TDP
37		b.	A description of the operational environment of the system that provides an overview of the hardware, software, and communications structure.		EVS5000_OVR00, Voting Systems Overview, Section 1.3, Operational Environment	TDP
38		c.	A concept of operations that explains each system function, and how the function is achieved in the design.		EVS5000_OVR00, Voting Systems Overview, Section 1.4, Concept of Operation	TDP
39		d.	Descriptions of the functional and physical interfaces between subsystems and components.		EVS5000_OVR00, Voting Systems Overview, Section 1.5, Functional and Physical Interfaces	TDP
40		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:			
41			1) Operating systems	*also Vol. I, 7.5.2 Telecomm., Prot. Against External Threats*	EVS5000_OVR00, Voting Systems Overview, Section 1.6, COTS Hardware and Software	TDP
42			2) Database software	*see Vol. II, 2.5.8 Sys. Database*	EVS5000_OVR00, Voting Systems Overview, Section 1.6, COTS Hardware and Software	TDP
43			3) Communications routers	*see Vol. 1, 7.5.2 Prot. Against External Threats*	EVS5000_OVR00, Voting Systems Overview, Section 1.6, COTS Hardware and Software	TDP
44			4) Modem drivers	*see Vol. 1, 7.5.2 Prot. Against External Threats*	EVS5000_OVR00, Voting Systems Overview, Section 1.6, COTS Hardware and Software	TDP
45			5) Dial-up networking software	*see Vol. 1, 7.5.2 Prot. Against External Threats*	EVS5000_OVR00, Voting Systems Overview, Section 1.6, COTS Hardware and Software	TDP
46	OVERVIEW	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*		
47			1) File specifications, data objects, or other means used for information exchange.		EVS5000_OVR00, Voting Systems Overview, Section 1.7, Interfaces Among Components	TDP
48			2) The public standard used for such file specifications, data objects, or other means.		EVS5000_OVR00, Voting Systems Overview, Section 1.7, Interfaces Among Components	TDP
49		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.		EVS5000_OVR00, Voting Systems Overview, Section 1.7, Interfaces Among Components	TDP
50		**VII, 2.2.2**	**System Performance**			
51			The vendor shall provide system performance information including:			

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52		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*	EVS5000_OVR00, Voting Systems Overview, Section 2.1, Performance Characteristics	TDP
53		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; VoI. I, 7.9.4 Equipment Security and Reliability*	EVS5000_OVR00, Voting Systems Overview, Section 2.2, Quality Attributes	TDP
54		c.	Provisions for safety, security, privacy, and continuity of operation.		EVS5000_OVR00, Voting Systems Overview, Section 2.2, Quality Attributes	TDP
55		d.	Design constraints, applicable standards, and compatibility requirements.		EVS5000_OVR00, Voting Systems Overview, Section 2.3, Design Constraints, Applicable Standards and Compatibility Requirements	TDP
56		**VII, 2.3**	**System Functionality Description**			
57			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.		EVS5000_SFD00, Section I-B, Scope	TDP
58			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).*	EVS5000_SFD00, Section 2, Functional Requirements	TDP
59		a.	The vendor shall organize the presentation of required capabilitie 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]		EVS5000_SFD00, Section 2.1, Overall System Capabilities	TDP
60			**[Vol. I, 2.1 Overall System Capabilities]:** These functional capabilities apply throughout the election process. They include:			
61			2.1.1 Security		EVS5000_SFD00, Section 2.1.1, Security	TDP
62			2.1.2 Accuracy		EVS5000_SFD00, Section 2.1.2, Accuracy	TDP
63			2.1.3 Error Recovery		EVS5000_SFD00, Section 2.1.3, Error Recovery	TDP
64			2.1.4 Integrity		EVS5000_SFD00, Section 2.1.4, Integrity	TDP
65			2.1.5 System Auditability		EVS5000_SFD00, Section 2.1.5, System Audit	TDP
66			2.1.6 Election Management System		EVS5000_SFD00, Section 2.1.6, Election Management System	TDP
67			2.1.7 Vote Tabulation		EVS5000_SFD00, Section 2.1.7, Vote Tabulation Program	TDP
68			2.1.8 Ballot Counters		EVS5000_SFD00, Section 2.1.8, Ballot Counter	TDP
69	F		2.1.9 Telecommunications		EVS5000_SFD00, Section 2.1.9, Telecommunications	TDP

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70	FUNCTIONAL DESCRIPTION		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*	EVS5000_SFD00, Section 2.1.10, Data Retention	TDP
71			**[Vo. I, 2.2 Pre-voting Capabilities]** These functional capabilities are used to prepare the voting system for voting. They include:			
72			2.2.1 Ballot Preparation; 2.2.1.1 General Capabilities; 2.2.1.2 Ballot Formatting; 2.2.1.3 Ballot Production		EVS5000_SFD00, Section 2.2.1, Ballot Preparation	TDP
73			2.2.2 Election Programming		EVS5000_SFD00, Section 2.2.2, Election Programming	TDP
74			2.2.3 Ballot and Program Installation and Control		EVS5000_SFD00, Section 2.2.3, Ballot Program Installation and Control	TDP
75			2.2.4 Readiness Testing		EVS5000_SFD00, Section 2.2.4, Readiness Testing	TDP
76			2.2.5 Verification at the Polling Place		EVS5000_SFD00, Section 2.2.5, Verification at the Polling Place	TDP
77			2.2.6 Verification at the Central Location		EVS5000_SFD00, Section 2.2.6, Verification at the Central Count Location	TDP
78			**[Vol. I, 2.3 Voting Capabilities]:** These capabilities include:			
79			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		EVS5000_SFD00, Section 2.3.1, Opening the Polls	TDP
80			2.3.2 Activating the Ballot (DRE Systems)		EVS5000_SFD00, Section 2.3.2, Activating the Ballots (DRE Systems)	TDP
81			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		EVS5000_SFD00, Section 2.3.3, Casting a Ballot	TDP
82			**Vol. I, 2.4 Post-voting Capabilities]:** These capabilities apply after all votes have been cast. They include:			
83			2.4.1 Closing the polls		EVS5000_SFD00, Section 2.4.1, Closing the Polls	TDP
84			2.4.2 Consolidating Vote Data		EVS5000_SFD00, Section 2.4.2, Consolidating Vote Data	TDP
85			2.4.3 Producing Reports		EVS5000_SFD00, Section 2.4.3, Producing Reports	TDP
86			2.4.4 Broadcasting Results		EVS5000_SFD00, Section 2.4.4, Broadcasting Results	TDP
87			**[Vol. I, 2.5 Maintenance, Transportation and Storage Capabilities]:**			
88			2.5 Maintenance, Transportation, and Storage		EVS5000_SFD00, Section 2.5, Maintenance, Transportation and Storage	TDP
89		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).*	EVS5000_SFD00, Section 2.1.11, Additional Overall Capabilities EVS5000_SFD00, Section 2.2.7, Additional Pre-Voting Requirements EVS5000_SFD00, Section 2.3.4, Additional Voting Capabilities or Requirements EVS5000_SFD00, Section 2.4.5, Additional Post-Voting Capabilities or Requirements EVS5000_SFD00, Section 2.5.1, Additional Maintenance and Transportation Capabilities or Requirements	TDP
90		c.	Required capabilities that may be bypassed or deactivated during installation or operation by the user shall be clearly indicated.		EVS5000_SFD00	TDP
91		d.	Additional capabilities that function only when activated during installation or operation by the user shall be clearly indicated.		EVS5000_SFD00	TDP
92		e.	Additional capabilities that normally are active but may be bypassed or deactivated during installation or operation by the user shall be clearly indicated.		EVS5000_SFD00	TDP

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93		**VII, 2.4**	**System Hardware Specification**			
94			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;*	EVS5000_SHS00_DS200 EVS5000_SHS00_DS850 AutoMARK_ESS_System_Hardware_Overview_AQS-18-5002-000-S AutoMARK_ESS_System_Hardware_Specification_AQS-18-5000-001-F EVS5000_SHS00_AutoMARK01_MODELS EVS5000_SHS00_AutoMARK02_BOM EVS5000_SHS00_DS20001_BOM EVS5000_SHS00_DS85001_BOM EVS5000_SHS01_AutoMARK1.1-1.2 BOM EVS5000_SHS01_AutoMARK1.3 BOM CABLE_PHASE2 5K509175-LA 5K509177-L- 5K509618_SIP_B PEB_RevB PSB_RevB SBC_640117-4000C-2AGP Scanner_PI211MC-B4DR May04 SD_GGB_REV_A SIB_A3 USD-A-SCH	TDP
95		**VII, 2.4.1**	**System Hardware Characteristics**			
96	**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*		
97		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.		EVS5000_SHS00_DS200, Section 1.2, System Performance Characteristics Overview EVS5000_SHS00_DS850, Section 1.2, System Performance Characteristics Overview AutoMARK_ESS_System_Hardware_Specification_AQS-18-5000-001-F, Section 1A, Performance Characteristics	TDP
98		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*	EVS5000_SHS00_DS200, Section 1.3, System Physical Characteristics Overview EVS5000_SHS00_DS850, Section 1.3, System Physical Characteristics Overview AutoMARK_ESS_System_Hardware_Specification_AQS-18-5000-001-F, Section 1B, Physical Characteristics	TDP
99		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*	EVS5000_SHS00_DS200, Section 1.4, System Reliability Overview EVS5000_SHS00_DS850, Section 1.4, System Reliability Overview AutoMARK_ESS_System_Hardware_Specification_AQS-18-5000-001-F, Section 1D, Reliablity	TDP
100		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*	EVS5000_SHS00_DS200, Section 1.5, System Maintainability Overview EVS5000_SHS00_DS850, Section 1.5, System Maintainability Overview AutoMARK_ESS_System_Hardware_Specification_AQS-18-5000-001-F, Section 1E, Maintainability	TDP
101		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*	EVS5000_SHS00_DS200, Section 1.6, System Environmental Characteristics Overview EVS5000_SHS00_DS850, Section 1.6, System Environmental Characteristics Overview AutoMARK_ESS_System_Hardware_Specification_AQS-18-5000-001-F, Section 1H, Environmental Conditions	TDP
102		**VII, 2.4.2**	**Design and Construction**			

	A	B	C	D	F	G
103			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*	EVS5000_SHS00_DS200, Section 3, Design and Construction EVS5000_SHS00_DS850, Section 3, Design and Construction AutoMARK_ESS_System_Hardware_Specification_AQS-18-5000-001-F, Section 2, Design and Constuction	TDP
104			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:		EVS5000_SHS00_DS200, Section 3, Design and Construction EVS5000_SHS00_DS850, Section 3, Design and Construction AutoMARK_ESS_System_Hardware_Specification_AQS-18-5000-001-F, Section 2, Design and Constuction	TDP
105		a.	Materials, processes, and parts used in the system, their assembly, and the configuration control measures to ensure compliance with the system specification.		EVS5000_SHS00_DS200, Section 2.3.1 Materials , Processes and Parts EVS5000_SHS00_DS850, Section 2.3.1 Materials , Processes and Parts AutoMARK_ESS_System_Hardware_Specification_AQS-18-5000-001-F, Section 2A, Materials, Processes, and Parts	TDP
106		b.	The electromagnetic environment generated by the system.		EVS5000_SHS00_DS200, Section 2.1.2, Environmental Requiremnts EVS5000_SHS00_DS850, Section 2.1.2, Environmental Requiremnts AutoMARK_ESS_System_Hardware_Specification_AQS-18-5000-001-F, Section 1H, Environmental Conditions	TDP
107		c.	Operator and voter safety considerations, and any constraints on system operations or the use environment.		EVS5000_SHS00_DS200, Section 2.3.8, Safety EVS5000_SHS00_DS850, Section 2.3.8, Safety AutoMARK_ESS_System_Hardware_Specification_AQS-18-5000-001-F, Section 2C, Operator and Voter Safety Conditions	TDP
108		d.	Human factors considerations, including provisions for access by disabled voters.		EVS5000_SHS00_DS200, Section 1.3, System Physical Characteristics Overview N/ A- DS850 AutoMARK_ESS_System_Hardware_Specification_AQS-18-5000-001-F, Section 2D, Human Engineering Considerations	TDP
109		**VII, 2.5**	**Software Design and Specification**			
110			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.		AutoMARK ESS Ballot Image Processing Specification AQS-18-5002-003-S.pdf AutoMARK ESS Ballot Scanning and Printing Specification AQS-18-5002-007-S.pdf AutoMARK ESS Driver API Specification AQS-18-5000-002-F.pdf AutoMARK ESS Embedded Database Interface Specifications AQS-18-5002-005-S AutoMARK ESS GUI Design Specifications AQS-18-5001-005-R AutoMARK ESS Operating Software Design Specifications AQS-18-5001-002-R AutoMARK ESS Operations and Diagnostic Log Specs AQS-18-5002-004-S AutoMARK ESS Programming Specifications Details AQS-18-5001-011-R AutoMARK ESS Software Design Spec AQS-18-5001-004-S AutoMARK ESS Software Development Environment AQS-18-5001-006-R AutoMARK ESS Software Diagnostics Specifications AQS-18-5000-004-F AutoMARK ESS Software Standards Specification AQS-18-4000-000-S ESSSYS_D_D_0100_Coding Standards ESSSYS_SG_P_1000_SystemDevProgram EVS5000_SDS00_AutoMARK SDS Overview EVS5000_SDS00_DS200 EVS5000_SDS00_DS20001_Flowcharts EVS5000_SDS00_DS20002_Reports EVS5000_SDS00_DS20005_System Messages EVS5000_SDS00_DS20006_Results Media XMLs EVS5000_SDS00_DS850 EVS5000_SDS00_ElectionWare EVS5000_SDS00_ElectionWare01_EW Specification and Interfaces EVS5000_SDS00_ElectionWare02_PB Specification and Interfaces EVS5000_SDS00_ElectionWare05_System Process Flowchart EVS5000_SDS00_ElectionWare07_PostGreSQL Description EVS5000_SDS00_ElectionWare08_Reports EVS5000_SDS00_ElectionWare11_DS200 and DS850 Media Desc EVS5000_SDS00_ElectionWare12_AutoMARK Media Description and Structure EVS5000_SDS00_ElectionWare13_ERM Media Description EVS5000_SDS00_ElectionWare14_System Messages EVS5000_SDS00_ERM EVS5000_SDS00_ERM01_Appendices EVS5000_SDS00_UELS	TDP
111		**VII, 2.5.1**	**Purpose and Scope**			

	A	B	C	D	F	G
112			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.		EVS5000_SDS00_AutoMARK SDS Overview, Section 2.5.1, Purpose and Scope EVS5000_SDS00_DS200, Section 2.5.1, Purpose and Scope EVS5000_SDS00_DS850, Section 1, Purpose and Scope EVS5000_SDS00_ElectionWare, Section 1, Purpose and Scope EVS5000_SDS00_ERM, Section 1, Purpose and Scope EVS5000_SDS00_UELS, Section 1, Purpose and Scope	TDP
113		**VII, 2.5.2**	**Applicable Documents**			
114			The vendor shall list all documents controlling the development o the software and its specifications. Documents shall be listed in order of precedence.		EVS5000_SDS00_AutoMARK SDS Overview, Section 2.5.2, Applicable Documents EVS5000_SDS00_DS200, Section 2.5.2, Applicable Documents EVS5000_SDS00_DS850, Section 2, Applicable Documents EVS5000_SDS00_ElectionWare, Section 2, Applicable Documents EVS5000_SDS00_ERM, Section 2, Applicable Documents EVS5000_SDS00_UELS, Section 2, Applicable Documents	TDP
115		**VII, 2.5.3**	**Software Overview**			
116			The vendor shall provide an overview of the software that includes the following items:			
117		a.	A description of the software system concept, including specific software design objectives, and the logic structure and algorithms used to accomplish these objectives.		EVS5000_SDS00_AutoMARK SDS Overview, Section 2.5.3.A, System Software Concept EVS5000_SDS00_DS200, Section 2.5.3.1, System Software Concept EVS5000_SDS00_DS850, Section 3.1, System Software Concept EVS5000_SDS00_ElectionWare, Section 3.1, System Software Concept EVS5000_SDS00_ERM, Section 3.1, System Software Concept EVS5000_SDS00_UELS, Section 3.1, System Software Concept	TDP
118		b.	The general design, operational considerations, and constraints influencing the design of the software.		EVS5000_SDS00_AutoMARK SDS Overview, Section 2.5.3.B, General Design, Operational... EVS5000_SDS00_DS200, Section 2.5.3.2, General Design EVS5000_SDS00_DS850, Section 3.2, General Design EVS5000_SDS00_ElectionWare, Section 3.4, General Design EVS5000_SDS00_ERM, Section 3.2, General Design EVS5000_SDS00_UELS, Section 3.2, General Design	TDP
119		c.	Identification of all software items, indicating items that were:		EVS5000_SDS00_AutoMARK SDS Overview, Section 2.5.3.C, Software Items EVS5000_SDS00_DS200, Section 2.5.3.3, Software Identification EVS5000_SDS00_DS850, Section 3.5, Software Items EVS5000_SDS00_ElectionWare, Section 3.7, Software Item Identification EVS5000_SDS00_ERM, Section 3.5, Software Items EVS5000_SDS00_UELS, Section 3.5, Software Items	TDP
120			1) Written in-house		EVS5000_SDS00_AutoMARK SDS Overview, Section 2.5.3.C, Software Items EVS5000_SDS00_DS200, Section 2.5.3.3, Software Identification EVS5000_SDS00_DS850, Section 3.5, Software Items EVS5000_SDS00_ElectionWare, Section 3.7, Software Item Identification EVS5000_SDS00_ERM, Section 3.5, Software Items EVS5000_SDS00_UELS, Section 3.5, Software Items	TDP
121			2) Procured and not modified		EVS5000_SDS00_AutoMARK SDS Overview, Section 2.5.3.C, Software Items EVS5000_SDS00_DS200, Section 2.5.3.3, Software Identification EVS5000_SDS00_DS850, Section 3.5, Software Items EVS5000_SDS00_ElectionWare, Section 3.7, Software Item Identification EVS5000_SDS00_ERM, Section 3.5, Software Items EVS5000_SDS00_UELS, Section 3.5, Software Items	TDP
122			3) Procured and modified, including descriptions of the modifications to the software and to the default configuration options.		EVS5000_SDS00_AutoMARK SDS Overview, Section 2.5.3.C, Software Items EVS5000_SDS00_DS200, Section 2.5.3.3, Software Identification EVS5000_SDS00_DS850, Section 3.5, Software Items EVS5000_SDS00_ElectionWare, Section 3.7, Software Item Identification EVS5000_SDS00_ERM, Section 3.5, Software Items EVS5000_SDS00_UELS, Section 3.5, Software Items	TDP
123		d.	Additional information for each item that includes:			

	A	B	C	D	F	G
124			1) Item identification		EVS5000_SDS00_AutoMARK SDS Overview, Section 2.5.3.D, Additional Item Information EVS5000_SDS00_DS200, Section 2.5.3.4, Additional Information EVS5000_SDS00_DS850, Section 3.6, Additional Item Information EVS5000_SDS00_ElectionWare, Section 3.8, Additional Item Identification EVS5000_SDS00_ERM, Section 3.6, Additional Item Information EVS5000_SDS00_UELS, Section 3.6, Additional Item Information	TDP
125			2) General description		EVS5000_SDS00_AutoMARK SDS Overview, Section 2.5.3.D, Additional Item Information EVS5000_SDS00_DS200, Section 2.5.3.4, Additional Information EVS5000_SDS00_DS850, Section 3.6, Additional Item Information EVS5000_SDS00_ElectionWare, Section 3.8, Additional Item Identification EVS5000_SDS00_ERM, Section 3.6, Additional Item Information EVS5000_SDS00_UELS, Section 3.6, Additional Item Information	TDP
126			3) Software requirements performed by the item		EVS5000_SDS00_AutoMARK SDS Overview, Section 2.5.3.D, Additional Item Information EVS5000_SDS00_DS200, Section 2.5.3.4, Additional Information EVS5000_SDS00_DS850, Section 3.6, Additional Item Information EVS5000_SDS00_ElectionWare, Section 3.8, Additional Item Identification EVS5000_SDS00_ERM, Section 3.6, Additional Item Information EVS5000_SDS00_UELS, Section 3.6, Additional Item Information	TDP
127			4) Identification of interfaces with other items that provide data to, or receive data from, the item		EVS5000_SDS00_AutoMARK SDS Overview, Section 2.5.3.E, Item Interface Identification EVS5000_SDS00_DS200, Section 2.5.9.1, Interface Identification EVS5000_SDS00_DS850, Section 3.7, Item Interface Identification EVS5000_SDS00_ElectionWare, Section 8, Interfaces EVS5000_SDS00_ERM, Section 3.7, Item Interface Identification EVS5000_SDS00_UELS, Section 3.7, Item Interface Identification	TDP
128			5) Concept of execution for the item		EVS5000_SDS00_AutoMARK SDS Overview, Section 2.5.3.F, Concept of Execution EVS5000_SDS00_DS200, Section 2.5.3, Software Overview EVS5000_SDS00_DS850, Section 3.8, Concept of Execution EVS5000_SDS00_ElectionWare, Section 3.8, Additional Item Identification EVS5000_SDS00_ERM, Section 3.8, Concept of Execution EVS5000_SDS00_UELS, Section 3.8, Concept of Execution	TDP
129			The vendor shall also include a certification that procured software items were obtained directly from the manufacturer or a licensed dealer or distributor.		EVS5000_SDS00_AutoMARK SDS Overview, Section 2.5.3.G, Procured Item Certification EVS5000_SDS00_DS200, Section 2.5.3.5, Certifications EVS5000_SDS00_DS850, Section 3.11, Procured Item Certification EVS5000_SDS00_ElectionWare, Section 3.9, Certificate of Procured Item Certification EVS5000_SDS00_ERM, Section 3.9, Procured Item Certification EVS5000_SDS00_UELS, Section 3.9, Procured Item Certification	TDP
130		**VII, 2.5.4**	**Software Standards and Conventions**			
131			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:			
132		a.	Software System development methodology.		EVS5000_SDS00_AutoMARK SDS Overview, Section 2.5.4.A, Software System Development Meth... EVS5000_SDS00_DS200, Section 2.5.4, Software Standards and Conventions EVS5000_SDS00_DS850, Section 4.1, Software System Development Methodology EVS5000_SDS00_ElectionWare, Section II.A, Software Development Methodology EVS5000_SDS00_ERM, Section 4.1, Software System Development Methodology EVS5000_SDS00_UELS, Section 4.1, Software System Development Methodology	TDP

