From the Vendor Trace document or declaration, identify all documents that incorporate the System Test & Verification Specification. Each submitted (Vol. 1, Sect. 1.1) Technical Data Package document (Vol.2 Sect. 6.6) is reviewed (Vol. 1, Sect. 1.6.2.2).

Note about revisions: The first time a review form is completed, the form revision number is 01. As the review process continues, newer versions of vendor documents, or additional documents, will be submitted to close discrepancies. Each time new versions of documents are examined, the review form is saved with a new revision number. Save the form with the new revision (Save As) before you update the document names, versions and/or file names. Enter your name and date on the new revision.

Applicable TDP Documents table: List each applicable TDP document. Put the Title from inside the document in the first column, along with the version and date. Under "File name," copy the full document file name.

Trace Table: Verify whether the vendor correctly documented each applicable VVSG requirement listed in this template. Use the following notations to indicate results:

- **Traced** column: For each positive finding, enter the document number(s) corresponding to the **Applicable TDP Documents** Table below, with the section number(s) in each applicable document where the requirement is fulfilled. (Example: Doc. 2, Sec. 1.2)
- **Comments** column:
  - o **"Y"** indicates that the document(s) fulfill the requirement.
  - o **"N"** indicates that the document(s) do not fulfill the requirement.
  - o **"P"** indicates that the document(s) partially fulfill the requirement
  - o **"NT"** (not tested) indicates documents that are part of the system configuration but outside the scope of this certification review effort (only if not a full cert).
  - o **"NS"** (not supported) indicates requirements that apply to features that are not supported in the configuration being tested (such as paper ballots).
  - o Explain "**P**", "**N**", "**NT**" or "**NS**" findings here.
  - o In addition, use the Comments column to enter any comments that would be helpful throughout the project.
  - o **Discrepancies:**
    - List discrepancies in red.
    - A Documentation discrepancy is written when a VVSG requirement is not fulfilled or is partially fulfilled in the TDP.
    - An Informational discrepancy is written when the issue is outside the scope of the certification; Informational discrepancies are provided to the client but do not preclude certification.
    - Enter the discrepancy number of any discrepancies written (from the separate discrepancy report), with a short description in the Comments column.

Vendor :	Hart InterCivic	Reviewer(s):	Lesley Hoppert
Voting System:	Verity Voting 2.2.1	Review Date:	2/2/2017

Applicable TDP Documents

Document Title (from cover pg), version, date	Doc #	File name
Hart Requirements Management Requirements Management Process, Rev A.02, 05/19/2015	#1	SQA Requirements Management Process 1000540 A02.pdf
Verity Voting National Certification Test Specification, Rev B.00, 10/20/2015	#2	Verity Voting National Certification Test Specification 4005527

Document Title (from cover pg), version, date	Doc #	File name
		B00.pdf
Verity Voting Summative Usability Test Plan, Rev A.01, 06/01/2015	#3	Verity Summative Usability Test Plan 4005495 A01.pdf
	#4	
Security test cases, no version or date, pdf files saved on 4/20/2015	#5	Security test cases - [HPQC Test Cases Folder - includes 4 sample documents] Error handling test cases Logging test cases Security test cases Tabulation test cases
Usability Test Report of Verity Touch/Touch Writer and Verity Scan, 02/04/2015	#6	Verity Summative Usability Report 4005496 A00.pdf
Application for Certification – Verity Voting 2.2.1 Usability Impact Statement, no version or date - NEW	#7	Verity Voting 2.2.1_Application_Usability Impact Statement
~~Application for Certification – Verity Voting 2.2 Usability Impact Statement~~	~~#8~~	~~Verity Voting 2.2_Application_Usability Impact Statement~~
Verity 2.2.X Technical Data Package Overview, Document Number: 4005511 Revision: B.08, 1/20/2017 - Updated	#9	Verity 2.2.x TDP Overview 4005511 B08.pdf

Trace Table

Req #	VVSG 2005 Testing Standards - Vol.2 unless otherwise specified	Traced	Comments
2	**Technical Data Package**		
2.1	**Scope**		
2.1.1	**Content and Format**		
2.1.1.1	**Required Content for Initial Certification** *(Indicate "*" if this document does not fall into the identified category of documentation.)*		
e.	At minimum, the TDP shall contain the following documentation: **System test and verification specifications;**	**Doc #2** - Entire document.	Y
2.1.1.3	**Format**		
	The requirements for formatting the TDP are general in nature; specific format details are of the vendor's	**Doc #1** - Tables of Contents. **Doc #2** - Tables of Contents	Y