	A	B	C	D	F	G
133		b.	Software design standards, including internal vendor procedures.		EVS5000_SDS00_AutoMARK SDS Overview, Section 2.5.4.B, Software Design Standards, Including... EVS5000_SDS00_DS200, Section 2.5.4, Software Standards and Conventions EVS5000_SDS00_DS850, Section 4.2, Software Design Standards, Including Vender Procedures EVS5000_SDS00_ElectionWare, Section 3.12, Software Design Standards, Including Vendor Procedures... EVS5000_SDS00_ERM, Section 4.2, Software Design Standards, Including Vender Procedures EVS5000_SDS00_UELS, Section 4.2, Software Design Standards, Including Vender Procedures	TDP
134		c.	Software specification standards, including internal vendor procedures.		EVS5000_SDS00_AutoMARK SDS Overview, Section 2.5.4.C, Software Specification Standards EVS5000_SDS00_DS200, Section 2.5.4, Software Standards and Conventions EVS5000_SDS00_DS850, Section 4.3, Software Specification Standards EVS5000_SDS00_ElectionWare, Section 3.13, Software Specification Standards (All Modules) EVS5000_SDS00_ERM, Section 4.3, Software Specification Standards EVS5000_SDS00_UELS, Section 4.3, Software Specification Standards	TDP
135		d.	Software coding standards, including internal vendor procedures.		EVS5000_SDS00_AutoMARK SDS Overview, Section 2.5.4.D, Software Coding Standards EVS5000_SDS00_DS200, Section 2.5.4, Software Standards and Conventions EVS5000_SDS00_DS850, Section 4.4, Software Coding Standards EVS5000_SDS00_ElectionWare, Section 3.14, Software Coding Standards (All Modules) EVS5000_SDS00_ERM, Section 4.4, Software Coding Standards EVS5000_SDS00_UELS, Section 4.4, Software Coding Standards	TDP
136		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*	EVS5000_SDS00_AutoMARK SDS Overview, Section 2.5.4.E, Test and Verification Standards EVS5000_SDS00_DS200, Section 2.5.4, Software Standards and Conventions EVS5000_SDS00_DS850, Section 4.5, Test and Verification Standards EVS5000_SDS00_ElectionWare, Section 3.15, Test and Verification Standards (All Modules) EVS5000_SDS00_ERM, Section 4.5, Test and Verification Standards EVS5000_SDS00_UELS, Section 4.5, Test and Verification Standards	TDP
137		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.		EVS5000_SDS00_AutoMARK SDS Overview, Section 2.5.4.F, Quality Assurance Standards EVS5000_SDS00_DS200, Section 2.5.4, Software Standards and Conventions EVS5000_SDS00_DS850, Section 4.6, Quality Assurance Standards EVS5000_SDS00_ElectionWare, Section 3.16, Quality Assurance Standards (All Modules) EVS5000_SDS00_ERM, Section 4.6, Quality Assurance Standards EVS5000_SDS00_UELS, Section 4.6, Quality Assurance Standards	TDP
138		**VII, 2.5.5**	**Software Operating Environment**			
139			This section shall describe or make reference to all operating environment factors that influence the software design.		EVS5000_SDS00_AutoMARK SDS Overview, Section 2.5.1, Purpose and Scope EVS5000_SDS00_DS200, Section 2.5.1, Purpose and Scope EVS5000_SDS00_DS850, Section 1, Purpose and Scope EVS5000_SDS00_ElectionWare, Section 1, Purpose and Scope EVS5000_SDS00_ERM, Section 1, Purpose and Scope EVS5000_SDS00_UELS, Section 1, Purpose and Scope	TDP
140		**VII, 2.5.5.1**	**Hardware Environment and Constraints**			
141			The vendor shall identify and describe the hardware characteristics that influence the design of the software, such as:			
142		a.	The logic and arithmetic capability of the processor		EVS5000_SDS00_AutoMARK SDS Overview, Section 2.5.5.1, Hardware Environment and Constraints EVS5000_SDS00_DS200, Section 2.5.5.1, Hardware Environment and Constraints EVS5000_SDS00_DS850, Section 5.1, Hardware Environment and Constraints EVS5000_SDS00_ElectionWare, Section 4.1, Hardware Environment and Constraints EVS5000_SDS00_ERM, Section 5.1, Hardware Environment and Constraints EVS5000_SDS00_UELS, Section 5.1, Hardware Environment and Constraints	TDP

	A	B	C	D	F	G
143		b.	Memory read-write characteristics		EVS5000_SDS00_AutoMARK SDS Overview, Section 2.5.5.1, Hardware Environment and Constraints EVS5000_SDS00_DS200, Section 2.5.5.1, Hardware Environment and Constraints EVS5000_SDS00_DS850, Section 5.1, Hardware Environment and Constraints EVS5000_SDS00_ElectionWare, Section 4.1, Hardware Environment and Constraints EVS5000_SDS00_ERM, Section 5.1, Hardware Environment and Constraints EVS5000_SDS00_UELS, Section 5.1, Hardware Environment and Constraints	TDP
144		c.	External memory device characteristics		EVS5000_SDS00_AutoMARK SDS Overview, Section 2.5.5.1, Hardware Environment and Constraints EVS5000_SDS00_DS200, Section 2.5.5.1, Hardware Environment and Constraints EVS5000_SDS00_DS850, Section 5.1, Hardware Environment and Constraints EVS5000_SDS00_ElectionWare, Section 4.1, Hardware Environment and Constraints EVS5000_SDS00_ERM, Section 5.1, Hardware Environment and Constraints EVS5000_SDS00_UELS, Section 5.1, Hardware Environment and Constraints	TDP
145		d.	Peripheral device interface hardware		EVS5000_SDS00_AutoMARK SDS Overview, Section 2.5.5.1, Hardware Environment and Constraints EVS5000_SDS00_DS200, Section 2.5.5.1, Hardware Environment and Constraints EVS5000_SDS00_DS850, Section 5.1, Hardware Environment and Constraints EVS5000_SDS00_ElectionWare, Section 4.1, Hardware Environment and Constraints EVS5000_SDS00_ERM, Section 5.1, Hardware Environment and Constraints EVS5000_SDS00_UELS, Section 5.1, Hardware Environment and Constraints	TDP
146		e.	Data input/output device protocols		EVS5000_SDS00_AutoMARK SDS Overview, Section 2.5.5.1, Hardware Environment and Constraints EVS5000_SDS00_DS200, Section 2.5.5.1, Hardware Environment and Constraints EVS5000_SDS00_DS850, Section 5.1, Hardware Environment and Constraints EVS5000_SDS00_ElectionWare, Section 4.1, Hardware Environment and Constraints EVS5000_SDS00_ERM, Section 5.1, Hardware Environment and Constraints EVS5000_SDS00_UELS, Section 5.1, Hardware Environment and Constraints	TDP
147		f.	Operator controls, indicators, and displays		EVS5000_SDS00_AutoMARK SDS Overview, Section 2.5.5.1, Hardware Environment and Constraints EVS5000_SDS00_DS200, Section 2.5.5.1, Hardware Environment and Constraints EVS5000_SDS00_DS850, Section 5.1, Hardware Environment and Constraints EVS5000_SDS00_ElectionWare, Section 4.1, Hardware Environment and Constraints EVS5000_SDS00_ERM, Section 5.1, Hardware Environment and Constraints EVS5000_SDS00_UELS, Section 5.1, Hardware Environment and Constraints	TDP
148		**VII, 2.5.5.2**	**Software Environment**			
149			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*	EVS5000_SDS00_AutoMARK SDS Overview, Section 2.5.5.2, Compilers / Assemblers EVS5000_SDS00_DS200, Section 2.5.5.2, Software Environment EVS5000_SDS00_DS850, Section 5.2.1, Compilers / Assemblers EVS5000_SDS00_ElectionWare, Section 4.2, Software Environment EVS5000_SDS00_ERM, Section 5.2.1, Compilers / Assemblers EVS5000_SDS00_UELS, Section 5.2.1, Compilers / Assemblers	TDP
150		**VII, VII, 2.5.6**	**Software Functional Specification**			
151			The vendor shall provide a description of the operating modes of the system and of software capabilities to perform specific functions.		EVS5000_SDS00_AutoMARK SDS Overview, Section 2.5.6.1, Configuration and Operating Modes EVS5000_SDS00_DS200, Section 2.5.6.1, Configurations and Operating Modes EVS5000_SDS00_DS850, Section 6.1, Configurations and Operating Modes EVS5000_SDS00_ElectionWare, Section 5.1, Operating Modes EVS5000_SDS00_ERM, Section 6.1, Configurations and Operating Modes EVS5000_SDS00_UELS, Section 6.1, Configurations and Operating Modes	TDP
152		**VII, 2.5.6.1**	**Configuration and Operating Modes**			
153			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:		EVS5000_SDS00_AutoMARK SDS Overview, Section 2.5.6.1, Configuration and Operating Modes EVS5000_SDS00_DS200, Section 2.5.6.1, Configurations and Operating Modes EVS5000_SDS00_DS850, Section 6.1, Configurations and Operating Modes EVS5000_SDS00_ElectionWare, Section 5.1, Operating Modes EVS5000_SDS00_ERM, Section 6.1, Configurations and Operating Modes EVS5000_SDS00_UELS, Section 6.1, Configurations and Operating Modes	TDP

	A	B	C	D	F	G
154		a.	A definition of the inputs to the function or mode (with characteristics, tolerances or acceptable ranges, as applicable).		EVS5000_SDS00_AutoMARK SDS Overview, Section 2.5.6.1, Configuration and Operating Modes EVS5000_SDS00_DS200, Section 2.5.6.1, Configurations and Operating Modes EVS5000_SDS00_DS850, Section 6.1, Configurations and Operating Modes EVS5000_SDS00_ElectionWare, Section 5.1, Operating Modes EVS5000_SDS00_ERM, Section 6.1, Configurations and Operating Modes EVS5000_SDS00_UELS, Section 6.1, Configurations and Operating Modes	TDP
155		b.	An explanation of how the inputs are processed.		EVS5000_SDS00_AutoMARK SDS Overview, Section 2.5.6.1, Configuration and Operating Modes EVS5000_SDS00_DS200, Section 2.5.6.1, Configurations and Operating Modes EVS5000_SDS00_DS850, Section 6.1, Configurations and Operating Modes EVS5000_SDS00_ElectionWare, Section 5.1, Operating Modes EVS5000_SDS00_ERM, Section 6.1, Configurations and Operating Modes EVS5000_SDS00_UELS, Section 6.1, Configurations and Operating Modes	TDP
156		c.	A definition of the outputs produced (again, with characteristics, tolerances, or acceptable ranges, as applicable).		EVS5000_SDS00_AutoMARK SDS Overview, Section 2.5.6.1, Configuration and Operating Modes EVS5000_SDS00_DS200, Section 2.5.6.1, Configurations and Operating Modes EVS5000_SDS00_DS850, Section 6.1, Configurations and Operating Modes EVS5000_SDS00_ElectionWare, Section 5.1, Operating Modes EVS5000_SDS00_ERM, Section 6.1, Configurations and Operating Modes EVS5000_SDS00_UELS, Section 6.1, Configurations and Operating Modes	TDP
157		**VII, 2.5.6.2**	**Software Functions**			
158			The vendor shall describe the software's capabilities or methods for detecting or handling:			
159		a.	Exception conditions		EVS5000_SDS00_AutoMARK SDS Overview, Section 2.5.6.2.a, Exception Conditions EVS5000_SDS00_DS200, Section, Section 2.5.6.2, Software Functions EVS5000_SDS00_DS850, Section 6.3.1, Exception Condition EVS5000_SDS00_ElectionWare, Section 5.2.1, Exception Conditions (All Modules) EVS5000_SDS00_ERM, Section 6.2.1, Exception Conditions EVS5000_SDS00_UELS, Section 6.2.1, Exception Conditions	TDP
160		b.	System failures		EVS5000_SDS00_AutoMARK SDS Overview, Section 2.5.6.2.b, System Failures EVS5000_SDS00_DS200, Section, Section 2.5.6.2, Software Functions EVS5000_SDS00_DS850, Section 6.3.2, System Failures EVS5000_SDS00_ElectionWare, Section 5.2.2, System Failures (All Modules) EVS5000_SDS00_ERM, Section 6.2.2, System Failures EVS5000_SDS00_UELS, Section 6.2.2, System Failures	TDP
161		c.	Data input/output errors		EVS5000_SDS00_AutoMARK SDS Overview, Section 2.5.6.2.c, Data Input / Output Errors EVS5000_SDS00_DS200, Section, Section 2.5.6.2, Software Functions EVS5000_SDS00_DS850, Section 6.3.3, Data Input/Output Errors EVS5000_SDS00_ElectionWare, Section 5.2.3, Data Input/Output Errors EVS5000_SDS00_ERM, Section 6.2.3, Data Input/Output Errors EVS5000_SDS00_UELS, Section 6.2.3, Data Input/Output Errors	TDP
162		d.	Error logging for audit record generation		EVS5000_SDS00_AutoMARK SDS Overview, Section 2.5.6.2.d, Error Logging for Audit Record Generation EVS5000_SDS00_DS200, Section, Section 2.5.6.2, Software Functions EVS5000_SDS00_DS850, Section 6.3.4, Error Logging for Audit Record Generation EVS5000_SDS00_ElectionWare, Section 5.2.4, Error Logging for Audit Record Generation EVS5000_SDS00_ERM, Section 6.2.4, Error Logging for Audit Record Generation EVS5000_SDS00_UELS, Section 6.2.4, Error Logging for Audit Record Generation	TDP
163		e.	Production of statistical ballot data		EVS5000_SDS00_AutoMARK SDS Overview, Section 2.5.6.2.e, Production of Statistical Ballot Data EVS5000_SDS00_DS200, Section, Section 2.5.6.2, Software Functions EVS5000_SDS00_DS850, Section 6.3.5, Production of Statistical Ballot Data EVS5000_SDS00_ElectionWare, Section 5.2.5, Production of Statistical Ballot Data EVS5000_SDS00_ERM, Section 6.2.5, Production of Statistical Ballot Data EVS5000_SDS00_UELS, Section 6.2.5, Production of Statistical Ballot Data	TDP

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164		f.	Data quality assessment		EVS5000_SDS00_AutoMARK SDS Overview, Section 2.5.6.2.f, Data Quality Assessment EVS5000_SDS00_DS200, Section, Section 2.5.6.2, Software Functions EVS5000_SDS00_DS850, Section 6.3.6, Data Quality Assessment EVS5000_SDS00_ElectionWare, Section 5.2.6, Data Quality Assessment EVS5000_SDS00_ERM, Section 6.2.6, Data Quality Assessment EVS5000_SDS00_UELS, Section 6.2.6, Data Quality Assessment	TDP
165		g.	Security monitoring and control		EVS5000_SDS00_AutoMARK SDS Overview, Section 2.5.6.2.g, Security Monitoring and Control EVS5000_SDS00_DS200, Section, Section 2.5.6.2, Software Functions EVS5000_SDS00_DS850, Section 6.3.7, Security Monitoring and Control EVS5000_SDS00_ElectionWare, Section 5.2.7, Security Monitoring and Control (All Modules) EVS5000_SDS00_ERM, Section 6.2.7, Security Monitoring and Control EVS5000_SDS00_UELS, Section 6.2.7, Security Monitoring and Control	TDP
166		**VII, 2.5.7**	**Programming Specifications**			
167			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.		EVS5000_SDS00_AutoMARK SDS Overview, Section 2.5.7, Programming Specifications EVS5000_SDS00_DS200, Section, Section 2.5.7.1, Programming Specifications Overview EVS5000_SDS00_DS850, Section 7, Programming Specifications EVS5000_SDS00_ElectionWare, Section 6, Programming Specifications EVS5000_SDS00_ERM, Section 7, Programming Specifications EVS5000_SDS00_UELS, Section 7, Programming Specifications	TDP
168		**VII, 2.5.7.1**	**Programming Specifications Overview**			
169			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.		EVS5000_SDS00_AutoMARK SDS Overview, Section 2.5.7, Programming Specifications EVS5000_SDS00_DS200, Section, Section 2.5.7.1, Programming Specifications Overview EVS5000_SDS00_DS850, Section 7, Programming Specifications EVS5000_SDS00_ElectionWare, Section 6, Programming Specifications EVS5000_SDS00_ERM, Section 7, Programming Specifications EVS5000_SDS00_UELS, Section 7, Programming Specifications	TDP
170		**VII, 2.5.7.2**	**Programming Specifications Details**			
171			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:			
172		a.	Module and unit design decisions, if any, such as algorithms used		EVS5000_SDS00_AutoMARK SDS Overview, Section 2.5.7, Programming Specifications EVS5000_SDS00_DS200, Section, Section 2.5.7.1, Programming Specifications Overview EVS5000_SDS00_DS850, Section 7, Programming Specifications EVS5000_SDS00_ElectionWare, Section 6, Programming Specifications EVS5000_SDS00_ERM, Section 7, Programming Specifications EVS5000_SDS00_UELS, Section 7, Programming Specifications	TDP
173		b.	Any constraints, limitations, or unusual features in the design of the software module or unit		EVS5000_SDS00_AutoMARK SDS Overview, Section 2.5.7, Programming Specifications EVS5000_SDS00_DS200, Section, Section 2.5.7.1, Programming Specifications Overview EVS5000_SDS00_DS850, Section 7, Programming Specifications EVS5000_SDS00_ElectionWare, Section 6, Programming Specifications EVS5000_SDS00_ERM, Section 7, Programming Specifications EVS5000_SDS00_UELS, Section 7, Programming Specifications	TDP
174		c.	The programming language used and rationale for its use, if other than the specified module or unit language		EVS5000_SDS00_AutoMARK SDS Overview, Section 2.5.7, Programming Specifications EVS5000_SDS00_DS200, Section, Section 2.5.7.1, Programming Specifications Overview EVS5000_SDS00_DS850, Section 7, Programming Specifications EVS5000_SDS00_ElectionWare, Section 6, Programming Specifications EVS5000_SDS00_ERM, Section 7, Programming Specifications EVS5000_SDS00_UELS, Section 7, Programming Specifications	TDP

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175	SOFTWARE DESIGN AND SPECIFICATION	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*	EVS5000_SDS00_AutoMARK SDS Overview, Section 2.5.7, Programming Specifications EVS5000_SDS00_DS200, Section, Section 2.5.7.1, Programming Specifications Overview EVS5000_SDS00_DS850, Section 7, Programming Specifications EVS5000_SDS00_ElectionWare, Section 6, Programming Specifications EVS5000_SDS00_ERM, Section 7, Programming Specifications EVS5000_SDS00_UELS, Section 7, Programming Specifications	TDP
176		**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**		EVS5000_SDS00_AutoMARK SDS Overview, Section 2.5.8, System Databases EVS5000_SDS00_DS200, Section 2.5.8, System Databases EVS5000_SDS00_DS850, Section 8, System Databases EVS5000_SDS00_ElectionWare, Section 7, System Databases EVS5000_SDS00_ERM, Section 8, System Databases EVS5000_SDS00_UELS, Section 8, System Databases	TDP
177			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.....*		EVS5000_SDS00_AutoMARK SDS Overview, Section 2.5.8, System Databases EVS5000_SDS00_DS200, Section 2.5.8, System Databases EVS5000_SDS00_DS850, Section 8, System Databases EVS5000_SDS00_ElectionWare, Section 7, System Databases EVS5000_SDS00_ERM, Section 8, System Databases EVS5000_SDS00_UELS, Section 8, System Databases	TDP
178		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, o output from, the software module or unit.		EVS5000_SDS00_AutoMARK SDS Overview, Section 2.5.7, Programming Specifications EVS5000_SDS00_DS200, Section, Section 2.5.7.1, Programming Specifications Overview EVS5000_SDS00_DS850, Section 7, Programming Specifications EVS5000_SDS00_ElectionWare, Section 6, Programming Specifications EVS5000_SDS00_ERM, Section 7, Programming Specifications EVS5000_SDS00_UELS, Section 7, Programming Specifications	TDP
179		f.	If the software module or unit contains logic, the logic to be used by the software unit, including, as applicable:			
180			1) Conditions in effect within the software module or unit when its execution is initiated		EVS5000_SDS00_AutoMARK SDS Overview, Section 2.5.7, Programming Specifications EVS5000_SDS00_DS200, Section, Section 2.5.7.1, Programming Specifications Overview EVS5000_SDS00_DS850, Section 7, Programming Specifications EVS5000_SDS00_ElectionWare, Section 6, Programming Specifications EVS5000_SDS00_ERM, Section 7, Programming Specifications EVS5000_SDS00_UELS, Section 7, Programming Specifications	TDP
181			2) Conditions under which control is passed to other software modules or units		EVS5000_SDS00_AutoMARK SDS Overview, Section 2.5.7, Programming Specifications EVS5000_SDS00_DS200, Section, Section 2.5.7.1, Programming Specifications Overview EVS5000_SDS00_DS850, Section 7, Programming Specifications EVS5000_SDS00_ElectionWare, Section 6, Programming Specifications EVS5000_SDS00_ERM, Section 7, Programming Specifications EVS5000_SDS00_UELS, Section 7, Programming Specifications	TDP

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182			3) Response and response time to each input, including data conversion, renaming, and data transfer operations		EVS5000_SDS00_AutoMARK SDS Overview, Section 2.5.7, Programming Specifications EVS5000_SDS00_DS200, Section, Section 2.5.7.1, Programming Specifications Overview EVS5000_SDS00_DS850, Section 7, Programming Specifications EVS5000_SDS00_ElectionWare, Section 6, Programming Specifications EVS5000_SDS00_ERM, Section 7, Programming Specifications EVS5000_SDS00_UELS, Section 7, Programming Specifications	TDP
183			4) Sequence of operations and dynamically controlled sequencin during the software module's or unit's operation, including:		EVS5000_SDS00_AutoMARK SDS Overview, Section 2.5.7, Programming Specifications EVS5000_SDS00_DS200, Section, Section 2.5.7.1, Programming Specifications Overview EVS5000_SDS00_DS850, Section 7, Programming Specifications EVS5000_SDS00_ElectionWare, Section 6, Programming Specifications EVS5000_SDS00_ERM, Section 7, Programming Specifications EVS5000_SDS00_UELS, Section 7, Programming Specifications	TDP
184			4.i) The method for sequence control		EVS5000_SDS00_AutoMARK SDS Overview, Section 2.5.7, Programming Specifications EVS5000_SDS00_DS200, Section, Section 2.5.7.1, Programming Specifications Overview EVS5000_SDS00_DS850, Section 7, Programming Specifications EVS5000_SDS00_ElectionWare, Section 6, Programming Specifications EVS5000_SDS00_ERM, Section 7, Programming Specifications EVS5000_SDS00_UELS, Section 7, Programming Specifications	TDP
185			4.ii) The logic and input conditions of that method, such as timing variations, priority assignments		EVS5000_SDS00_AutoMARK SDS Overview, Section 2.5.7, Programming Specifications EVS5000_SDS00_DS200, Section, Section 2.5.7.1, Programming Specifications Overview EVS5000_SDS00_DS850, Section 7, Programming Specifications EVS5000_SDS00_ElectionWare, Section 6, Programming Specifications EVS5000_SDS00_ERM, Section 7, Programming Specifications EVS5000_SDS00_UELS, Section 7, Programming Specifications	TDP
186			4.iii) Data transfer in and out of memory		EVS5000_SDS00_AutoMARK SDS Overview, Section 2.5.7, Programming Specifications EVS5000_SDS00_DS200, Section, Section 2.5.7.1, Programming Specifications Overview EVS5000_SDS00_DS850, Section 7, Programming Specifications EVS5000_SDS00_ElectionWare, Section 6, Programming Specifications EVS5000_SDS00_ERM, Section 7, Programming Specifications EVS5000_SDS00_UELS, Section 7, Programming Specifications	TDP
187			4. iv) The sensing of discrete input signals, and timing relationships between interrupt operations within the software module or unit		EVS5000_SDS00_AutoMARK SDS Overview, Section 2.5.7, Programming Specifications EVS5000_SDS00_DS200, Section, Section 2.5.7.1, Programming Specifications Overview EVS5000_SDS00_DS850, Section 7, Programming Specifications EVS5000_SDS00_ElectionWare, Section 6, Programming Specifications EVS5000_SDS00_ERM, Section 7, Programming Specifications EVS5000_SDS00_UELS, Section 7, Programming Specifications	TDP
188			5) Exception and error handling		EVS5000_SDS00_AutoMARK SDS Overview, Section 2.5.7, Programming Specifications EVS5000_SDS00_DS200, Section, Section 2.5.7.1, Programming Specifications Overview EVS5000_SDS00_DS850, Section 7, Programming Specifications EVS5000_SDS00_ElectionWare, Section 6, Programming Specifications EVS5000_SDS00_ERM, Section 7, Programming Specifications EVS5000_SDS00_UELS, Section 7, Programming Specifications	TDP
189			If the software module is a database, provide the information described in Section 2.5.8 [System Database].		EVS5000_SDS00_AutoMARK SDS Overview, Section 2.5.8, System Databases EVS5000_SDS00_DS200, Section 2.5.8, System Databases EVS5000_SDS00_DS850, Section 8, System Databases EVS5000_SDS00_ElectionWare, Section 7, System Databases EVS5000_SDS00_ERM, Section 8, System Databases EVS5000_SDS00_UELS, Section 8, System Databases	TDP
190		**VII, 2.5.8**	**System Database**			
191			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	B	C	D	F	G
192		a.	The number of levels of design and the names of those levels (such as conceptual, internal, logical, and physical).		EVS5000_SDS00_AutoMARK SDS Overview, Section 2.5.8, System Databases EVS5000_SDS00_DS200, Section 2.5.8, System Databases EVS5000_SDS00_DS850, Section 8, System Databases EVS5000_SDS00_ElectionWare, Section 7, System Databases EVS5000_SDS00_ERM, Section 8, System Databases EVS5000_SDS00_UELS, Section 8, System Databases	TDP
193		b.	Design conventions and standards (which may be incorporated by reference) needed to understand the design.		EVS5000_SDS00_AutoMARK SDS Overview, Section 2.5.8, System Databases EVS5000_SDS00_DS200, Section 2.5.8, System Databases EVS5000_SDS00_DS850, Section 8, System Databases EVS5000_SDS00_ElectionWare, Section 7, System Databases EVS5000_SDS00_ERM, Section 8, System Databases EVS5000_SDS00_UELS, Section 8, System Databases	TDP
194		c.	Identification and description of all database entities and how they are implemented physically (e.g., tables, files).		EVS5000_SDS00_AutoMARK SDS Overview, Section 2.5.8, System Databases EVS5000_SDS00_DS200, Section 2.5.8, System Databases EVS5000_SDS00_DS850, Section 8, System Databases EVS5000_SDS00_ElectionWare, Section 7, System Databases EVS5000_SDS00_ERM, Section 8, System Databases EVS5000_SDS00_UELS, Section 8, System Databases	TDP
195		d.	Entity relationship diagrams and description of relationships		EVS5000_SDS00_AutoMARK SDS Overview, Section 2.5.8, System Databases EVS5000_SDS00_DS200, Section 2.5.8, System Databases EVS5000_SDS00_DS850, Section 8, System Databases EVS5000_SDS00_ElectionWare, Section 7, System Databases EVS5000_SDS00_ERM, Section 8, System Databases EVS5000_SDS00_UELS, Section 8, System Databases	TDP
196		e.	Details of table, record or file contents (as applicable) to include individual data elements and their specifications, including:			
197			1) Names/identifiers		EVS5000_SDS00_AutoMARK SDS Overview, Section 2.5.8, System Databases EVS5000_SDS00_DS200, Section 2.5.8, System Databases EVS5000_SDS00_DS850, Section 8, System Databases EVS5000_SDS00_ElectionWare, Section 7, System Databases EVS5000_SDS00_ERM, Section 8, System Databases EVS5000_SDS00_UELS, Section 8, System Databases	TDP
198			2) Data type (alphanumeric, integer, etc.)		EVS5000_SDS00_AutoMARK SDS Overview, Section 2.5.8, System Databases EVS5000_SDS00_DS200, Section 2.5.8, System Databases EVS5000_SDS00_DS850, Section 8, System Databases EVS5000_SDS00_ElectionWare, Section 7, System Databases EVS5000_SDS00_ERM, Section 8, System Databases EVS5000_SDS00_UELS, Section 8, System Databases	TDP
199			3) Size and format (such as length and punctuation of a character string)		EVS5000_SDS00_AutoMARK SDS Overview, Section 2.5.8, System Databases EVS5000_SDS00_DS200, Section 2.5.8, System Databases EVS5000_SDS00_DS850, Section 8, System Databases EVS5000_SDS00_ElectionWare, Section 7, System Databases EVS5000_SDS00_ERM, Section 8, System Databases EVS5000_SDS00_UELS, Section 8, System Databases	TDP
200			4) Units of measurement (such as meters, dollars, nanoseconds)		EVS5000_SDS00_AutoMARK SDS Overview, Section 2.5.8, System Databases EVS5000_SDS00_DS200, Section 2.5.8, System Databases EVS5000_SDS00_DS850, Section 8, System Databases EVS5000_SDS00_ElectionWare, Section 7, System Databases EVS5000_SDS00_ERM, Section 8, System Databases EVS5000_SDS00_UELS, Section 8, System Databases	TDP

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201			5) Range or enumeration of possible values (such as 0-99)		EVS5000_SDS00_AutoMARK SDS Overview, Section 2.5.8, System Databases EVS5000_SDS00_DS200, Section 2.5.8, System Databases EVS5000_SDS00_DS850, Section 8, System Databases EVS5000_SDS00_ElectionWare, Section 7, System Databases EVS5000_SDS00_ERM, Section 8, System Databases EVS5000_SDS00_UELS, Section 8, System Databases	TDP
202			6) Accuracy (how correct) and precision (number of significant digits)		EVS5000_SDS00_AutoMARK SDS Overview, Section 2.5.8, System Databases EVS5000_SDS00_DS200, Section 2.5.8, System Databases EVS5000_SDS00_DS850, Section 8, System Databases EVS5000_SDS00_ElectionWare, Section 7, System Databases EVS5000_SDS00_ERM, Section 8, System Databases EVS5000_SDS00_ExpressVote, Section 8, System Databases EVS5000_SDS00_UELS, Section 8, System Databases	TDP
203			7) Priority, timing, frequency, volume, sequencing, and other constraints, such as whether the data element may be updated and whether business rules apply		EVS5000_SDS00_AutoMARK SDS Overview, Section 2.5.8, System Databases EVS5000_SDS00_DS200, Section 2.5.8, System Databases EVS5000_SDS00_DS850, Section 8, System Databases EVS5000_SDS00_ElectionWare, Section 7, System Databases EVS5000_SDS00_ERM, Section 8, System Databases EVS5000_SDS00_UELS, Section 8, System Databases	TDP
204			8) Security and privacy constraints		EVS5000_SDS00_AutoMARK SDS Overview, Section 2.5.8, System Databases EVS5000_SDS00_DS200, Section 2.5.8, System Databases EVS5000_SDS00_DS850, Section 8, System Databases EVS5000_SDS00_ElectionWare, Section 7, System Databases EVS5000_SDS00_ERM, Section 8, System Databases EVS5000_SDS00_ExpressVote, Section 8, System Databases EVS5000_SDS00_UELS, Section 8, System Databases	TDP
205			9) Sources (setting/sending entities) and recipients (using/receiving entities)		EVS5000_SDS00_AutoMARK SDS Overview, Section 2.5.8, System Databases EVS5000_SDS00_DS200, Section 2.5.8, System Databases EVS5000_SDS00_DS850, Section 8, System Databases EVS5000_SDS00_ElectionWare, Section 7, System Databases EVS5000_SDS00_ERM, Section 8, System Databases EVS5000_SDS00_UELS, Section 8, System Databases	TDP
206		f.	For external files, a description of the procedures for file maintenance, management of access privileges, and security.		EVS5000_SDS00_AutoMARK SDS Overview, Section 2.5.8, System Databases EVS5000_SDS00_DS200, Section 2.5.8, System Databases EVS5000_SDS00_DS850, Section 8, System Databases EVS5000_SDS00_ElectionWare, Section 7, System Databases EVS5000_SDS00_ERM, Section 8, System Databases EVS5000_SDS00_UELS, Section 8, System Databases	TDP
207		**VII, 2.5.9**	**Interfaces**			
208			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*	EVS5000_SDS00_AutoMARK SDS Overview, Section 2.5.9, Interfaces EVS5000_SDS00_DS200, Section 2.5.9, Interfaces EVS5000_SDS00_DS850, Section 9, Interfaces EVS5000_SDS00_ElectionWare, Section 8, Interfaces EVS5000_SDS00_ERM, Section 9, Interfaces EVS5000_SDS00_UELS, Section 9, Interfaces	TDP
209		**VII, 2.5.9.1**	**Interface Identification**			
210			For each interface identified in the system overview, the vendor shall:			
211		a.	Provide a unique identifier assigned to the interface.		EVS5000_SDS00_AutoMARK SDS Overview, Section 2.5.9.1, Interface Identification EVS5000_SDS00_DS200, Section 2.5.9.1, Interface Identification EVS5000_SDS00_DS850, Section 9.1, Interface Identification EVS5000_SDS00_ElectionWare, Section 8, Interfaces EVS5000_SDS00_ERM, Section 9.1, Interface Identification EVS5000_SDS00_UELS, Section 9.1, Interface Identification	TDP

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212		b.	Identify the interfacing entities (systems, configuration items, users, etc.) by name, number, version, and documentation references, as applicable.		EVS5000_SDS00_AutoMARK SDS Overview, Section 2.5.9.1, Interface Identification EVS5000_SDS00_DS200, Section 2.5.9.1, Interface Identification EVS5000_SDS00_DS850, Section 9.1, Interface Identification EVS5000_SDS00_ElectionWare, Section 8, Interfaces EVS5000_SDS00_ERM, Section 9.1, Interface Identification EVS5000_SDS00_UELS, Section 9.1, Interface Identification	TDP
213		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).		EVS5000_SDS00_AutoMARK SDS Overview, Section 2.5.9.1, Interface Identification EVS5000_SDS00_DS200, Section 2.5.9.1, Interface Identification EVS5000_SDS00_DS850, Section 9.1, Interface Identification EVS5000_SDS00_ElectionWare, Section 8, Interfaces EVS5000_SDS00_ERM, Section 9.1, Interface Identification EVS5000_SDS00_UELS, Section 9.1, Interface Identification	TDP
214		**VII, 2.5.9.2**	**Interface Description**			
215			For each interface identified in the system overview, the vendor shall provide information that describes:			
216		a.	The type of interface (such as real-time data transfer, storage-and retrieval of data) to be implemented		EVS5000_SDS00_AutoMARK SDS Overview, Section 2.5.9.2, Interface Description EVS5000_SDS00_DS200, Section 2.5.9.2, Interface Description EVS5000_SDS00_DS850, Section 9.2, Interface Description EVS5000_SDS00_ElectionWare, Section 8, Interfaces EVS5000_SDS00_ERM, Section 9.2, Interface Description EVS5000_SDS00_UELS, Section 9.2, Interface Description	TDP
217		b.	Characteristics of individual data elements that the interfacing entity(ies) will provide, store, send, access, receive, etc., such as:			
218			1) Names/identifiers		EVS5000_SDS00_AutoMARK SDS Overview, Section 2.5.9.2, Interface Description EVS5000_SDS00_DS200, Section 2.5.9.2, Interface Description EVS5000_SDS00_DS850, Section 9.2, Interface Description EVS5000_SDS00_ElectionWare, Section 8, Interfaces EVS5000_SDS00_ERM, Section 9.2, Interface Description EVS5000_SDS00_UELS, Section 9.2, Interface Description	TDP
219			2) Data type (alphanumeric, integer, etc.)		EVS5000_SDS00_AutoMARK SDS Overview, Section 2.5.9.2, Interface Description EVS5000_SDS00_DS200, Section 2.5.9.2, Interface Description EVS5000_SDS00_DS850, Section 9.2, Interface Description EVS5000_SDS00_ElectionWare, Section 8, Interfaces EVS5000_SDS00_ERM, Section 9.2, Interface Description EVS5000_SDS00_UELS, Section 9.2, Interface Description	TDP
220			3) Size and format (such as length and punctuation of a character string)		EVS5000_SDS00_AutoMARK SDS Overview, Section 2.5.9.2, Interface Description EVS5000_SDS00_DS200, Section 2.5.9.2, Interface Description EVS5000_SDS00_DS850, Section 9.2, Interface Description EVS5000_SDS00_ElectionWare, Section 8, Interfaces EVS5000_SDS00_ERM, Section 9.2, Interface Description EVS5000_SDS00_UELS, Section 9.2, Interface Description	TDP
221			4) Units of measurement (such as meters, dollars, nanoseconds)		EVS5000_SDS00_AutoMARK SDS Overview, Section 2.5.9.2, Interface Description EVS5000_SDS00_DS200, Section 2.5.9.2, Interface Description EVS5000_SDS00_DS850, Section 9.2, Interface Description EVS5000_SDS00_ElectionWare, Section 8, Interfaces EVS5000_SDS00_ERM, Section 9.2, Interface Description EVS5000_SDS00_UELS, Section 9.2, Interface Description	TDP
222			5) Range or enumeration of possible values (such as 0-99)		EVS5000_SDS00_AutoMARK SDS Overview, Section 2.5.9.2, Interface Description EVS5000_SDS00_DS200, Section 2.5.9.2, Interface Description EVS5000_SDS00_DS850, Section 9.2, Interface Description EVS5000_SDS00_ElectionWare, Section 8, Interfaces EVS5000_SDS00_ERM, Section 9.2, Interface Description EVS5000_SDS00_UELS, Section 9.2, Interface Description	TDP

	A	B	C	D	F	G
223			6) Accuracy (how correct) and precision (number of significant digits)		EVS5000_SDS00_AutoMARK SDS Overview, Section 2.5.9.2, Interface Description EVS5000_SDS00_DS200, Section 2.5.9.2, Interface Description EVS5000_SDS00_DS850, Section 9.2, Interface Description EVS5000_SDS00_ElectionWare, Section 8, Interfaces EVS5000_SDS00_ERM, Section 9.2, Interface Description EVS5000_SDS00_UELS, Section 9.2, Interface Description	TDP
224			7) Priority, timing, frequency, volume, sequencing, and other constraints, such as whether the data element may be updated and whether business rules apply		EVS5000_SDS00_AutoMARK SDS Overview, Section 2.5.9.2, Interface Description EVS5000_SDS00_DS200, Section 2.5.9.2, Interface Description EVS5000_SDS00_DS850, Section 9.2, Interface Description EVS5000_SDS00_ElectionWare, Section 8, Interfaces EVS5000_SDS00_ERM, Section 9.2, Interface Description EVS5000_SDS00_UELS, Section 9.2, Interface Description	TDP
225			8) Security and privacy constraints		EVS5000_SDS00_AutoMARK SDS Overview, Section 2.5.9.2, Interface Description EVS5000_SDS00_DS200, Section 2.5.9.2, Interface Description EVS5000_SDS00_DS850, Section 9.2, Interface Description EVS5000_SDS00_ElectionWare, Section 8, Interfaces EVS5000_SDS00_ERM, Section 9.2, Interface Description EVS5000_SDS00_UELS, Section 9.2, Interface Description	TDP
226			9) Sources (setting/sending entities) and recipients (using/receiving entities)		EVS5000_SDS00_AutoMARK SDS Overview, Section 2.5.9.2, Interface Description EVS5000_SDS00_DS200, Section 2.5.9.2, Interface Description EVS5000_SDS00_DS850, Section 9.2, Interface Description EVS5000_SDS00_ElectionWare, Section 8, Interfaces EVS5000_SDS00_ERM, Section 9.2, Interface Description EVS5000_SDS00_UELS, Section 9.2, Interface Description	TDP
227		c.	Characteristics of communication methods that the interfacing entity(ies) will use for the interface, such as:			
228			1) Communication links/bands/frequencies/media and their characteristics		EVS5000_SDS00_AutoMARK SDS Overview, Section 2.5.9.2, Interface Description EVS5000_SDS00_DS200, Section 2.5.9.2, Interface Description EVS5000_SDS00_DS850, Section 9.2, Interface Description EVS5000_SDS00_ElectionWare, Section 8, Interfaces EVS5000_SDS00_ERM, Section 9.2, Interface Description EVS5000_SDS00_UELS, Section 9.2, Interface Description	TDP
229			2) Message formatting		EVS5000_SDS00_AutoMARK SDS Overview, Section 2.5.9.2, Interface Description EVS5000_SDS00_DS200, Section 2.5.9.2, Interface Description EVS5000_SDS00_DS850, Section 9.2, Interface Description EVS5000_SDS00_ElectionWare, Section 8, Interfaces EVS5000_SDS00_ERM, Section 9.2, Interface Description EVS5000_SDS00_UELS, Section 9.2, Interface Description	TDP
230			3) Flow control (such as sequence numbering and buffer allocation)		EVS5000_SDS00_AutoMARK SDS Overview, Section 2.5.9.2, Interface Description EVS5000_SDS00_DS200, Section 2.5.9.2, Interface Description EVS5000_SDS00_DS850, Section 9.2, Interface Description EVS5000_SDS00_ElectionWare, Section 8, Interfaces EVS5000_SDS00_ERM, Section 9.2, Interface Description EVS5000_SDS00_UELS, Section 9.2, Interface Description	TDP
231			4) Data transfer rate, whether periodic/aperiodic, and interval between transfers		EVS5000_SDS00_AutoMARK SDS Overview, Section 2.5.9.2, Interface Description EVS5000_SDS00_DS200, Section 2.5.9.2, Interface Description EVS5000_SDS00_DS850, Section 9.2, Interface Description EVS5000_SDS00_ElectionWare, Section 8, Interfaces EVS5000_SDS00_ERM, Section 9.2, Interface Description EVS5000_SDS00_UELS, Section 9.2, Interface Description	TDP

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232			5) Routing, addressing, and naming conventions		EVS5000_SDS00_AutoMARK SDS Overview, Section 2.5.9.2, Interface Description EVS5000_SDS00_DS200, Section 2.5.9.2, Interface Description EVS5000_SDS00_DS850, Section 9.2, Interface Description EVS5000_SDS00_ElectionWare, Section 8, Interfaces EVS5000_SDS00_ERM, Section 9.2, Interface Description EVS5000_SDS00_UELS, Section 9.2, Interface Description	TDP
233			6) Transmission services, including priority and grade		EVS5000_SDS00_AutoMARK SDS Overview, Section 2.5.9.2, Interface Description EVS5000_SDS00_DS200, Section 2.5.9.2, Interface Description EVS5000_SDS00_DS850, Section 9.2, Interface Description EVS5000_SDS00_ElectionWare, Section 8, Interfaces EVS5000_SDS00_ERM, Section 9.2, Interface Description EVS5000_SDS00_UELS, Section 9.2, Interface Description	TDP
234			7) Safety/security/privacy considerations, such as encryption, user authentication, compartmentalization, and auditing		EVS5000_SDS00_AutoMARK SDS Overview, Section 2.5.9.2, Interface Description EVS5000_SDS00_DS200, Section 2.5.9.2, Interface Description EVS5000_SDS00_DS850, Section 9.2, Interface Description EVS5000_SDS00_ElectionWare, Section 8, Interfaces EVS5000_SDS00_ERM, Section 9.2, Interface Description EVS5000_SDS00_UELS, Section 9.2, Interface Description	TDP
235		d.	Characteristics of protocols the interfacing entity(ies) will use for the interface, such as:			
236			1) Priority/layer of the protocol		EVS5000_SDS00_AutoMARK SDS Overview, Section 2.5.9.2, Interface Description EVS5000_SDS00_DS200, Section 2.5.9.2, Interface Description EVS5000_SDS00_DS850, Section 9.2, Interface Description EVS5000_SDS00_ElectionWare, Section 8, Interfaces EVS5000_SDS00_ERM, Section 9.2, Interface Description EVS5000_SDS00_UELS, Section 9.2, Interface Description	TDP
237			2) Packeting, including fragmentation and reassembly, routing, and addressing		EVS5000_SDS00_AutoMARK SDS Overview, Section 2.5.9.2, Interface Description EVS5000_SDS00_DS200, Section 2.5.9.2, Interface Description EVS5000_SDS00_DS850, Section 9.2, Interface Description EVS5000_SDS00_ElectionWare, Section 8, Interfaces EVS5000_SDS00_ERM, Section 9.2, Interface Description EVS5000_SDS00_UELS, Section 9.2, Interface Description	TDP
238			3) Legality checks, error control, and recovery procedures		EVS5000_SDS00_AutoMARK SDS Overview, Section 2.5.9.2, Interface Description EVS5000_SDS00_DS200, Section 2.5.9.2, Interface Description EVS5000_SDS00_DS850, Section 9.2, Interface Description EVS5000_SDS00_ElectionWare, Section 8, Interfaces EVS5000_SDS00_ERM, Section 9.2, Interface Description EVS5000_SDS00_UELS, Section 9.2, Interface Description	TDP
239			4) Synchronization, including connection establishment, maintenance, termination		EVS5000_SDS00_AutoMARK SDS Overview, Section 2.5.9.2, Interface Description EVS5000_SDS00_DS200, Section 2.5.9.2, Interface Description EVS5000_SDS00_DS850, Section 9.2, Interface Description EVS5000_SDS00_ElectionWare, Section 8, Interfaces EVS5000_SDS00_ERM, Section 9.2, Interface Description EVS5000_SDS00_UELS, Section 9.2, Interface Description	TDP
240			5) Status, identification, and any other reporting features		EVS5000_SDS00_AutoMARK SDS Overview, Section 2.5.9.2, Interface Description EVS5000_SDS00_DS200, Section 2.5.9.2, Interface Description EVS5000_SDS00_DS850, Section 9.2, Interface Description EVS5000_SDS00_ElectionWare, Section 8, Interfaces EVS5000_SDS00_ERM, Section 9.2, Interface Description EVS5000_SDS00_UELS, Section 9.2, Interface Description	TDP

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241		e.	Other characteristics, such as physical compatibility of the interfacing entity(ies) (such as dimensions, tolerances, loads, voltages and plug compatibility)		EVS5000_SDS00_AutoMARK SDS Overview, Section 2.5.9.2, Interface Description EVS5000_SDS00_DS200, Section 2.5.9.2, Interface Description EVS5000_SDS00_DS850, Section 9.2, Interface Description EVS5000_SDS00_ElectionWare, Section 8, Interfaces EVS5000_SDS00_ERM, Section 9.2, Interface Description EVS5000_SDS00_UELS, Section 9.2, Interface Description	TDP
242		**VII, 2.5.10**	**Appendices**			
243			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:			
244		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.		No glossary appendices were noted in the core SDS TDPs	TDP
245		b.	**References:** A list of references to all related vendor documents, data, standards, and technical sources used in software development and testing.		No reference appendices were noted in the core SDS TDPs	TDP
246		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.		EVS5000_SDS00_AutoMARK SDS Overview, Section 2.5.10, Appendices ("N/A") EVS5000_SDS00_DS200, Section II, Appendixes EVS5000_SDS00_DS850, Section 10, Appendixes EVS5000_SDS00_ElectionWare, Sections 9-22, Appendixes	TDP
247		**VII, 2.6**	**System Security Specification**			
248			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*	AutoMARK ESS System Security Specification AQS-18-5002-001-S EVS5000_SSS00 EVS5000_SSS01_JSP Template EVS5000_SSS002.08_AutoMARK Quick Hash Procedure EVS5000_SSS02.01_EMS_PC_SecScriptDesc EVS5000_SSS02.01_UbuntuLiveCD EVS5000_SSS02.05_EMSWorkstation Validation Guide EVS5000_SSS02.06_DS200Quick Hash Procedure EVS5000_SSS02.07_DS850Quick Hash Procedure EVS5000_SSS02_Hardening Procedures EVS5000_SSS03_Voting System Validation Guide01_File Listing_DS200 EVS5000_SSS03_Voting System Validation Guide02_File Listing_AutoMARK EVS5000_SSS03_Voting System Validation Guide04_File Listing_ElectionWare EVS5000_SSS03_Voting System Validation Guide05_File Listing_RMS EVS5000_SSS03_Voting System Validation Guide06_File_Listing_ELS EVS5000_SSS03_Voting System Validation Guide07_File Listing_VATPreview EVS5000_SSS03_Voting System Validation Guide08_File Listing_ERM EVS5000_SSS03_Voting System Validation Guide09_File Listing_DS850 EVS5000_SSS07_PhysEquipmentSecurityBestPract EVS5000_SSS09_WinOS_SECBaseSettings EVS5000_SSS02.01_HardeningScripts [Folder] EVS5000_SSS02.07.01_DS850QuickHashScripts [Folder] EVS5000_SSS02.08.01_AutoMARKHashTools [Folder]	TDP

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249	SYSTEM SECURITY SPECIFICATIO		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 t the requirements of this section.		AutoMARK ESS System Security Specification AQS-18-5002-001-S EVS5000_SSS00 EVS5000_SSS01_JSP Template EVS5000_SSS002.08_AutoMARK Quick Hash Procedure EVS5000_SSS02.01_EMS_PC_SecScriptDesc EVS5000_SSS02.01_UbuntuLiveCD EVS5000_SSS02.05_EMSWorkstation Validation Guide EVS5000_SSS02.06_DS200Quick Hash Procedure EVS5000_SSS02.07_DS850Quick Hash Procedure EVS5000_SSS02_Hardening Procedures EVS5000_SSS03_Voting System Validation Guide01_File Listing_DS200 EVS5000_SSS03_Voting System Validation Guide02_File Listing_AutoMARK EVS5000_SSS03_Voting System Validation Guide04_File Listing_ElectionWare EVS5000_SSS03_Voting System Validation Guide05_File Listing_RMS EVS5000_SSS03_Voting System Validation Guide06_File_Listing_ELS EVS5000_SSS03_Voting System Validation Guide07_File Listing_VATPreview EVS5000_SSS03_Voting System Validation Guide08_File Listing_ERM EVS5000_SSS03_Voting System Validation Guide09_File Listing_DS850 EVS5000_SSS07_PhysEquipmentSecurityBestPract EVS5000_SSS09_WinOS_SECBaseSettings EVS5000_SSS02.01_HardeningScripts [Folder] EVS5000_SSS02.07.01_DS850QuickHashScripts [Folder] EVS5000_SSS02.08.01_AutoMARKHashTools [Folder]	TDP
250			The Security Specification shall contain the sections identified below.			
251		**VII, 2.6.1**	**Access Control Policy**			
252			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*	EVS5000_SSS00, Chapter 1, Access Control Policy	TDP
253		**VII, 2.6.2**	**Access Control Measures**			
254			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*	EVS5000_SSS00, Chapter 2, Access Control Measures	TDP
255			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*	EVS5000_SSS00, Chapter 2, Access Control Measures	TDP
256		**VII, 2.6.3**	**Equipment and Data Security**			
257			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*	EVS5000_SSS00, Chapter 3, Equipment and Data Security	TDP
258		**VII, 2.6.4**	**Software Installation**			
259			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*	EVS5000_SSS00, Chapter 4, Software Installation and Security	TDP
260		**VII, 2.6.5**	**Telecommunications and Data Transmission Security**			

	A	B	C	D	F	G
261	N		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*	EVS5000_SSS00, Section 3.1.9, Network Security Proctices	TDP
262		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*	EVS5000_SSS00, Section 3.1.9, Network Security Proctices	TDP
263		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*		
264			i. Capabilities used to provide protection against threats to third party products and services.		EVS5000_SSS00, Section 3.1.9, Network Security Proctices	TDP
265			ii. Policies and processes used by the vendor to ensure that such protection is updated to remain effective over time.		EVS5000_SSS00, Section 3.1.9, Network Security Proctices	TDP
266			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.		EVS5000_SSS00, Section 3.1.9, Network Security Proctices	TDP
267			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.		EVS5000_SSS00, Section 3.1.9, Network Security Proctices	TDP
268			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.		EVS5000_SSS00, Section 3.1.9, Network Security Proctices	TDP
269			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.		EVS5000_SSS00, Section 3.1.9, Network Security Proctices	TDP
270		**VII, 2.6.6**	**Other Elements of an Effective Security Program**			
271			The vendor shall provide a detailed description of the following additional procedures required for use by the purchasing jurisdiction:			
272		a.	Administrative and management controls for the voting system and election management, including access controls.		EVS5000_SSS00, Section 1, Access Control Policy	TDP
273		b.	Internal security procedures, including operating procedures for maintaining the security of the software for each system function and operating mode.		EVS5000_SSS00, Section 1, Access Control Policy	TDP
274		c.	Adherence to, and enforcement of, operational procedures (e.g., effective password management).		EVS5000_SSS00, Section 1, Access Control Policy	TDP
275		d.	Physical facilities and arrangements.		EVS5000_SSS00, Section 1, Access Control Policy	TDP
276		e.	Organizational responsibilities and personnel screening.		EVS5000_SSS00, Section 1, Access Control Policy	TDP
277			This documentation shall be prepared such that these requirements can be integrated by the jurisdiction into local administrative and operating procedures.		EVS5000_SSS00, Section 1, Access Control Policy	TDP
278		**VII, 2.7**	**System Test and Verification Specification**			
279			The vendor shall provide test and verification specifications for:			

	A	B	C	D	F	G
280			Development test specifications		EVS5000_STP00 EVS5000_TC00_AutoMARK EVS5000_TC00_DS200 EVS5000_TC00_DS850 EVS5000_TC00_ElectionWare01_Manage EVS5000_TC00_ElectionWare02_Define EVS5000_TC00_Electionware03_Design EVS5000_TC00_Electionware04_Deliver EVS5000_TC00_Electionware05_Resolve EVS5000_TC00_ERM	TDP
281			National certification test specifications		EVS5000_STP00 EVS5000_TC00_AutoMARK EVS5000_TC00_DS200 EVS5000_TC00_DS850 EVS5000_TC00_ElectionWare01_Manage EVS5000_TC00_ElectionWare02_Define EVS5000_TC00_Electionware03_Design EVS5000_TC00_Electionware04_Deliver EVS5000_TC00_Electionware05_Resolve EVS5000_TC00_ERM	TDP
282		**VII, 2.7.1**	**Development Test Specifications**			
283			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:			
284		a.	Test identification and design, including:			
285			1) Test structure		EVS5000_STP00, Section 1.1, Overview	TDP
286			2) Test sequence or progression		EVS5000_STP00, Section 1.3, Test Phases	TDP
287			3) Test conditions		EVS5000_STP00	TDP
288		b.	Standard test procedures, including any assumptions or constraints		EVS5000_STP00, Section 2.3.1, Overview / Standard Test Procedures	TDP
289		c.	Special purpose test procedures including any assumptions or constraints		EVS5000_STP00 EVS5000_TC00_AutoMARK EVS5000_TC00_DS200 EVS5000_TC00_DS850 EVS5000_TC00_ElectionWare01_Manage EVS5000_TC00_ElectionWare02_Define EVS5000_TC00_Electionware03_Design EVS5000_TC00_Electionware04_Deliver EVS5000_TC00_Electionware05_Resolve EVS5000_TC00_ERM	TDP
290		d.	Test data; including the data source, whether it is real or simulated, and how test data are controlled		EVS5000_STP00 EVS5000_TC00_AutoMARK EVS5000_TC00_DS200 EVS5000_TC00_DS850 EVS5000_TC00_ElectionWare01_Manage EVS5000_TC00_ElectionWare02_Define EVS5000_TC00_Electionware03_Design EVS5000_TC00_Electionware04_Deliver EVS5000_TC00_Electionware05_Resolve EVS5000_TC00_ERM	TDP

	A	B	C	D	F	G
291	SYSTEM TEST AND VERIFICATION	e.	Expected test results		EVS5000_STP00 EVS5000_TC00_AutoMARK EVS5000_TC00_DS200 EVS5000_TC00_DS850 EVS5000_TC00_ElectionWare01_Manage EVS5000_TC00_ElectionWare02_Define EVS5000_TC00_Electionware03_Design EVS5000_TC00_Electionware04_Deliver EVS5000_TC00_Electionware05_Resolve EVS5000_TC00_ERM	TDP
292		f.	Criteria for evaluating test results		EVS5000_STP00 EVS5000_TC00_AutoMARK EVS5000_TC00_DS200 EVS5000_TC00_DS850 EVS5000_TC00_ElectionWare01_Manage EVS5000_TC00_ElectionWare02_Define EVS5000_TC00_Electionware03_Design EVS5000_TC00_Electionware04_Deliver EVS5000_TC00_Electionware05_Resolve EVS5000_TC00_ERM	TDP
293			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.			
294		**VII, 2.7.2**	**National Certification Test Specifications**			
295			The vendor shall provide specifications for verification and validation of overall software performance. These specifications shall cover:			
296		a.	Control and data input/output		EVS5000_STP00 EVS5000_TC00_AutoMARK EVS5000_TC00_DS200 EVS5000_TC00_DS850 EVS5000_TC00_ElectionWare01_Manage EVS5000_TC00_ElectionWare02_Define EVS5000_TC00_Electionware03_Design EVS5000_TC00_Electionware04_Deliver EVS5000_TC00_Electionware05_Resolve EVS5000_TC00_ERM	TDP
297		b.	Acceptance criteria		EVS5000_STP00 EVS5000_TC00_AutoMARK EVS5000_TC00_DS200 EVS5000_TC00_DS850 EVS5000_TC00_ElectionWare01_Manage EVS5000_TC00_ElectionWare02_Define EVS5000_TC00_Electionware03_Design EVS5000_TC00_Electionware04_Deliver EVS5000_TC00_Electionware05_Resolve EVS5000_TC00_ERM	TDP

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298		c.	Processing accuracy		EVS5000_STP00 EVS5000_TC00_AutoMARK EVS5000_TC00_DS200 EVS5000_TC00_DS850 EVS5000_TC00_ElectionWare01_Manage EVS5000_TC00_ElectionWare02_Define EVS5000_TC00_Electionware03_Design EVS5000_TC00_Electionware04_Deliver EVS5000_TC00_Electionware05_Resolve EVS5000_TC00_ERM	TDP
299		d.	Data quality assessment and maintenance		EVS5000_STP00 EVS5000_TC00_AutoMARK EVS5000_TC00_DS200 EVS5000_TC00_DS850 EVS5000_TC00_ElectionWare01_Manage EVS5000_TC00_ElectionWare02_Define EVS5000_TC00_Electionware03_Design EVS5000_TC00_Electionware04_Deliver EVS5000_TC00_Electionware05_Resolve EVS5000_TC00_ERM	TDP
300		e.	Ballot interpretation logic	*Vol. I, 7.9.3 e, VVPAT Requirements, Electronic and Paper Record Storage*	EVS5000_STP00 EVS5000_TC00_AutoMARK EVS5000_TC00_DS200 EVS5000_TC00_DS850 EVS5000_TC00_ElectionWare01_Manage EVS5000_TC00_ElectionWare02_Define EVS5000_TC00_Electionware03_Design EVS5000_TC00_Electionware04_Deliver EVS5000_TC00_Electionware05_Resolve EVS5000_TC00_ERM	TDP
301		f.	Exception handling		EVS5000_TC00_AutoMARK EVS5000_TC00_DS200 EVS5000_TC00_DS850 EVS5000_TC00_ElectionWare01_Manage EVS5000_TC00_ElectionWare02_Define EVS5000_TC00_Electionware03_Design EVS5000_TC00_Electionware04_Deliver EVS5000_TC00_Electionware05_Resolve EVS5000_TC00_ERM	TDP
302		g.	Security		EVS5000_STP00 EVS5000_TC00_AutoMARK EVS5000_TC00_DS200 EVS5000_TC00_DS850 EVS5000_TC00_ElectionWare01_Manage EVS5000_TC00_ElectionWare02_Define EVS5000_TC00_Electionware03_Design EVS5000_TC00_Electionware04_Deliver EVS5000_TC00_Electionware05_Resolve EVS5000_TC00_ERM	TDP

	A	B	C	D	F	G
303		h.	Production of audit trails and statistical data		EVS5000_STP00 EVS5000_TC00_AutoMARK EVS5000_TC00_DS200 EVS5000_TC00_DS850 EVS5000_TC00_ElectionWare01_Manage EVS5000_TC00_ElectionWare02_Define EVS5000_TC00_Electionware03_Design EVS5000_TC00_Electionware04_Deliver EVS5000_TC00_Electionware05_Resolve EVS5000_TC00_ERM	TDP
304			The specifications shall identify procedures for assessing and demonstrating the suitability of the software for election use.		EVS5000_STP00 EVS5000_TC00_AutoMARK EVS5000_TC00_DS200 EVS5000_TC00_DS850 EVS5000_TC00_ElectionWare01_Manage EVS5000_TC00_ElectionWare02_Define EVS5000_TC00_Electionware03_Design EVS5000_TC00_Electionware04_Deliver EVS5000_TC00_Electionware05_Resolve EVS5000_TC00_ERM	TDP
305		**VII, 2.8**	**System Operations Procedures**			
306			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.		EVS5000_SOP00_AMVAT EVS5000_SOP00_DS200 EVS5000_SOP00_DS850 EVS5000_SOP00_ElectionWare01_Admin EVS5000_SOP00_ElectionWare02_Define EVS5000_SOP00_ElectionWare03_Design EVS5000_SOP00_ElectionWare04_Deliver EVS5000_SOP00_ElectionWare05_Results EVS5000_SOP00_ELS EVS5000_SOP00_ERM EVS5000_SOP00_NetworkConfigGuide EVS5000_SOP00_AMVAT.01_VerficationElection [Folder] EVS5000_ORPT02_BallotProductionGuide [In Above Folder]	TDP
307			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.		EVS5000_SOP00_AMVAT EVS5000_SOP00_DS200 EVS5000_SOP00_DS850 EVS5000_SOP00_ElectionWare01_Admin EVS5000_SOP00_ElectionWare02_Define EVS5000_SOP00_ElectionWare03_Design EVS5000_SOP00_ElectionWare04_Deliver EVS5000_SOP00_ElectionWare05_Results EVS5000_SOP00_ELS EVS5000_SOP00_ERM EVS5000_SOP00_NetworkConfigGuide EVS5000_SOP00_AMVAT.01_VerficationElection [Folder] EVS5000_ORPT02_BallotProductionGuide [In Above Folder]	TDP
308		**VII, 2.8.1**	**Introduction**			

	A	B	C	D	F	G
309			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*	EVS5000_SOP00_AMVAT, Section 1, Overview EVS5000_SOP00_DS200, Section 3, Introduction to the DS200 EVS5000_SOP00_DS850, Section 1, DS850 Overview EVS5000_SOP00_ElectionWare01_Admin, Section 1, Overview EVS5000_SOP00_ElectionWare02_Define, Section 1, Home EVS5000_SOP00_ElectionWare03_Design, Section 1, Paper Ballot Overview EVS5000_SOP00_ElectionWare04_Deliver, Section 1, Configure Equipment EVS5000_SOP00_ElectionWare05_Results, Section 1, Results EVS5000_SOP00_ERM, Section 1, Overview EVS5000_SOP00_NetworkConfigGuide, Section 1, Overview EVS5000_SOP00_ELS, Introduction	TDP
310			The roles of operating personnel shall be identified and related to the operating modes of the system.		EVS5000_SOP00_AMVAT, Section 1, Overview EVS5000_SOP00_DS200, Section 3, Introduction to the DS200 EVS5000_SOP00_DS850, Section 1, DS850 Overview EVS5000_SOP00_ElectionWare01_Admin, Section 1, Overiew EVS5000_SOP00_ERM, Section 1, Overview EVS5000_SOP00_NetworkConfigGuide, Section 1, Overview EVS5000_SOP00_ELS, Introduction	TDP
311			Decision criteria and conditional operator functions (such as erro and failure recovery actions) shall be described.		XXX	TDP
312			The vendor shall also list all reference and supporting documents pertaining to the use of the system during election operations.		XXX	TDP
313		**VII, 2.8.2**	**Operational Environment**			
314			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:			
315		a.	Polling place		EVS5000_SOP00_AMVAT, Section 5, Facilites, Furnishings, Fixtures and Utilites EVS5000_SOP00_DS200, Section 5, Open the Polls	TDP
316		b.	Central count facility		EVS5000_SOP00_DS850, Chapter 1, DS850 Overview	TDP
317		c.	Other locations		N/A	
318		**VII, 2.8.3**	**System Installation and Test Specification**			
319			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*		
320		a.	Pre-voting functions	*Vol. I, 2.2.3 Ballot and Program Installation and Control*	EVS5000_SOP00_AMVAT, Chapter 5, AutoMARK Setup Instructions EVS5000_SOP00_DS200, Chapter 4, Pre-Election Day Tasks EVS5000_SOP00_DS850, Section 5, Pre-Election Day Tasks EVS5000_SOP00_ERM, Section 2, Pre-Election Tasks	TDP
321	**SYSTEM OP**	b.	Voting functions		EVS5000_SOP00_AMVAT, Chapter 6, Assisting Voters EVS5000_SOP00_DS200, Chapter 5, Election Day Tasks EVS5000_SOP00_DS850, Section 6, Election Day Tasks EVS5000_SOP00_ERM, Section 3, Election Day Tasks	TDP
322		c.	Post-voting functions		EVS5000_SOP00_AMVAT, Chapter 11, Maintenance EVS5000_SOP00_DS200, Chapter 6, Post Election Day Tasks EVS5000_SOP00_DS850, Section 7, Post-Election Day Tasks EVS5000_SOP00_ERM, Section 4, Post-Election Tasks	TDP

	A	B	C	D	F	G
323	OPERATIONS PROCECURES	d.	General capabilities		EVS5000_SOP00_AMVAT EVS5000_SOP00_DS200 EVS5000_SOP00_DS850 EVS5000_SOP00_ERM	TDP
324		**VII, 2.8.4**	**Operational Features**			
325			The vendor shall provide documentation of system operating features that meets the following requirements:			
326		a.	A detailed description of all input, output, control, and display features accessible to the operator or voter		EVS5000_SOP00_AMVAT EVS5000_SOP00_DS200 EVS5000_SOP00_DS850 EVS5000_SOP00_ERM	TDP
327		b.	Examples of simulated interactions to facilitate understanding of the system and its capabilities		EVS5000_SOP00_AMVAT EVS5000_SOP00_DS200 EVS5000_SOP00_DS850 EVS5000_SOP00_ERM	TDP
328		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*	EVS5000_SOP00_AMVAT EVS5000_SOP00_DS200 EVS5000_SOP00_DS850 EVS5000_SOP00_ERM	TDP
329		d.	Illustrate and describe all status indicators and information messages		EVS5000_SOP00_AMVAT EVS5000_SOP00_DS200 EVS5000_SOP00_DS850 EVS5000_SOP00_ERM	TDP
330		**VII, 2.8.5**	**Operating Procedures**			
331			The vendor shall provide documentation of system operating procedures that meets the following requirements:	*also Vol. I, 5.1.1 Software Requirements, Software Sources*		
332		a.	Provides a detailed description of procedures required to initiate, control, and verify proper system operation.		EVS5000_SOP00_AMVAT EVS5000_SOP00_DS200 EVS5000_SOP00_DS850 EVS5000_SOP00_ERM	TDP
333		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).		EVS5000_SOP00_AMVAT EVS5000_SOP00_DS200 EVS5000_SOP00_DS850 EVS5000_SOP00_ERM	TDP
334		c.	Provides procedures that clearly enable the operator to intervene in system operations to recover from an abnormal system state.		EVS5000_SOP00_AMVAT EVS5000_SOP00_DS200 EVS5000_SOP00_DS850 EVS5000_SOP00_ERM	TDP
335		d.	Defines and illustrates the procedures and system prompts for situations where operator intervention is required to load, initialize, and start the system.		EVS5000_SOP00_AMVAT EVS5000_SOP00_DS200 EVS5000_SOP00_DS850 EVS5000_SOP00_ERM	TDP
336		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.		EVS5000_SOP00_AMVAT EVS5000_SOP00_DS200 EVS5000_SOP00_DS850 EVS5000_SOP00_ERM	TDP
337		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.		EVS5000_SOP00_AMVAT EVS5000_SOP00_DS200 EVS5000_SOP00_DS850 EVS5000_SOP00_ERM	TDP

	A	B	C	D	F	G
338		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*	EVS5000_SOP00_AMVAT EVS5000_SOP00_DS200 EVS5000_SOP00_DS850 EVS5000_SOP00_ERM	TDP
339		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.		EVS5000_SOP00_AMVAT EVS5000_SOP00_DS200 EVS5000_SOP00_DS850 EVS5000_SOP00_ERM	TDP
340		**VII, 2.8.6**	**Operations Support**			
341			The vendor shall provide documentation of system operating procedures that meets the following requirements:			
342		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.		EVS5000_SOP00_AMVAT EVS5000_SOP00_DS200 EVS5000_SOP00_DS850 EVS5000_SOP00_ERM	TDP
343		b.	Describes procedures for providing technical support, system maintenance and correction of defects, and for incorporating hardware upgrades and new software releases.		EVS5000_SOP00_AMVAT EVS5000_SOP00_DS200 EVS5000_SOP00_DS850 EVS5000_SOP00_ERM	TDP
344		**VII, 2.8.7**	**Appendices**			
345			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:			
346		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.		No glossary appendices were noted in the core SOP TDPs	TDP
347		b.	**References:** A list of references to all vendor documents and to other sources related to operation of the system.		No reference appendices were noted in the core SOP TDPs	TDP
348		c.	**Detailed Examples:** Detailed scenarios that outline correct system responses to faulty operator input; Alternative procedures may be specified depending on the system state.		EVS5000_SOP00_AMVAT, Part 2 (not listed in contents), Appendix EVS5000_SOP00_DS200, Part 4 (not listed in contents), Appendix EVS5000_SOP00_ERM, Part 12 (not listed in contents), Appendix	TDP
349		d.	**Manufacturer's Recommended Security Procedures:** This appendix shall contain the security procedures that are to be executed by the system operator.		No manufacturer's recommended security procedures appendices were noted in the core SOP TDPs	TDP
350		**VII, 2.9**	**System Maintenance Manual**			
351			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.		EVS5000_SMM00_AMVAT EVS5000_SMM00_DS200 EVS5000_SMM00_DS850	TDP
352			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.		EVS5000_SMM00_AMVAT EVS5000_SMM00_DS200 EVS5000_SMM00_DS850	TDP
353		**VII, 2.9.1**	**Introduction**			

	A	B	C	D	F	G
354			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:			
355		a.	The electrical and mechanical functions of the equipment.		EVS5000_SMM00_AMVAT, Section 4, System Power EVS5000_SMM00_DS200, Section 1, Electrical Information EVS5000_SMM00_DS850, Section 1, Electrical Information	TDP
356		b.	How the processes of ballot handling and reading are performed (paper-based systems).		EVS5000_SMM00_AMVAT, Section 2, Basic Functionality EVS5000_SMM00_DS200 EVS5000_SMM00_DS850	TDP
357		c.	How vote selection and casting of the ballot are performed (DRE systems).		N/A - Not a DRE System	TDP
358		d.	How transmission of data over a network is performed (DRE systems, where applicable.		N/A - Not a DRE System	TDP
359		e.	How data are handled in the processor and memory units.		EVS5000_SMM00_AMVAT EVS5000_SMM00_DS200 EVS5000_SMM00_DS850	TDP
360		f.	How data output is initiated and controlled.		EVS5000_SMM00_AMVAT EVS5000_SMM00_DS200 EVS5000_SMM00_DS850	TDP
361		g.	How power is converted or conditioned.		EVS5000_SMM00_AMVAT, Section 4, System Power EVS5000_SMM00_DS200, Section 1, Electrical Information EVS5000_SMM00_DS850, Section 1, Electrical Information	TDP
362		h.	How test and diagnostic information is acquired and used.		EVS5000_SMM00_AMVAT EVS5000_SMM00_DS200 EVS5000_SMM00_DS850	TDP
363		**VII, 2.9.2**	**Maintenance Procedures**			
364			The vendor shall describe preventive and corrective maintenance procedures for hardware and software.		EVS5000_SMM00_AMVAT, Section 10, Preventive Maintenance Procedures EVS5000_SMM00_DS200, Section 1, Introduction EVS5000_SMM00_DS850, Section 1, Introduction	TDP
365		**VII, 2.9.2.1**	**Preventive Maintenance Procedures**			
366			The vendor shall identify and describe:			
367		a.	All required and recommended preventive maintenance tasks, including software tasks such as software backup, database performance analysis, and database tuning.		EVS5000_SMM00_AMVAT, Section 10, Preventive Maintenance Procedures EVS5000_SMM00_DS200, Section 1, Introduction EVS5000_SMM00_DS850, Section 1, Introduction	TDP
368		b.	Number and skill levels of personnel required for each task.		EVS5000_SMM00_AMVAT, Section 10, Preventive Maintenance Procedures EVS5000_SMM00_DS200, Section 1, Personnel Deployment EVS5000_SMM00_DS850, Section 1, Personnel Deployment	TDP
369		c.	Parts, supplies, special maintenance equipment, software tools, or other resources needed for maintenance.		EVS5000_SMM00_AMVAT EVS5000_SMM00_DS200 EVS5000_SMM00_DS850	TDP
370		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).		EVS5000_SMM00_AMVAT EVS5000_SMM00_DS200 EVS5000_SMM00_DS850	TDP
371		**VII, 2.9.2.2**	**Corrective Maintenance Procedures**			

	A	B	C	D	F	G
372	SYSTEM MAINTENANCE MANUALS		The vendor shall provide fault detection, fault isolation, correction procedures, and logic diagrams for all operational abnormalities identified by design analysis and operating experience.		EVS5000_SMM00_AMVAT EVS5000_SMM00_DS200 EVS5000_SMM00_DS850	TDP
373			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:			
374		a.	Steps to replace failed or deficient equipment.		EVS5000_SMM00_AMVAT EVS5000_SMM00_DS200 EVS5000_SMM00_DS850	TDP
375		b.	Steps to correct deficiencies or faulty operations in software.		EVS5000_SMM00_AMVAT EVS5000_SMM00_DS200 EVS5000_SMM00_DS850	TDP
376		c.	Modifications that are necessary to coordinate any modified or upgraded software with other software modules.		EVS5000_SMM00_AMVAT EVS5000_SMM00_DS200 EVS5000_SMM00_DS850	TDP
377		d.	The number and skill levels of personnel needed to accomplish each procedure.		EVS5000_SMM00_AMVAT EVS5000_SMM00_DS200 EVS5000_SMM00_DS850	TDP
378		e.	Special maintenance equipment, parts, supplies, or other resources needed to accomplish each procedure.		EVS5000_SMM00_AMVAT EVS5000_SMM00_DS200 EVS5000_SMM00_DS850	TDP
379		f.	Any coordination required with the vendor, or other party, for off the shelf items.		EVS5000_SMM00_AMVAT EVS5000_SMM00_DS200 EVS5000_SMM00_DS850	TDP
380		**VII, 2.9.3**	**Maintenance Equipment**			
381			The vendor shall identify and describe any special purpose test or maintenance equipment recommended for fault isolation and diagnostic purposes.		EVS5000_SMM00_AMVAT EVS5000_SMM00_DS200 EVS5000_SMM00_DS850	TDP
382		**VII, 2.9.4**	**Parts and Materials**			
383			Vendors shall provide detailed documentation of parts and materials needed to operate and maintain the system. Additional requirements apply for paper-based systems.			
384		**VII, 2.9.4.1**	**Parts and Materials, Common Standards**			
385			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*		
386		a.	Type		EVS5000_SMM00_AMVAT EVS5000_SMM00_DS200 EVS5000_SMM00_DS850	TDP
387		b.	Size		EVS5000_SMM00_AMVAT EVS5000_SMM00_DS200 EVS5000_SMM00_DS850	TDP
388		c.	Value or range		EVS5000_SMM00_AMVAT EVS5000_SMM00_DS200 EVS5000_SMM00_DS850	TDP
389		d.	Manufacturer's designation		EVS5000_SMM00_AMVAT EVS5000_SMM00_DS200 EVS5000_SMM00_DS850	TDP

	A	B	C	D	F	G
390		e.	Individual quantities needed		EVS5000_SMM00_AMVAT EVS5000_SMM00_DS200 EVS5000_SMM00_DS850	TDP
391		f.	Sources from which they may be obtained		EVS5000_SMM00_AMVAT EVS5000_SMM00_DS200 EVS5000_SMM00_DS850	TDP
392		**VII, 2.9.4.2**	**Paper-Based Systems**			
393			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.		EVS5000_SMM00_DS200, Section 1, Marking Supplies	TDP
394			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*	EVS5000_SMM00_AMVAT, Section 12, Ballot Specifications EVS5000_SMM00_DS200, Section 1, Ballots EVS5000_SMM00_DS850, Section 1, Ballots EVS5000_ORPT02_BallotProductionGuide	TDP
395		**VII, 2.9.5**	**Maintenance Facilities and Support**			
396			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*		
397		a.	Recommended number and locations of spare devices or components to be kept on hand for repair purposes during periods of system operation.		EVS5000_SMM00_AMVAT, Section 12, Accessories EVS5000_SMM00_DS200, Section 1, Spare Devices EVS5000_SMM00_DS850, Section 1, Spare Devices	TDP
398		b.	Recommended number and locations of qualified maintenance personnel who need to be available to support repair calls during system operation.		EVS5000_SMM00_AMVAT EVS5000_SMM00_DS200, Section 1, Personnel Deployment EVS5000_SMM00_DS850, Section 1, Personnel Deployment	TDP
399		c.	Organizational affiliation (i.e., jurisdiction, vendor) of qualified maintenance personnel.		EVS5000_SMM00_AMVAT EVS5000_SMM00_DS200, Section 1, Personnel Deployment EVS5000_SMM00_DS850, Section 1, Personnel Deployment	TDP
400		**VII, 2.9.6**	**Appendices**			
401			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:			
402		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.		AMVAT - No Glossary Appendix DS200 - No Glossary Appendix DS850 - No Glossary Appendix	TDP
403		b.	**References:** A list of references to all vendor documents and other sources related to maintenance of the system.		AMVAT - No Referneces Appendix DS200 - No Referneces Appendix DS850 - No Referneces Appendix	TDP
404		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.		AMVAT - No Detailed Examples Appendix DS200 - No Detailed Examples Appendix DS850 - No Detailed Examples Appendix	TDP

	A	B	C	D	F	G
405		d.	**Maintenance and Security Procedures:**This appendix shall contain technical illustrations and schematic representations of electronic circuits unique to the system.		AMVAT - No Maintenance and Security Procedures Appendix DS200 - No Maintenance and Security Procedures Appendix DS850 - No Maintenance and Security Procedures Appendix	TDP
406	PERSONNEL DEVELOPMENT AND TRAINING	**VII, 2.10**	**Personnel Deployment and Training Requirements**			
407			The vendor shall describe the personnel resources and training required for a jurisdiction to operate and maintain the system.		ESSSYS_T_D_1000_TrainingProgram	TDP
408		**VII, 2.10.1**	**Personnel**			
409			The vendor shall specify the number of personnel and skill levels required to perform each of the following functions:			
410		a.	Pre-election or election preparation functions (e.g., entering an election, contest and candidate information; designing a ballot; generating pre-election reports),		ESSSYS_T_D_1000_TrainingProgram , Section 1.1.1, Pre-Election Preperation	TDP
411		b.	System operations for voting system functions performed at the polling place.		ESSSYS_T_D_1000_TrainingProgram , Section 1.1.2, System Operations at the Polling Place	TDP
412		c.	System operations for voting system functions performed at the central count facility.		ESSSYS_T_D_1000_TrainingProgram , Section 1.1.3, System Opeations at the Central Count Facility	TDP
413		d.	Preventive maintenance tasks.		ESSSYS_T_D_1000_TrainingProgram , Section 1.1.4, Preventive Maintenance Task	TDP
414		e.	Diagnosis of faulty hardware or software.		ESSSYS_T_D_1000_TrainingProgram , Section 1.1.5, Diagnosis of Faulty Hardware or Software	TDP
415		f.	Corrective maintenance tasks.		ESSSYS_T_D_1000_TrainingProgram , Section 1.1.6, Corrective Maintenance Tasks	TDP
416		g.	Testing to verify the correction of problems.		ESSSYS_T_D_1000_TrainingProgram , Section 1.1.7, Testing to Verify Correction of Problem	TDP
417			A description shall be presented of which functions may be carried out by user personnel, and those that must be performed by vendor personnel.		ESSSYS_T_D_1000_TrainingProgram , Section 2.1.6, Vendor Personnel	TDP
418		**VII, 2.10.2**	**Training**			
419			The vendor shall specify requirements for the orientation and training of the following personnel:			
420		a.	Poll workers supporting polling place operations		ESSSYS_T_D_1000_TrainingRecommendation, Section 2.1.1, Poll Worker Supporting Polling Place…	TDP
421		b.	System support personnel involved in election programming		ESSSYS_T_D_1000_TrainingRecommendation, Section 2.1.2, System Support Personnel Involved in…	TDP
422		c.	User system maintenance technicians		ESSSYS_T_D_1000_TrainingRecommendation, Section 2.1.3, User System Maintenance Technicians	TDP
423		d.	Network/system administration personnel (if a network is used)		ESSSYS_T_D_1000_TrainingRecommendation, Section 2.1.4, Network/System Administration…	TDP
424		e.	Information systems personnel		ESSSYS_T_D_1000_TrainingProgram , Section 2.1.5, Data Personnel	TDP
425		f.	Vendor personnel		ESSSYS_T_D_1000_TrainingProgram , Section 2.1.6, Vendor Personnel	TDP
426		**VII, 2.11**	**Configuration Management Plan**	*Vol. I, Sec. 9 Configuration Management Requirements*		
427			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 Management Practices*	ESSSYS_CM_P_1000_ESSCMProgram ESSSYS_DOC_P_1000_TDProgram EVS5000_CMP10_BUILD DOCUMENTATION [Folder] EVS5000_CMP10_BLD01_SEC01_EMSBuildProcedure EVS5000_CMP10_BLD01_SEC02_EMSBuildEnvironment EVS5000_CMP10_BLD01_SEC03_WindowsAndVirusProtectionUpdates EVS5000_CMP10_BLD02_SEC01_AutoMARKBuildProcedure EVS5000_CMP10_BLD02_SEC02_AutoMARKBuildEnvironment EVS5000_CMP10_BLD03_SEC01_DS200AncillaryBuildProcedure EVS5000_CMP10_BLD03_SEC02_DS200AncillaryBuildEnvironment EVS5000_CMP10_BLD05_SEC01_DS850FirmwareBuildProcedure EVS5000_CMP10_BLD07_SEC01_DS200FirmwareBuildProcedure	TDP
428		**VII, 2.11.1**	**Configuration Management Policy**			

	A	B	C	D	F	G
429	CONFIGURATION MANAGEMENT PLAN		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*		
430		a.	Scope and nature of configuration management program activities		ESSSYS_CM_P_1000_ESSCMProgram, Section I.1.1, Scope	TDP
431		b.	Breadth of application of vendor's policy and practices to the voting system		ESSSYS_CM_P_1000_ESSCMProgram, Section 3.1, Breadth of Application	TDP
432		**VII, 2.11.2**	**Configuration Identification**			
433			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*		
434		a.	Classifying configuration items into categories and subcategories		ESSSYS_CM_P_1000_ESSCMProgram, Section 4, Configuration Identification ESSSYS_DOC_P_1000_TDProgram, Section 6, Appendix C: Document Overview, Naming and Versioning	TDP
435		b.	Uniquely numbering or otherwise identifying configuration items		ESSSYS_CM_P_1000_ESSCMProgram, Section 4, Configuration Identification ESSSYS_DOC_P_1000_TDProgram, Section 6, Appendix C: Document Overview, Naming and Versioning	TDP
436		c.	Naming configuration items		ESSSYS_CM_P_1000_ESSCMProgram, Section 4, Configuration Identification ESSSYS_DOC_P_1000_TDProgram, Section 6, Appendix C: Document Overview, Naming and Versioning	TDP
437		**VII, 2.11.3**	**Baseline and Promotion**			
438			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*		
439		a.	Establishing a particular instance of a system component as the starting baseline.		ESSSYS_CM_P_1000_ESSCMProgram, Section 5, Baseline Promotion and Demotion	TDP
440		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.		ESSSYS_CM_P_1000_ESSCMProgram, Section 5, Baseline Promotion and Demotion	TDP
441		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*	ESSSYS_CM_P_1000_ESSCMProgram, Section 5, Baseline Promotion and Demotion	TDP
442		**VII, 2.11.4**	**Configuration Control Procedures**			
443			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*		
444		a.	Developing and maintaining internally developed items		ESSSYS_CM_P_1000_ESSCMProgram, Section 6, Configuration Control Procedures	TDP
445		b.	Developing and maintaining third party items		ESSSYS_CM_P_1000_ESSCMProgram, Section 6, Configuration Control Procedures	TDP
446		c.	Resolving internally identified defects		ESSSYS_CM_P_1000_ESSCMProgram, Section 6, Configuration Control Procedures	TDP
447		d.	Resolving externally identified and reported defects		ESSSYS_CM_P_1000_ESSCMProgram, Section 6, Configuration Control Procedures	TDP
448		**VII, 2.11.5**	**Release Process**			
449			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*		
450		a.	A first release of the system to an accredited test lab.		ESSSYS_CM_P_1000_ESSCMProgram, Section 7, Release Porcess	TDP

	A	B	C	D	F	G
451		b.	A subsequent maintenance or upgrade release of a system, or particular components, to an accredited test lab.		ESSSYS_CM_P_1000_ESSCMProgram, Section 7, Release Porcess	TDP
452		c.	The initial delivery and installation of the system to a customer.		ESSSYS_CM_P_1000_ESSCMProgram, Section 7, Release Porcess	TDP
453		d.	A subsequent maintenance or upgrade release of a system, or particular components, to a customer.		ESSSYS_CM_P_1000_ESSCMProgram, Section 7, Release Porcess	TDP
454		**VII, 2.11.6**	**Configuration Audits**			
455			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:			
456		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*	ESSSYS_CM_P_1000_ESSCMProgram, Section 8, Configuration Audits	TDP
457		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*	ESSSYS_CM_P_1000_ESSCMProgram, Section 8, Configuration Audits	TDP
458		**VII, 2.11.7**	**Configuration Management Resources**			
459			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*		
460		a.	Specific tools used, current version, and operating environment		ESSSYS_CM_P_1000_ESSCMProgram, Section 9.1, Tools Used	TDP
461		b.	Physical location of the tools, including designation of computer directories and files		ESSSYS_CM_P_1000_ESSCMProgram, Section 9.2, Tools Location	TDP
462		c.	Procedures and training materials for using the tools		ESSSYS_CM_P_1000_ESSCMProgram, Section 9.3, Procedures and Training for Tools	TDP
463		**VII, 2.12**	**Quality Assurance**			

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464	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*	ESSSYS_M_I_0501_WhatRequriesECO ESSSYS_M_P_0500_ECOProcess ESSSYS_M_P_1000_MNFQualityAssurancePlan ESSSYS_Q_P_0100_SoftwareQualityAssuranceProgram EVS5000_QAP00_MN03_ECOPolicies and Procedures EVS5000_QAP00_SWF01_Software_Firmware_Acceptance EVS5000_QAP01_ISO cert Pivot EVS5000_QAP03_QA manual Pivot EVS5000_QAP07_DataWin Quality Assurance Manual EVS5000_QAP08_DATAWIN ISO Certification Certificate ESSSYS_M_FM_AcceptanceChecklists [folder] 850_AccptChklst_revC 850_DemoChklst_revA 850_OAccptChklst_revB AutoMark_AccptChklst_001_Rev.A AutoMark_QC_Chklst_001Rev.A DS200_AccptChklst_001Rev.A Carrying Case QC sheet rev 1.0 EVS5000_QAP00_MN01.01_AcceptanceTestProcedure_DS200 EVS5000_QAP00_MN02.01_AcceptanceTestProcedure_DS850 EVS5000_QAP00_MN01_AcceptanceTesting [folder] 850_AccptChklst_revB.pdf 850_DemoChklst_revA.pdf 850_OAccptChklst_revA.pdf AutoMark_AccptChklst_001_Rev.A.pdf AutoMark_QC_Chklst_001Rev.A.pdf DS200_AccptChklst_001Rev.A.pdf EVS5000_QAP00_MN01.01_AcceptanceTestProcedure_DS200.pdf EVS5000_QAP00_MN02.01_AcceptanceTestProcedure_DS850.pdf	TDP
465		**VII, 2.12.1**	**Quality Assurance Policy**			
466			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*		
467		a.	Scope and nature of Quality Assurance activities		ESSSYS_M_P_1000_MNFQualityAssurancePlan, Section 4.1, Scope ESSSYS_Q_P_0100_SoftwareQualityAssuranceProgram, Section 4.1, Scope	TDP
468		b.	Breadth of application of vendor's policy and practices to the voting system		ESSSYS_M_P_1000_MNFQualityAssurancePlan, Section 4.2, Breadth of Application ESSSYS_Q_P_0100_SoftwareQualityAssuranceProgram, Section 4.3, Breadth of Application	TDP
469		**VII, 2.12.2**	**Parts and Materials Test**			
470			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*	ESSSYS_M_P_1000_MNFQualityAssurancePlan, Section 5, Parts and Materials Tests ESSSYS_Q_P_0100_SoftwareQualityAssuranceProgram, Section 9, Parts and Materials Tests	TDP
471		**VII, 2.12.3**	**Quality Conformance Inspections**			
472			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*		
473		a.	Test location		ESSSYS_M_P_1000_MNFQualityAssurancePlan, Section 3, Responsibility for Tests ESSSYS_Q_P_0100_SoftwareQualityAssuranceProgram, Section 3, Responsibility for Tests	TDP
474		b.	Test date		ESSSYS_M_P_1000_MNFQualityAssurancePlan, Section 3, Responsibility for Tests ESSSYS_Q_P_0100_SoftwareQualityAssuranceProgram, Section 3, Responsibility for Tests	TDP
475		c.	Individual who conducted the test		ESSSYS_M_P_1000_MNFQualityAssurancePlan, Section 3, Responsibility for Tests ESSSYS_Q_P_0100_SoftwareQualityAssuranceProgram, Section 3, Responsibility for Tests	TDP
476		d.	Test outcomes		ESSSYS_M_P_1000_MNFQualityAssurancePlan, Section 3, Responsibility for Tests ESSSYS_Q_P_0100_SoftwareQualityAssuranceProgram, Section 3, Responsibility for Tests	TDP

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477		**VII, 2.12.4**	**Documentation**			
478			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*	ESSSYS_M_P_1000_MNFQualityAssurancePlan, Section, 1.3 Documentation of the Hardware and Software Development... ESSSYS_Q_P_0100_SoftwareQualityAssuranceProgram, Section, 1.3 Documentation of the Hardware and Software Develop…	TDP
479	CHANGE NOTES	**VII, 2.13**	**System Change Notes**			
480			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*		
481		a.	Summary description of the nature and scope of the changes, and reasons for each change.		N/A	
482		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	
483		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	
484		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	
485						
486		**VI Sec. 2**	**Functional Requirements**			
487		**VI, 2.1**	**Overall System Capabilities**			
488		**VI, 2.1.1**	**Security**			
489			To ensure security, all systems shall:			
490		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*	EVS5000_SFD00, Section 2.1.1, Security	TDP
491		**VI, 2.1.5**	**System Audit**			
492			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	EVS5000_SFD00, Section 2.1.5, System Audit	TDP
493		**VI, 2.1.6**	**Election Management System**			
494			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:			
495		g.	Accumulate vote totals at multiple reporting levels as indicated in the system documentation.	*Vol. II, 2.8.4 System Operations Procedures, Operational Features*	EVS5000_SFD00, Section 2.1.6, Election management System	TDP
496		**VI, 2.1.7**	**Vote Tabulating Program**			
497		**VI, 2.1.7.1**	**Vote Tabulating Program, Functions**			
498		**VI, 2.1.7.2**	**Voting Variations**			
499			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*		
500			Closed primaries		EVS5000_SFD00, Section 2.1.7.2 (not listed in contents), Voting Variations	TDP
501			Open primaries		EVS5000_SFD00, Section 2.1.7.2 (not listed in contents), Voting Variations	TDP

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502			Partisan offices		EVS5000_SFD00, Section 2.1.7.2 (not listed in contents), Voting Variations	TDP
503			Non-partisan offices		EVS5000_SFD00, Section 2.1.7.2 (not listed in contents), Voting Variations	TDP
504			Write-in voting		EVS5000_SFD00, Section 2.1.7.2 (not listed in contents), Voting Variations	TDP
505			Primary presidential delegation nominations		EVS5000_SFD00, Section 2.1.7.2 (not listed in contents), Voting Variations	TDP
506			Ballot rotation		EVS5000_SFD00, Section 2.1.7.2 (not listed in contents), Voting Variations	TDP
507			Straight party voting		EVS5000_SFD00, Section 2.1.7.2 (not listed in contents), Voting Variations	TDP
508			Cross-party endorsement		EVS5000_SFD00, Section 2.1.7.2 (not listed in contents), Voting Variations	TDP
509			Split precincts		EVS5000_SFD00, Section 2.1.7.2 (not listed in contents), Voting Variations	TDP
510			Vote for N of M		EVS5000_SFD00, Section 2.1.7.2 (not listed in contents), Voting Variations	TDP
511			Recall issues with options		EVS5000_SFD00, Section 2.1.7.2 (not listed in contents), Voting Variations	TDP
512			Cumulative voting		EVS5000_SFD00, Section 2.1.7.2 (not listed in contents), Voting Variations	TDP
513			Support of ranked order voting		EVS5000_SFD00, Section 2.1.7.2 (not listed in contents), Voting Variations	TDP
514			Provisional or challenged ballots		EVS5000_SFD00, Section 2.1.7.2 (not listed in contents), Voting Variations	TDP
515		**VI, 2.1.10**	**Data Retention**			
516			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*	EVS5000_SFD00, Section 2.1.10, Data Retention	TDP
517		**VI, 2.2**	**Pre-Voting Capabilities**			
518		**VI, 2.2.1**	**Ballot Preparation**			
519		**VI, 2.2.1.1**	**General Capabilities**			
520			All systems shall provide the general capabilities for ballot preparation. All systems shall be capable of:			
521		c.	Supporting the maximum number of potentially active voting positions as indicated in the system documentation.	*Vol. II, 2.2.2a, System Performance*	EVS5000_SFD00, Section 2.2.1.1 (not listed in contents), General Capablities	TDP
522		**VI, 2.2.1.3**	**Ballot Production**			
523			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*	EVS5000_SFD00, Section 2.2.1.3 (not listed in contents), Ballot Production	TDP
524		**VI, 2.2.3**	**Ballot and Program Installation and Control**			
525			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:			
526		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*	EVS5000_SFD00, Section 2.2.3, Ballot Program Installation and Control	TDP
527		**VI, Sec. 3**	**Usability and Accessibility Requirements**			
528		**3.1**	**Usability Requirements**			
529		**VI, 3.1.1**	**Usability Testing**			

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530			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.	*EVS5000_SFD00*	EVS5000_OVR00, Appendix D, Common Industry Format for Usabilty Test Report - AutoMARK EVS5000_OVR00, Appendix D, Common Industry Format for Usabilty Test Report - DS200	TDP
531			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*	EVS5000_OVR00, Appendix D, Common Industry Format for Usabilty Test Report - AutoMARK EVS5000_OVR00, Appendix D, Common Industry Format for Usabilty Test Report - DS200	TDP
532		**EAC RFI 2007-03 dated Sept. 5, 2007**	**EAC Decision on Request for Interpretation 2007-03, 2005 VVSG Vol. I Section 3.1.1**			
533			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*)*		EVS5000_OVR00, Appendix D, Common Industry Format for Usabilty Test Report - AutoMARK EVS5000_OVR00, Appendix D, Common Industry Format for Usabilty Test Report - DS200	TDP
534			(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".*		EVS5000_OVR00, Appendix D, Common Industry Format for Usabilty Test Report - AutoMARK EVS5000_OVR00, Appendix D, Common Industry Format for Usabilty Test Report - DS200	TDP
535		**VI, 3.2.2.1**	**Partial Vision**			
536		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…*	EVS5000_OVR00, Appendix D, Common Industry Format for Usabilty Test Report - AutoMARK EVS5000_OVR00, Appendix D, Common Industry Format for Usabilty Test Report - DS200	TDP
537			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.		EVS5000_OVR00, Appendix D, Common Industry Format for Usabilty Test Report - AutoMARK EVS5000_OVR00, Appendix D, Common Industry Format for Usabilty Test Report - DS200	TDP
538		**VI, 3.2.2.2**	**Blindness**			
539		a.	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…*	EVS5000_OVR00, Appendix D, Common Industry Format for Usabilty Test Report - AutoMARK EVS5000_OVR00, Appendix D, Common Industry Format for Usabilty Test Report - DS200	TDP

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540			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.	*Fbl*	EVS5000_OVR00, Appendix D, Common Industry Format for Usabilty Test Report - AutoMARK EVS5000_OVR00, Appendix D, Common Industry Format for Usabilty Test Report - DS200	TDP
541		c.	All voting stations that provide audio presentation of the ballot shall conform to the following requirements:			
542		c. iv.	A sanitized headphone or handset shall be made available to each voter.		EVS5000_SFD00, Section 2.1.11, Additional Overall Capabilities	TDP
543			Discussion: this requirement can be achieved in various ways, including the use of "throwaway" headphones, or of sanitary coverings.		EVS5000_SFD00, Section 2.1.11, Additional Overall Capabilities	TDP
544		**VI, 3.2.3**	**Dexterity**			
545		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…*	EVS5000_OVR00, Appendix D, Common Industry Format for Usabilty Test Report - AutoMARK EVS5000_OVR00, Appendix D, Common Industry Format for Usabilty Test Report - DS200	TDP
546			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.		EVS5000_OVR00, Appendix D, Common Industry Format for Usabilty Test Report - AutoMARK EVS5000_OVR00, Appendix D, Common Industry Format for Usabilty Test Report - DS200	
547		**VI, 4**	**Hardware Requirements**			
548		**VI, 4.1.2**	**Environmental Requirements**			
549			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*	EVS5000_SHS00_DS200, Section 2.1.2, Environmental Requirements EVS5000_SHS00_DS850, Section 2.1.2, Environmental Requirements AutoMARK_ESS_System_Hardware_Specifications_AQS-18-5000-001-F, Section 1B, Physical Character…	TDP
550		**VI, 4.1.3.2**	**Memory Stability**			
551			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*	EVS5000_SHS00_DS200, Section 2.1.3.2, Memory Stability EVS5000_SHS00_DS850, Section 2.1.3.2, Memory Stability AutoMARK_ESS_System_Hardware_Specifications_AQS-18-5000-001-F	TDP
552		**VI, 4.1.4**	**Vote Recording Requirements**			
553		**VI, 4.1.4.2**	**Paper Based Recording Requirements**			
554		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*	EVS5000_SHS00_DS200, Section 2.1.4.2, Paper-based Recording Requirments EVS5000_SHS00_DS850, Section 2.1.4.2, Paper-based Recording Requirments AutoMARK_ESS_System_Hardware_Specifications_AQS-18-5000-001-F	TDP
555		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*	EVS5000_SHS00_DS200, Section 2.1.4.2, Paper-based Recording Requirments EVS5000_SHS00_DS850, Section 2.1.4.2, Paper-based Recording Requirments AutoMARK_ESS_System_Hardware_Specifications_AQS-18-5000-001-F	TDP
556			i. Specific characteristics of marking devices that affect readability of marked ballots		EVS5000_SHS00_DS200, Section 2.1.4.2, Paper-based Recording Requirments EVS5000_SHS00_DS850, Section 2.1.4.2, Paper-based Recording Requirments AutoMARK_ESS_System_Hardware_Specifications_AQS-18-5000-001-F	TDP
557			ii. Performance capabilities with regard to each characteristic		EVS5000_SHS00_DS200, Section 2.1.4.2, Paper-based Recording Requirments EVS5000_SHS00_DS850, Section 2.1.4.2, Paper-based Recording Requirments AutoMARK_ESS_System_Hardware_Specifications_AQS-18-5000-001-F	TDP

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558			iii. For marking devices manufactured by multiple external sources, a listing of sources and model numbers that are compatible with the system		EVS5000_SHS00_DS200, Section 2.1.4.2, Paper-based Recording Requirments EVS5000_SHS00_DS850, Section 2.1.4.2, Paper-based Recording Requirments AutoMARK_ESS_System_Hardware_Specifications_AQS-18-5000-001-F	TDP
559		d.	Ballot boxes and ballot transfer boxes, which serve as secure containers for the storage and transportation of ballots, shall:			
560			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*	EVS5000_SSS07_PhysEquipmentSecurityBestPract EVS5000_SHS00_DS200, Section 2.1.4.2, Paper-based Recording Requirments EVS5000_SHS00_DS850, Section 2.1.4.2, Paper-based Recording Requirments AutoMARK_ESS_System_Hardware_Specifications_AQS-18-5000-001-F	TDP
561		**VI, 4.1.5**	**Paper-based Conversion Requirements**			
562		**VI, 4.1.5.1**	**Ballot Handling**			
563		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*	EVS5000_SHS00_DS200, Section 2.1.5, Paper-based Conversion Requirements EVS5000_SHS00_DS850, Section 2.1.5, Paper-based Conversion Requirements AutoMARK_ESS_System_Hardware_Specifications_AQS-18-5000-001-F	TDP
564		**VI, 4.1.6**	**Tabulation Processing Requirements**			
565		**VI, 4.1.6.1**	**Paper-based System Processing Requirements**			
566		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*	EVS5000_SHS00_DS200, Section 2.1.6.1, Paper-based System Processing Requirements EVS5000_SHS00_DS850, Section 2.1.6.1, Paper-based System Processing Requirements AutoMARK_ESS_System_Hardware_Specifications_AQS-18-5000-001-F	TDP
567		**VI, 4.1.6.2**	**DRE System Processing Requirements**			
568			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.			
569		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*	EVS5000_SHS00_DS200, Section 2.1.6.1, Paper-based System Processing Requirements EVS5000_SHS00_DS850, Section 2.1.6.1, Paper-based System Processing Requirements AutoMARK_ESS_System_Hardware_Specifications_AQS-18-5000-001-F	TDP
570		**VI, 4.1.7**	**Reporting Requirements**			
571		**VI, 4.1.7.1**	**Removable Storage Media**			
572			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*	EVS5000_SHS00_DS200, Section 2.1.6.2, DRE System Processing Requirements EVS5000_SHS00_DS850, Section 2.1.6.2, DRE System Processing Requirements AutoMARK_ESS_System_Hardware_Specifications_AQS-18-5000-001-F	TDP
573		**VI, 4.1.7.2**	**Printers**			
574			All printers used to produce reports of the vote count shall be capable of producing:	*Vol. II, 2.4 System Hardware*		
575		a.	Alphanumeric headers;		EVS5000_SHS00_DS200, Section 2.1.7.2, Printers EVS5000_SHS00_DS850, Section 2.1.7.2, Printers AutoMARK_ESS_System_Hardware_Specifications_AQS-18-5000-001-F	TDP

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576		b.	Election, office and issue labels; and		EVS5000_SHS00_DS200, Section 2.1.7.2, Printers EVS5000_SHS00_DS850, Section 2.1.7.2, Printers AutoMARK_ESS_System_Hardware_Specifications_AQS-18-5000-001-F	TDP
577		c.	Alphanumeric entries generated as part of the audit record.		EVS5000_SHS00_DS200, Section 2.1.7.2, Printers EVS5000_SHS00_DS850, Section 2.1.7.2, Printers AutoMARK_ESS_System_Hardware_Specifications_AQS-18-5000-001-F	TDP
578		**VI, 4.2**	**Physical Characteristics**	*also Vol II, 2.4.1 System Hardware Characteristics*		
579		**VI, 4.2.1**	**Size**			
580			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*	EVS5000_SHS00_DS200, Section 2.2.1, Size EVS5000_SHS00_DS850, Section 2.2.1, Size AutoMARK_ESS_System_Hardware_Specifications_AQS-18-5000-001-F, Section 1A, Performance....	TDP
581		**VI, 4.2.2**	**Weight**			
582			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*	EVS5000_SHS00_DS200, Section 2.2.1, Size EVS5000_SHS00_DS850, Section 2.2.1, Size AutoMARK_ESS_System_Hardware_Specifications_AQS-18-5000-001-F, Section 1A, Performance....	TDP
583		**VI, 4.2.3**	**Transport and Storage of Precinct Systems**			
584			All precinct voting systems shall:			
585		b.	[**precinct voting systems**] Be capable of using, or be provided with, a protective enclosure rendering the equipment capable of withstanding:			
586			ii. Stacking loads associated with storage.	*Vol. II, 2.4.1 b, System Hardware*	EVS5000_SHS00_DS200, Section 2.2.3, Transport Storage EVS5000_SHS00_DS850, Section 2.2.3, Transport Storage AutoMARK_ESS_System_Hardware_Specifications_AQS-18-5000-001-F, Section 1H, Environmental...	TDP
587		**VI, 4.3**	**Design, Construction, and Maintenance Characteristics**			
588		**VI, 4.3.1**	**Materials, Processes, and Parts**			
589			All voting systems shall:			
590		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…*	EVS5000_SHS00_DS200, Section 2.3.1, Materials, Processes, and Parts EVS5000_SHS00_DS850, Section 2.3.1, Materials, Processes, and Parts AutoMARK_ESS_System_Hardware_Specifications_AQS-18-5000-001-F, Section 2A, Materials...	TDP
591		**VI, 4.3.2**	**Durability**			
592			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*	EVS5000_SHS00_DS200, Section 2.3.2, Durability EVS5000_SHS00_DS850, Section 2.3.2, Durability AutoMARK_ESS_System_Hardware_Specifications_AQS-18-5000-001-F, Section 1C, Durablity	TDP
593		**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**			
594			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".*		April 03, 2012 Attestation Letter from Sue McKay	TDP
595		**VI, 4.3.5**	**Availability**			

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596			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 command 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*		
597			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:			
598		e.	Recommended number and locations of spare devices or components to be kept on hand for repair purposes during periods of system operation.		EVS5000_SHS00_DS200, Section 2.3.5, Availability EVS5000_SHS00_DS850, Section 2.3.5, Availability AutoMARK_ESS_System_Hardware_Specifications_AQS-18-5000-001-F, Section 1F, Availability	TDP
599		f.	Recommended number and locations of qualified maintenance personnel who need to be available to support repair calls during system operation.		EVS5000_SHS00_DS200, Section 2.3.5, Availability EVS5000_SHS00_DS850, Section 2.3.5, Availability AutoMARK_ESS_System_Hardware_Specifications_AQS-18-5000-001-F, Section 1F, Availability	TDP
600		g.	Organizational affiliation (i.e., jurisdiction, vendor) of qualified maintenance personnel.		EVS5000_SHS00_DS200, Section 2.3.5, Availability EVS5000_SHS00_DS850, Section 2.3.5, Availability AutoMARK_ESS_System_Hardware_Specifications_AQS-18-5000-001-F, Section 1F, Availability	TDP
601		**VI, 4.3.7**	**Workmanship**			
602			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*		
603		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		EVS5000_SHS00_DS200, Section 2.3.7, Workmanship EVS5000_SHS00_DS850, Section 2.3.7, Workmanship AutoMARK_ESS_System_Hardware_Specifications_AQS-18-5000-001-F, Section 1, System Hardware Char...	TDP
604		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*	EVS5000_SHS00_DS200, Section 2.3.7, Workmanship EVS5000_SHS00_DS850, Section 2.3.7, Workmanship AutoMARK_ESS_System_Hardware_Specifications_AQS-18-5000-001-F, Section 1, System Hardware Char...	TDP
605		**VI, Sec. 5**	**Software Requirements**			
606		**VI, 5.1.1**	**Software Sources**			
607			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*	EVS5000_SOP00_AMVAT EVS5000_SOP00_DS200 EVS5000_SOP00_DS850 EVS5000_SOP00_ElectionWare01_Admin EVS5000_SOP00_ElectionWare02_Define EVS5000_SOP00_ElectionWare03_Design EVS5000_SOP00_ElectionWare04_Deliver EVS5000_SOP00_ElectionWare05_Results EVS5000_SOP00_ERM EVS5000_SOP00_NetworkConfigGuide EVS5000_SOP00_ELS	TDP
608			The vendor shall also submit a record of all configuration changes made to the software following its installation.		EVS5000_SDS00_DS200, Section 2.5.6.1, Configurations and Operating Modes EVS5000_SDS00_DS850, Section 6.1, Configurations and Operating Modes EVS5000_SDS00_ERM, Section 6.1, Configurations and Operating Modes EVS5000_SDS00_UELS, Section 6.1, Configurations and Operating Modes EVS5000_SDS00_AutoMARK SDS Overview, Section 2.5.6.1, Configurations and Operating Modes	TDP
609		**VI, 5.2.6**	**Coding Conventions**			
610			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*		

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611		a.	The vendors shall identify the published, reviewed, and industry-accepted coding conventions used and the accredited test lab shall test for compliance.		EVS5000_SDS00_DS200, Section 2.5.4, Software Standards and Conventions EVS5000_SDS00_DS850, Section 4, Software Standards and Conventions EVS5000_SDS00_ERM, Section 4, Software Standards and Conventions EVS5000_SDS00_UELS, Section 4, Software Standards and Conventions EVS5000_SDS00_AutoMARK SDS Overview, Section 2.5.4, Software Standards and Conventions	TDP
612		**VI, 5.3**	**Data and Document Retention**			
613			All systems shall:			
614		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*	EVS5000_SDS00_DS200, Section II, Additional Software Functions Referenced in the VVSG:Volume I, Section 5 EVS5000_SDS00_DS850, Section 6.5.1, Data and Document Retention EVS5000_SDS00_ERM, Section 6.3.1, Data and Doucment Retention EVS5000_SDS00_UELS, Section 6.3.1, Data and Doucment Retention EVS5000_SDS00_AutoMARK SDS Overview, Section 5.3, Data and Document Retention	TDP
615		**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*		
616		**VI, 7.2.1**	**General Access Control Policy**			
617			The vendor shall specify the general features and capabilities of the access control policy recommended to provide effective votin system security.	*also Vol. II, 2.6.1 TDP, System Security Specification, Access Control Policy*	EVS5000_SSS00, Section 1, Access Control Policy	TDP
618			Although the jurisdiction in which the voting system is operated i responsible for determining the access policies for each election, the vendor shall provide a description of recommended policies for:			
619		a.	Software access controls;		EVS5000_SSS00, Section 2.1.1, Software Access	TDP
620		b.	Hardware access controls;		EVS5000_SSS00, Section 2.1.2, Hardware Access	TDP
621		c.	Communications;		EVS5000_SSS00, Section 2.1.3, Communications	TDP
622		d.	Effective password management;		EVS5000_SSS00, Section 2.1.4, Effective Password Managment	TDP
623		e.	Protection abilities of a particular operating system;		EVS5000_SSS00, Section 2.1.5, Protection Abilities of an Operating System	TDP
624		f.	General characteristics of supervisory access privileges;		EVS5000_SSS00, Section 2.1.6, General Characteristics of Supervisory Access Privileges	TDP
625		g.	Segregation of duties; and		EVS5000_SSS00, Section 2.1.7, Segregation of Duties	TDP
626		h.	Any additional relevant characteristics.		EVS5000_SSS00, Section 2.1.10, Additional Characteristics	TDP
627		**VI, 7.2.1.1**	**Individual Access Privileges**			
628			Voting system vendors shall:	*also Vol. II, 2.6.1 TDP, System Security Specification, Access Control Policy*		
629		a.	a. Identify each person to whom access is granted, and the specific functions and data to which each person holds authorized access.		EVS5000_SSS00 Section, 1.10.5, Individual Access Privileges	TDP
630		b.	b. Specify whether an individual's authorization is limited to a specific time, time interval, or phase of the voting or counting operations.		EVS5000_SSS00 Section, 1.10.5, Individual Access Privileges	TDP
631		c.	c. Permit the voter to cast a ballot expeditiously, but preclude voter access to all aspects of the vote counting process.		EVS5000_SSS00 Section, 1.10.5, Individual Access Privileges	TDP
632		**VI, 7.2.1.2**	**Access Control Measures**	*Vol. II, 2.6.2 TDP, System Security Specification, Access Control Measures*		
633			Vendors shall provide a detailed description of all system access control measures designed to permit authorized access to the system and prevent unauthorized access.		UNY 3020_SSS00 Section 2, Access Control Measures	TDP
634			Examples of such measures include:			
635		a.	Use of data and user authorization		UNY 3020_SSS00 Section 2, Access Control Measures	TDP

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636		b.	Program unit ownership and other regional boundaries		UNY 3020_SSS00 Section 2, Access Control Measures	TDP
637		c.	One-end or two-end port protection devices		UNY 3020_SSS00 Section 2, Access Control Measures	TDP
638		d.	Security kernels		UNY 3020_SSS00 Section 2, Access Control Measures	TDP
639		e.	Computer-generated password keys		UNY 3020_SSS00 Section 2, Access Control Measures	TDP
640		f.	Special protocols		UNY 3020_SSS00 Section 2, Access Control Measures	TDP
641		g.	Message encryption		UNY 3020_SSS00 Section 2, Access Control Measures	TDP
642		h.	Controlled access security		UNY 3020_SSS00 Section 2, Access Control Measures	TDP
643			Vendors also shall define and provide a detailed description of th methods used to prevent unauthorized access to the access contro capabilities of the system itself.		UNY 3020_SSS00 Section 2, Access Control Measures	TDP
644		**VI, 7.3**	**Physical Security Measures**			
645			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*		
646		**VI, 7.3.1**	**Polling Place Security**			
647			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*	EVS5000_SSS00, Section 3, Equipment and Data Secuirty	TDP
648			The measures shall allow the immediate detection of tampering with vote casting devices and precinct ballot counters.		EVS5000_SSS00, Section 3.2, Polling Place Equipemnt Security	TDP
649			They shall also control physical access to a telecommunications link if such a link is used.		EVS5000_SSS00, Section 4.2.2, ES&S Alert Monitoring	TDP
650		**VI, 7.3.2**	**Central Count Location Security**			
651			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 o ballot boxes, preparing of ballots for counting, counting operations and reporting data.	*Vol. II, 2.6.3 Equipment and Data Security*	EVS5000_SSS00, Section 3, Equipment and Data Secuirty	TDP
652		**VI, 7.4**	**Software Security**			
653			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*		
654		**VI, 7.4.1**	**Software and Firmware Installation**			
655			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*		
656		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.		EVS5000_SSS00, Section 4.1, Software and Firmware Installation	TDP
657		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.		EVS5000_SSS00, Section 4.1, Software and Firmware Installation	TDP
658		**VI, 7.4.2**	**Protection Against Malicious Software**			
659			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*	EVS5000_SSS00, Section 4.2, Protection Against Malicious Software	TDP

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660		**VI, 7.4.3**	**Software Distribution and Setup Validation**			
661			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*		
662		**VI, 7.4.4**	**Software Distribution**			
663		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*	AutoMARK ESS Ballot Image Processing Specification AQS-18-5002-003-S.pdf AutoMARK ESS Ballot Scanning and Printing Specification AQS-18-5002-007-S.pdf AutoMARK ESS Driver API Specification AQS-18-5000-002-F.pdf AutoMARK ESS Embedded Database Interface Specifications AQS-18-5002-005-S AutoMARK ESS GUI Design Specifications AQS-18-5001-005-R AutoMARK ESS Operating Software Design Specifications AQS-18-5001-002-R AutoMARK ESS Operations and Diagnostic Log Specs AQS-18-5002-004-S AutoMARK ESS Programming Specifications Details AQS-18-5001-011-R AutoMARK ESS Software Design Spec AQS-18-5001-004-S AutoMARK ESS Software Development Environment AQS-18-5001-006-R AutoMARK ESS Software Diagnostics Specifications AQS-18-5000-004-F AutoMARK ESS Software Standards Specification AQS-18-4000-000-S EVS5000_SDS00_AutoMARK SDS Overview EVS5000_SDS00_DS200 EVS5000_SDS00_DS20001_Flowcharts EVS5000_SDS00_DS20002_Reports EVS5000_SDS00_DS20005_System Messages EVS5000_SDS00_DS20006_Results Media XMLs EVS5000_SDS00_DS850 EVS5000_SDS00_ElectionWare EVS5000_SDS00_ElectionWare01_EW Specification and Interfaces EVS5000_SDS00_ElectionWare02_PB Specification and Interfaces EVS5000_SDS00_ElectionWare05_System Process Flowchart EVS5000_SDS00_ElectionWare07_PostGreSQL Description EVS5000_SDS00_ElectionWare08_Reports EVS5000_SDS00_ElectionWare11_DS200 and DS850 Media Desc EVS5000_SDS00_ElectionWare12_AutoMARK Media Description and Structure EVS5000_SDS00_ElectionWare13_ERM Media Description EVS5000_SDS00_ElectionWare14_System Messages EVS5000_SDS00_ERM EVS5000_SDS00_ERM01_Appendices EVS5000_SDS00_UELS	TDP

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664			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*	AutoMARK ESS Ballot Image Processing Specification AQS-18-5002-003-S.pdf AutoMARK ESS Ballot Scanning and Printing Specification AQS-18-5002-007-S.pdf AutoMARK ESS Driver API Specification AQS-18-5000-002-F.pdf AutoMARK ESS Embedded Database Interface Specifications AQS-18-5002-005-S AutoMARK ESS GUI Design Specifications AQS-18-5001-005-R AutoMARK ESS Operating Software Design Specifications AQS-18-5001-002-R AutoMARK ESS Operations and Diagnostic Log Specs AQS-18-5002-004-S AutoMARK ESS Programming Specifications Details AQS-18-5001-011-R AutoMARK ESS Software Design Spec AQS-18-5001-004-S AutoMARK ESS Software Development Environment AQS-18-5001-006-R AutoMARK ESS Software Diagnostics Specifications AQS-18-5000-004-F AutoMARK ESS Software Standards Specification AQS-18-4000-000-S EVS5000_SDS00_AutoMARK SDS Overview EVS5000_SDS00_DS200 EVS5000_SDS00_DS20001_Flowcharts EVS5000_SDS00_DS20002_Reports EVS5000_SDS00_DS20005_System Messages EVS5000_SDS00_DS20006_Results Media XMLs EVS5000_SDS00_DS850 EVS5000_SDS00_ElectionWare EVS5000_SDS00_ElectionWare01_EW Specification and Interfaces EVS5000_SDS00_ElectionWare02_PB Specification and Interfaces EVS5000_SDS00_ElectionWare05_System Process Flowchart EVS5000_SDS00_ElectionWare07_PostGreSQL Description EVS5000_SDS00_ElectionWare08_Reports EVS5000_SDS00_ElectionWare11_DS200 and DS850 Media Desc EVS5000_SDS00_ElectionWare12_AutoMARK Media Description and Structure EVS5000_SDS00_ElectionWare13_ERM Media Description EVS5000_SDS00_ElectionWare14_System Messages EVS5000_SDS00_ERM EVS5000_SDS00_ERM01_Appendices EVS5000_SDS00_UELS	TDP

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665	VOLUNTARY VOTING SY		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*	AutoMARK ESS Ballot Image Processing Specification AQS-18-5002-003-S.pdf AutoMARK ESS Ballot Scanning and Printing Specification AQS-18-5002-007-S.pdf AutoMARK ESS Driver API Specification AQS-18-5000-002-F.pdf AutoMARK ESS Embedded Database Interface Specifications AQS-18-5002-005-S AutoMARK ESS GUI Design Specifications AQS-18-5001-005-R AutoMARK ESS Operating Software Design Specifications AQS-18-5001-002-R AutoMARK ESS Operations and Diagnostic Log Specs AQS-18-5002-004-S AutoMARK ESS Programming Specifications Details AQS-18-5001-011-R AutoMARK ESS Software Design Spec AQS-18-5001-004-S AutoMARK ESS Software Development Environment AQS-18-5001-006-R AutoMARK ESS Software Diagnostics Specifications AQS-18-5000-004-F AutoMARK ESS Software Standards Specification AQS-18-4000-000-S EVS5000_SDS00_AutoMARK SDS Overview EVS5000_SDS00_DS200 EVS5000_SDS00_DS20001_Flowcharts EVS5000_SDS00_DS20002_Reports EVS5000_SDS00_DS20005_System Messages EVS5000_SDS00_DS20006_Results Media XMLs EVS5000_SDS00_DS850 EVS5000_SDS00_ElectionWare EVS5000_SDS00_ElectionWare01_EW Specification and Interfaces EVS5000_SDS00_ElectionWare02_PB Specification and Interfaces EVS5000_SDS00_ElectionWare05_System Process Flowchart EVS5000_SDS00_ElectionWare07_PostGreSQL Description EVS5000_SDS00_ElectionWare08_Reports EVS5000_SDS00_ElectionWare11_DS200 and DS850 Media Desc EVS5000_SDS00_ElectionWare12_AutoMARK Media Description and Structure EVS5000_SDS00_ElectionWare13_ERM Media Description EVS5000_SDS00_ElectionWare14_System Messages EVS5000_SDS00_ERM EVS5000_SDS00_ERM01_Appendices EVS5000_SDS00_UELS	TDP

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666	EAC TGDC VVSG VOLUME I VERSION 1.0		Discussion: Static voting system software such as executable code does not change based on the election being conducted or th 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.		AutoMARK ESS Ballot Image Processing Specification AQS-18-5002-003-S.pdf AutoMARK ESS Ballot Scanning and Printing Specification AQS-18-5002-007-S.pdf AutoMARK ESS Driver API Specification AQS-18-5000-002-F.pdf AutoMARK ESS Embedded Database Interface Specifications AQS-18-5002-005-S AutoMARK ESS GUI Design Specifications AQS-18-5001-005-R AutoMARK ESS Operating Software Design Specifications AQS-18-5001-002-R AutoMARK ESS Operations and Diagnostic Log Specs AQS-18-5002-004-S AutoMARK ESS Programming Specifications Details AQS-18-5001-011-R AutoMARK ESS Software Design Spec AQS-18-5001-004-S AutoMARK ESS Software Development Environment AQS-18-5001-006-R AutoMARK ESS Software Diagnostics Specifications AQS-18-5000-004-F AutoMARK ESS Software Standards Specification AQS-18-4000-000-S EVS5000_SDS00_AutoMARK SDS Overview EVS5000_SDS00_DS200 EVS5000_SDS00_DS20001_Flowcharts EVS5000_SDS00_DS20002_Reports EVS5000_SDS00_DS20005_System Messages EVS5000_SDS00_DS20006_Results Media XMLs EVS5000_SDS00_DS850 EVS5000_SDS00_ElectionWare EVS5000_SDS00_ElectionWare01_EW Specification and Interfaces EVS5000_SDS00_ElectionWare02_PB Specification and Interfaces EVS5000_SDS00_ElectionWare05_System Process Flowchart EVS5000_SDS00_ElectionWare07_PostGreSQL Description EVS5000_SDS00_ElectionWare08_Reports EVS5000_SDS00_ElectionWare11_DS200 and DS850 Media Desc EVS5000_SDS00_ElectionWare12_AutoMARK Media Description and Structure EVS5000_SDS00_ElectionWare13_ERM Media Description EVS5000_SDS00_ElectionWare14_System Messages EVS5000_SDS00_ERM EVS5000_SDS00_ERM01_Appendices EVS5000_SDS00_UELS	TDP
667		**VI, 7.4.6**	**Software Setup Validation**			
668		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*	EVS5000_SSS00, Section 4.3.3, Software Setup Validation	TDP
669			ii. The vendor shall document the process used to verify software on voting equipment.		EVS5000_SSS00, Section 4.3.3, Software Setup Validation	TDP
670		f.	Setup validation methods shall verify that registers and variables of the voting system equipment contain the proper static and initial values.		EVS5000_SSS00, Section 4.3.3, Software Setup Validation	TDP
671			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.		EVS5000_SSS00, Section 4.3.3, Software Setup Validation	TDP
672		**VI, 7.5**	**Telecommunications and Data Transmission**			
673		**VI, 7.5.2**	**Protection Against External Threats**			
674		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*		

	A	B	C	D	F	G
675		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*	N/A - EVS5000 does not use public telecommunications networks	TDP
676			i. Such documentation shall identify the name, vendor, and version used for each such component.		N/A - EVS5000 does not use public telecommunications networks	TDP
677		**VI, 7.5.3**	**Monitoring and Responding to External Threats**			
678			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*		
679		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);		EVS5000_SSS00, Section 4.2.2, ES&S Alert Monitoring	TDP
680		b.	Evaluate the threats and, if any, proposed responses;		EVS5000_SSS00, Section 4.2.2, ES&S Alert Monitoring	TDP
681		c.	Develop responsive updates to the system and/or corrective procedures;		EVS5000_SSS00, Section 4.2.2, ES&S Alert Monitoring	TDP
682		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;		EVS5000_SSS00, Section 4.2.2, ES&S Alert Monitoring	TDP
683		e.	After implementation of the proposed response is approved by th 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.		EVS5000_SSS00, Section 4.2.2, ES&S Alert Monitoring	TDP
684		f.	Address threats emerging too late to correct the system by:			
685			i. Providing prompt, emergency notification to the accredited test labs and the affected states and user jurisdictions;		EVS5000_SSS00, Section 4.2.2, ES&S Alert Monitoring	TDP
686			ii. Assisting client jurisdictions directly, or advising them through detailed written procedures, to disable the public telecommunications mode of the system; and		EVS5000_SSS00, Section 4.2.2, ES&S Alert Monitoring	TDP
687			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.		EVS5000_SSS00, Section 4.2.2, ES&S Alert Monitoring	TDP
688		**VI, 7.6**	**Use of Public Communications Networks**			
689		**VI, 7.6.2**	**Casting Individual Ballots**			
690		**VI, 7.6.2.1**	**Documentation of Mandatory Security Activities**			
691			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*		
692		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.		EVS5000_SSS00	TDP
693		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.		EVS5000_SSS00	TDP
694		**VI, 7.7**	**Wireless Communications**			

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695			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.			
696		**VI, 7.7.1**	**Controlling Usage**	*see also Vol. II, 2.6.5 TDP, System Security Specification, Telecommunications and Data Transmission Security*		
697		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:		N/A - EVS5000 does not use wireless communications	TDP
698			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.		N/A - EVS5000 does not use wireless communications	TDP
699			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.		N/A - EVS5000 does not use wireless communications	TDP
700			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.		N/A - EVS5000 does not use wireless communications	TDP
701			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.		N/A - EVS5000 does not use wireless communications	TDP
702			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.		N/A - EVS5000 does not use wireless communications	TDP
703		b.	The details of all cryptographic protocols used for wireless communications, including the specific features and data, shall be documented.		N/A - EVS5000 does not use wireless communications	TDP
704		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.		N/A - EVS5000 does not use wireless communications	TDP
705			i. The vendor shall provide documentation how to accomplish these functions when wireless is not available.		N/A - EVS5000 does not use wireless communications	TDP
706		**VI, 7.7.2**	**Identifying Usage**			
707			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*	N/A - EVS5000 does not use wireless communications	TDP
708		**VI, 7.9**	**Voter Verifiable Paper Audit Trail Requirements**			
709			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.			
710		**VI, 7.9.2**	**Voter Verifiable Paper Audit Trail Requirements, Approve or Void the Paper Record**			

	A	B	C	D	F	G
711		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 - EVS5000 does not utilze VVPAT	TDP
712		**VI, 7.9.3**	**Voter Verifiable Paper Audit Trail Requirements, Electronic and Paper Record Structure**			
713		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 - EVS5000 does not utilze VVPAT	TDP
714		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 - EVS5000 does not utilze VVPAT	TDP
715		**VI, 7.9.4**	**Equipment Security and Reliability**	*Vol. II, 2.2.2 b. System Performance*		
716		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.		N/A - EVS5000 does not utilze VVPAT	TDP
717		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.		N/A - EVS5000 does not utilze VVPAT	TDP
718		**VI, Sec. 8**	**Quality Assurance Requirements**			
719		**VI, 8.1**	**Scope**			
720		**VI, 8.2**	**General Requirements**			
721			The voting system vendor is responsible for designing and implementing a quality assurance program to ensure that the design, workmanship, and performance requirements are achieve 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*		
722		a.	Include procedures for specifying, procuring, inspecting, accepting, and controlling parts and raw materials of the requisite quality;		ESSSYS_M_P_1000_MNFQualityAssurancePlan, Section 1, General Quality Assurance Requirements ESSSYS_Q_P_0100_SoftwareQualityAssuranceProgram, Section 1, General Quality Assurance Requirements	TDP
723		b.	Require the documentation of the hardware and software development process;		ESSSYS_M_P_1000_MNFQualityAssurancePlan, Section 1, General Quality Assurance Requirements ESSSYS_Q_P_0100_SoftwareQualityAssuranceProgram, Section 1, General Quality Assurance Requirements	TDP
724		c.	Identify and enforce all requirements for:			
725			i. In-process inspection and testing that the manufacturer deems necessary to ensure proper fabrication and assembly of hardware		ESSSYS_M_P_1000_MNFQualityAssurancePlan, Section 1, General Quality Assurance Requirements ESSSYS_Q_P_0100_SoftwareQualityAssuranceProgram, Section 1, General Quality Assurance Requirements	TDP
726			ii. Installation and operation of software and firmware		ESSSYS_M_P_1000_MNFQualityAssurancePlan, Section 1, General Quality Assurance Requirements ESSSYS_Q_P_0100_SoftwareQualityAssuranceProgram, Section 1, General Quality Assurance Requirements	TDP
727		d.	Include plans and procedures for post-production environmental screening and acceptance testing		ESSSYS_M_P_1000_MNFQualityAssurancePlan, Section 1, General Quality Assurance Requirements ESSSYS_Q_P_0100_SoftwareQualityAssuranceProgram, Section 1, General Quality Assurance Requirements	TDP
728		e.	Include a procedure for maintaining all data and records required to document and verify the quality inspections and tests.		ESSSYS_M_P_1000_MNFQualityAssurancePlan, Section 1, General Quality Assurance Requirements ESSSYS_Q_P_0100_SoftwareQualityAssuranceProgram, Section 1, General Quality Assurance Requirements	TDP
729		**VI, 8.3**	**Components from Third Parties**			
730			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*	ESSSYS_M_P_1000_MNFQualityAssurancePlan, Section 1, General Quality Assurance Requirements ESSSYS_Q_P_0100_SoftwareQualityAssuranceProgram, Section 1, General Quality Assurance Requirements	TDP
731		**VI, 8.4**	**Responsibility for Tests**			

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732			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. These reports shall also be provided to the purchaser upon request.		ESSSYS_M_P_1000_MNFQualityAssurancePlan, Section 1, General Quality Assurance Requirements ESSSYS_Q_P_0100_SoftwareQualityAssuranceProgram, Section 1, General Quality Assurance Requirements	TDP
733		**VI, 8.5**	**Parts and Materials Special Tests and Examinations**			
734			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*		
735		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.		ESSSYS_M_P_1000_MNFQualityAssurancePlan, Section 5, Parts and Materials Tests ESSSYS_Q_P_0100_SoftwareQualityAssuranceProgram, Section 9, Parts and Materials Tests	TDP
736		b.	Design special tests, if needed, to evaluate the part or material under conditions accurately simulating the actual voting system operating environment.		ESSSYS_M_P_1000_MNFQualityAssurancePlan, Section 1.2, Specifying, Procuring, Inspecting, Accepting... ESSSYS_Q_P_0100_SoftwareQualityAssuranceProgram, Section 1.2, Specifying, Procuring, Inspecting, Accepting...	TDP
737		c.	Maintain the resulting test data as part of the quality assurance program documentation.		ESSSYS_M_P_1000_MNFQualityAssurancePlan, Section 1.2, Specifying, Procuring, Inspecting, Accepting... ESSSYS_Q_P_0100_SoftwareQualityAssuranceProgram, Section 1.2, Specifying, Procuring, Inspecting, Accepting...	TDP
738		**VI, 8.6**	**Quality Conformance Inspections**			
739			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*		
740		a.	Inspect and test each voting system or component to verify that it meets all inspection and test requirements for the system.		ESSSYS_M_P_1000_MNFQualityAssurancePlan, Section 6, Quality Conformance Inspection ESSSYS_Q_P_0100_SoftwareQualityAssuranceProgram, Section 10, Quality Conformance Inspection	TDP
741		b.	Deliver a record of tests or a certificate of satisfactory completion with each system or component		ESSSYS_M_P_1000_MNFQualityAssurancePlan, Section 6, Quality Conformance Inspection ESSSYS_Q_P_0100_SoftwareQualityAssuranceProgram, Section 10, Quality Conformance Inspection	TDP
742		**VI, 8.7**	**Documentation**			
743			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*		
744			System overview		EVS5000_OVR00 EVS5000_OVR04_AppxD_CIF-AutoMark EVS5000_OVR05_AppxD_CIF-DS200 EVS5000_OVR07_AppxE_ConformityStatement	TDP
745			System functionality description		EVS5000_SFD00	TDP

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746			System hardware specification		EVS5000_SHS00_DS200 EVS5000_SHS00_DS850 AutoMARK_ESS_System_Hardware_Overview_AQS-18-5002-000-S AutoMARK_ESS_System_Hardware_Specification_AQS-18-5000-001-F EVS5000_SHS00_AutoMARK01_MODELS EVS5000_SHS00_AutoMARK02_BOM EVS5000_SHS00_DS20001_BOM EVS5000_SHS00_DS85001_BOM EVS5000_SHS01_AutoMARK1.1-1.2 BOM EVS5000_SHS01_AutoMARK1.3 BOM CABLE_PHASE2 5K509175-LA 5K509177-L- 5K509618_SIP_B PEB_RevB PSB_RevB SBC_640117-4000C-2AGP Scanner_PI211MC-B4DR May04 SD_GGB_REV_A SIB_A3 USD-A-SCH	TDP
747			Software design and specifications		AutoMARK ESS Ballot Image Processing Specification AQS-18-5002-003-S.pdf AutoMARK ESS Ballot Scanning and Printing Specification AQS-18-5002-007-S.pdf AutoMARK ESS Driver API Specification AQS-18-5000-002-F.pdf AutoMARK ESS Embedded Database Interface Specifications AQS-18-5002-005-S AutoMARK ESS GUI Design Specifications AQS-18-5001-005-R AutoMARK ESS Operating Software Design Specifications AQS-18-5001-002-R AutoMARK ESS Operations and Diagnostic Log Specs AQS-18-5002-004-S AutoMARK ESS Programming Specifications Details AQS-18-5001-011-R AutoMARK ESS Software Design Spec AQS-18-5001-004-S AutoMARK ESS Software Development Environment AQS-18-5001-006-R AutoMARK ESS Software Diagnostics Specifications AQS-18-5000-004-F AutoMARK ESS Software Standards Specification AQS-18-4000-000-S ESSSYS_D_D_0100_Coding Standards ESSSYS_SG_P_1000_SystemDevProgram EVS5000_SDS00_AutoMARK SDS Overview EVS5000_SDS00_DS200 EVS5000_SDS00_DS20001_Flowcharts EVS5000_SDS00_DS20002_Reports EVS5000_SDS00_DS20005_System Messages EVS5000_SDS00_DS20006_Results Media XMLs EVS5000_SDS00_DS850 EVS5000_SDS00_ElectionWare EVS5000_SDS00_ElectionWare01_EW Specification and Interfaces EVS5000_SDS00_ElectionWare02_PB Specification and Interfaces EVS5000_SDS00_ElectionWare05_System Process Flowchart EVS5000_SDS00_ElectionWare07_PostGreSQL Description EVS5000_SDS00_ElectionWare08_Reports EVS5000_SDS00_ElectionWare11_DS200 and DS850 Media Desc EVS5000_SDS00_ElectionWare12_AutoMARK Media Description and Structure EVS5000_SDS00_ElectionWare13_ERM Media Description EVS5000_SDS00_ElectionWare14_System Messages EVS5000_SDS00_ERM EVS5000_SDS00_ERM01_Appendices EVS5000_SDS00_UELS	TDP

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748			System security specification		EVS5000_STP00 EVS5000_TC00_AutoMARK EVS5000_TC00_DS200 EVS5000_TC00_DS850 EVS5000_TC00_ElectionWare01_Manage EVS5000_TC00_ElectionWare02_Define EVS5000_TC00_Electionware03_Design EVS5000_TC00_Electionware04_Deliver EVS5000_TC00_Electionware05_Resolve EVS5000_TC00_ERM	TDP
749			System test and verification specification		AutoMARK ESS System Security Specification AQS-18-5002-001-S EVS5000_SSS00 EVS5000_SSS01_JSP Template EVS5000_SSS002.08_AutoMARK Quick Hash Procedure EVS5000_SSS02.01_EMS_PC_SecScriptDesc EVS5000_SSS02.01_UbuntuLiveCD EVS5000_SSS02.05_EMSWorkstation Validation Guide EVS5000_SSS02.06_DS200Quick Hash Procedure EVS5000_SSS02.07_DS850Quick Hash Procedure EVS5000_SSS02_Hardening Procedures EVS5000_SSS03_Voting System Validation Guide01_File Listing_DS200 EVS5000_SSS03_Voting System Validation Guide02_File Listing_AutoMARK EVS5000_SSS03_Voting System Validation Guide04_File Listing_ElectionWare EVS5000_SSS03_Voting System Validation Guide05_File Listing_RMS EVS5000_SSS03_Voting System Validation Guide06_File_Listing_ELS EVS5000_SSS03_Voting System Validation Guide07_File Listing_VATPreview EVS5000_SSS03_Voting System Validation Guide08_File Listing_ERM EVS5000_SSS03_Voting System Validation Guide09_File Listing_DS850 EVS5000_SSS07_PhysEquipmentSecurityBestPract EVS5000_SSS09_WinOS_SECBaseSettings EVS5000_SSS02.01_HardeningScripts [Folder] EVS5000_SSS02.07.01_DS850QuickHashScripts [Folder] EVS5000_SSS02.08.01_AutoMARKHashTools [Folder]	TDP
750			System operations procedures		EVS5000_SOP00_AMVAT EVS5000_SOP00_DS200 EVS5000_SOP00_DS850 EVS5000_SOP00_ElectionWare01_Admin EVS5000_SOP00_ElectionWare02_Define EVS5000_SOP00_ElectionWare03_Design EVS5000_SOP00_ElectionWare04_Deliver EVS5000_SOP00_ElectionWare05_Results EVS5000_SOP00_ELS EVS5000_SOP00_ERM EVS5000_SOP00_NetworkConfigGuide EVS5000_SOP00_AMVAT.01_VerficationElection [Folder] EVS5000_ORPT02_BallotProductionGuide [In Above Folder]	TDP
751			System maintenance procedures		EVS5000_SMM00_AMVAT EVS5000_SMM00_DS200 EVS5000_SMM00_DS850	TDP
752			Personnel deployment and training requirements		ESSSYS_T_D_1000_TrainingProgram	TDP

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753			Configuration management plan		ESSSYS_CM_P_1000_ESSCMProgram ESSSYS_DOC_P_1000_TDProgram EVS5000_CMP10_BUILD DOCUMENTATION [Folder] EVS5000_CMP10_BLD01_SEC01_EMSBuildProcedure EVS5000_CMP10_BLD01_SEC02_EMSBuildEnvironment EVS5000_CMP10_BLD01_SEC03_WindowsAndVirusProtectionUpdates EVS5000_CMP10_BLD02_SEC01_AutoMARKBuildProcedure EVS5000_CMP10_BLD02_SEC02_AutoMARKBuildEnvironment EVS5000_CMP10_BLD03_SEC01_DS200AncillaryBuildProcedure EVS5000_CMP10_BLD03_SEC02_DS200AncillaryBuildEnvironment EVS5000_CMP10_BLD05_SEC01_DS850FirmwareBuildProcedure EVS5000_CMP10_BLD07_SEC01_DS200FirmwareBuildProcedure	TDP
754			Quality assurance program		ESSSYS_M_I_0501_WhatRequriesECO ESSSYS_M_P_0500_ECOProcess ESSSYS_M_P_1000_MNFQualityAssurancePlan ESSSYS_Q_P_0100_SoftwareQualityAssuranceProgram EVS5000_QAP00_MN03_ECOPolicies and Procedures EVS5000_QAP00_SWF01_Software_Firmware_Acceptance EVS5000_QAP01_ISO cert Pivot EVS5000_QAP03_QA manual Pivot EVS5000_QAP07_DataWin Quality Assurance Manual EVS5000_QAP08_DATAWIN ISO Certification Certificate ESSSYS_M_FM_AcceptanceChecklists [folder] 850_AccptChklst_revC 850_DemoChklst_revA 850_OAccptChklst_revB AutoMark_AccptChklst_001_Rev.A AutoMark_QC_Chklst_001Rev.A DS200_AccptChklst_001Rev.A Carrying Case QC sheet rev 1.0 EVS5000_QAP00_MN01.01_AcceptanceTestProcedure_DS200 EVS5000_QAP00_MN02.01_AcceptanceTestProcedure_DS850 EVS5000_QAP00_MN01_AcceptanceTesting [folder] 850_AccptChklst_revB.pdf 850_DemoChklst_revA.pdf 850_OAccptChklst_revA.pdf AutoMark_AccptChklst_001_Rev.A.pdf AutoMark_QC_Chklst_001Rev.A.pdf DS200_AccptChklst_001Rev.A.pdf EVS5000_QAP00_MN01.01_AcceptanceTestProcedure_DS200.pdf EVS5000_QAP00_MN02.01_AcceptanceTestProcedure_DS850.pdf	TDP
755			System change notes		None	TDP
756		**VI, Sec. 9**	**Configuration Management Requirements**	*see Vol. II, 2.11 TDP, Configuration Management Plan*		
757		**VI, 9.1**	**Scope**			
758			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.			
759		**VI, 9.1.1**	**Configuration Management Requirements**			
760			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*		
761			Identifying discrete system components.		ESSSYS_CM_P_1000_ESSCMProgram, Section 1.1, Identify Discrete System Components	TDP

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762			Creating records of a formal baseline and later versions of components.		ESSSYS_CM_P_1000_ESSCMProgram, Section 1.2, Creating Records of a Formal Baseline and Later Version of Components	TDP
763			Controlling changes made to the system and its components.		ESSSYS_CM_P_1000_ESSCMProgram, Section 1.3, Controlling Changes Made to the System and Its Components	TDP
764			Releasing new versions of the system.		ESSSYS_CM_P_1000_ESSCMProgram, Section 1.4, Releasing New Versions of the System	TDP
765			Auditing the system, including its documentation, against configuration management records.		ESSSYS_CM_P_1000_ESSCMProgram, Section 1.5, Auditing the System Against Configuration Management Records	TDP
766			Controlling interfaces to other systems.		ESSSYS_CM_P_1000_ESSCMProgram, Section 1.6, Controlling Interfaces to Other Systems	TDP
767			Identifying tools used to build and maintain the system.		ESSSYS_CM_P_1000_ESSCMProgram, Section 1.7, Identifying Tools Used to Build and Maintain the System	TDP
768		**VI, 9.1.3**	**Application of Configuration Management Requirements**			
769			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*		
770			Software		ESSSYS_CM_P_1000_ESSCMProgram, Section 2.1.7.1, System Software/Firmware	TDP
771			Hardware		ESSSYS_CM_P_1000_ESSCMProgram, Section 2.1.7.2, System Hardware	TDP
772			Communications		ESSSYS_CM_P_1000_ESSCMProgram, Section 2.1.3, Communications	TDP
773			Documentation		ESSSYS_DOC_P_1000_TDProgram, 2.1.4, Documentation	TDP
774			Identification and naming and conventions (including changes to these conventions) for software programs and data files;		ESSSYS_CM_P_1000_ESSCMProgram, Section 4 Configuration Identification	TDP
775			Development and testing artifacts such as test data and scripts		ESSSYS_CM_P_1000_ESSCMProgram, Section 2.1.6 Development and Testing Artifacts	TDP
776			File archiving and data repositories.		ESSSYS_CM_P_1000_ESSCMProgram, Section 2.1.7, File Archiving and Data Repositories	TDP
777		**VI, 9.2**	**Configuration Management Policy**			
778			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*		
779			Scope and nature of configuration management program activities		ESSSYS_CM_P_1000_ESSCMProgram, Section I.1.1, Scope	TDP
780			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		ESSSYS_CM_P_1000_ESSCMProgram, Section 3.1, Breadth and Application	TDP
781		**VI, 9.3**	**Configuration Identification**			
782			Configuration identification is the process of identifying, naming and acquiring configuration items. Configuration identification encompasses all system components.			
783		**VI, 9.3.1**	**Structuring and Naming Configuration Items**			
784			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*	ESSSYS_CM_P_1000_ESSCMProgram, Section 4.1.1, Classification and Naming Conventions	TDP
785		**VI, 9.3.2**	**Version Conventions**			
786			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*		
787		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;		ESSSYS_CM_P_1000_ESSCMProgram, Section 4.1.2, Versioning Conventions	TDP
788		b.	Uniquely number or otherwise identify versions; and		ESSSYS_CM_P_1000_ESSCMProgram, Section 4.1.2.1, Unique Identifiers	TDP

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789		c.	Name versions.		ESSSYS_CM_P_1000_ESSCMProgram, Section 4.1.2.2, Version Naming Conventions	TDP
790		**VI, 9.4**	**Baseline and Promotion Procedures**			
791			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*		
792		a.	Establish a particular instance of a component as the starting baseline;		ESSSYS_CM_P_1000_ESSCMProgram, Section 5.4, Establishing Project Baselines	TDP
793		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		ESSSYS_CM_P_1000_ESSCMProgram, Section 5.4.1, Baseline Promotion to VSTL Testing	TDP
794		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).		ESSSYS_CM_P_1000_ESSCMProgram, Section 5.4.2, Component Maintenance until Retirement	TDP
795		**VI, 9.5**	**Configuration Control Procedures**			
796			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*		
797		a.	Develop and maintain internally developed items;		ESSSYS_CM_P_1000_ESSCMProgram, Section 6.4, Development and Maintenance of Internally Developed Items	TDP
798		b.	Acquire and maintain third-party items;		ESSSYS_CM_P_1000_ESSCMProgram, Section 6.5, Acquisition and Maintenance of Third Party Items	TDP
799		c.	Resolve internally identified defects for items regardless of their origin; and		ESSSYS_CM_P_1000_ESSCMProgram, Section 6.6, Resolving Internally Identified Defects	TDP
800		d.	Resolve externally identified and reported defects (i.e., by customers and accredited test labs).		ESSSYS_CM_P_1000_ESSCMProgram, Section 6.7, Resolving Externally Identified and Reported Defects	TDP
801		**VI, 9.6**	**Release Process**			
802			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*		
803		a.	Perform a first release of the system to an accredited test lab;		ESSSYS_CM_P_1000_ESSCMProgram, Section 7.1, First Release to an Accredited Test Lab	TDP
804		b.	Perform a subsequent maintenance or upgrade release of the system, or a particular components, to an accredited test lab;		ESSSYS_CM_P_1000_ESSCMProgram, Section 7.2, Maintenance or Upgrade Release to an Accredited Test Lab	TDP
805		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		ESSSYS_CM_P_1000_ESSCMProgram, Section 7.3, Initial Installation and Deliver to a Customer	TDP
806		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.		ESSSYS_CM_P_1000_ESSCMProgram, Section 7.4, Maintenance or Upgrade Release to a Customer	TDP
807		**VI, 9.7**	**Configuration Audits**			
808		**VI, 9.7.1**	**Configuration Audits, Physical Configuration Audit**			
809			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*		
810		a.	Identification of all items that are to be a part of the software release		ESSSYS_CM_P_1000_ESSCMProgram, Section 8.1.1, Identification of Items Included in the System	TDP
811		b.	Specification of compiler (or choice of compilers) to be used to generate executable programs	*see Vol. II, 2.5.5.2 Software Environment*	ESSSYS_CM_P_1000_ESSCMProgram, Section 8.1.2, Specification of Compilers	TDP

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812		c.	Identification of all hardware that interfaces with the software		ESSSYS_CM_P_1000_ESSCMProgram, Section 8.1.3, Identification of All Hardware Interfaces	TDP
813		d.	Configuration baseline data for all hardware that is unique to the system		ESSSYS_CM_P_1000_ESSCMProgram, Section 8.1.4, Baseline Configuration Data for All Unique Hardware	TDP
814		e.	Copies of all software documentation intended for distribution to users, including program listings, specifications, operations manual, voter manual, and maintenance manual		ESSSYS_CM_P_1000_ESSCMProgram, Section 8.1.5, End User Documentation	TDP
815		f.	User acceptance test procedures and acceptance criteria		ESSSYS_CM_P_1000_ESSCMProgram, Section 8.1.6, User Acceptance Test Procedures and Criteria	TDP
816		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		ESSSYS_CM_P_1000_ESSCMProgram, Section 8.1.7, Identification of Physical Changes Made Between PCA and FCA Systems	TDP
817		h.	Complete descriptions of its procedures and related conventions used to support this audit by:			
818			i. Establishing a configuration baseline of the software and hardware to be tested		ESSSYS_CM_P_1000_ESSCMProgram, Section 8.1.8.1, Establishing a Configuration Baseline of the Software and Hardware	TDP
819			ii. Confirming whether the system documentation matches the corresponding system components		ESSSYS_CM_P_1000_ESSCMProgram, Section 8.1.8.2, Confirming that Documentation Matches System Components	TDP
820		**VI, 9.7.2**	**Configuration Audits, Functional Configuration Audit**			
821			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*		
822		a.	Completely describe its procedures and related conventions used to support this audit for all system components		ESSSYS_CM_P_1000_ESSCMProgram, Section 8.2.1, FCA Procedures and Conventions	TDP
823		b.	Provide the following information to support this audit:			
824			i. Copies of all procedures used for module or unit testing, integration testing, and system testing		ESSSYS_CM_P_1000_ESSCMProgram, Section 8.2.1, FCA Procedures and Conventions	TDP
825			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		ESSSYS_CM_P_1000_ESSCMProgram, Section 8.2.1, FCA Procedures and Conventions	TDP
826			iii. Records of all tests performed by the procedures listed above including error corrections and retests		ESSSYS_CM_P_1000_ESSCMProgram, Section 8.2.1, FCA Procedures and Conventions	TDP
827		**VI, 9.8**	**Configuration Management Resources**			
828			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*		
829		a.	Specific tools used, current version, and operating environment;		ESSSYS_CM_P_1000_ESSCMProgram, Section 9.1, Tools Used	TDP
830		b.	Physical location of the tools, including designation of computer directories and files; and		ESSSYS_CM_P_1000_ESSCMProgram, Section 9.2, Tool Location	TDP
831		c.	Procedures and training materials for using the tools.		ESSSYS_CM_P_1000_ESSCMProgram, Section 9.2. Tool Location	TDP
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