Req #	VVSG 2005 Testing Standards - Vol.2 unless otherwise specified	Traced	Comments
	choosing. 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. A cross-index shall be provided indicating the portions of the documents that are responsive to documentation requirements for any item presented.	Sections 2 and 3: Abstracts. **Doc #3** - Tables of Contents. .	
2.1.3	**Protection of Proprietary Information**		
	The vendor shall identify all documents, or portions of documents, containing proprietary information not approved for public release. Any person or test agency receiving proprietary information shall agree to use it solely for the purpose of analyzing and testing the system, and shall agree to refrain from otherwise using the proprietary information or disclosing it to any other person or agency without the prior written consent of the vendor, unless disclosure is legally compelled.	**Doc #6** - confidential and proprietary, pg. 1.	Y- **Doc #1** - public, pg. 1. **Doc #2**- public, pg. 1. **Doc #3**- public, pg. 1. **Doc #7** - public, traced via Doc #9
2.7	**System Test and Verification Specification**		
a.	The vendor shall provide test and verification specifications for: **Development test specifications;**		See 2.7.1 below
b.	The vendor shall provide test and verification specifications for: **National Certification test specifications.**		See 2.7.2 below
2.7.1	**Development Test Specifications**		
	The vendor shall describe **the plans, procedures, and data used during software development and system integration to verify system logic correctness, data quality, and security.**	Section header - see subsections below.	See below

a.	This description shall include:
	Test identification and design, including:
	  i. Test structure;
	  ii. Test sequence or progression; and
	  iii. Test conditions;
		Doc #5 - Entire folder contents [4 sample documents].	Y - "Security test cases," illustrates the test structure, sequence and conditions. Although it does not include coverage of logic correctness and data quality because it's limited to the security tests, Confirmed with Mike Santos, Test Manager,

Req #	VVSG 2005 Testing Standards - Vol.2 unless otherwise specified	Traced	Comments
			SLI has separately reviewed Hart's testing in Hart's HPQC test system and confirmed system-wide test coverage
b.	This description shall include: **Standard test procedures, including any assumptions or constraints;**	**Doc #5** - Entire folder contents [4 sample documents].	Y
c.	This description shall include: **Special purpose test procedures including any assumptions or constraints;**	NA	NA- Notes: The VVSG does not define "special purpose test procedures" so the vendor may state that all their test procedures fall under the "standard" category. Usability tests are covered below.
d.	This description shall include: **Test data, test data source, whether it is real or simulated, and how test data are controlled;**	**Doc #5** - Entire folder contents [4 sample documents].	Y - The sample doc "Security test cases," shows the test data used, in a production environment (KIOSK Mode)
e.	This description shall include: **Expected test results;**	**Doc #5** - Entire folder contents [4 sample documents].	Y - All sample files include expected results
f.	This description shall include: **Criteria for evaluating test results.**	**Doc #5** - Entire folder contents [4 sample documents].	Y
END	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.		
2.7.2	**National Certification Test Specifications**		
	The vendor shall provide **specifications for verification and validation of overall software performance.**	Section header - see subsections below.	See below
a	These specifications shall cover: **Control and data input/output;**	**Doc #2** - **Writes System Output** Sections 5, 6, 7, 9, 12, 13, 15, 16. **Reads System Input** Sections 5, 6, 8, 9, 10, 11, 15, 16.	Y
b.	These specifications shall cover: **Acceptance criteria;**	**Doc #2** - Sections 5-16.	Y

Req #	VVSG 2005 Testing Standards - Vol.2 unless otherwise specified	Traced	Comments
c.	These specifications shall cover: **Processing accuracy;**	**Doc #2** - Sections 9, 10, 12, 15, 16.	Y
d.	These specifications shall cover: **Data quality assessment and maintenance;**	**Doc #2** - Sections 7, 9, 10, 11, 14.	Y
e.	These specifications shall cover: **Ballot interpretation logic;**	**Doc #2** - Sections 9, 12, 15.	Y
f.	These specifications shall cover: **Exception handling;**	**Doc #2** - Section 5-15.	Y
g.	These specifications shall cover: **Security;**	**Doc #2** - Sections 5, 6, 7, 8, 9, 10, 11, 14, 15.	Y
h.	These specifications shall cover: **Production of audit trails and statistical data.**	**Doc #2** - **Provides audit trails** - Sections 5-15. **Provides statistical data** - Sections 9, 12, 15, 16.	Y
2.7.2 END	**The specifications shall identify procedures for assessing and demonstrating the suitability of the software for election use.**	**Doc #2** - Section 2.1Overview, pgs. 10-11.	Y
Vol. 1, 3.1.1	**Usability Testing**	**See Doc #7** - entire doc	Y
	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.	**Doc #6** - Entire Document.	Y
3.1.1, etc.	The vendor's usability test report shall conform to the EAC requirements specified in *EAC Decision on Request for Interpretation 2013-04 (Usability Testing)*. *See the requirements listed below, at the end of this document – all "shall" statements must be met.	**Doc #6** - Entire Document.	Y
Vol. 1, 3.2.2.1	**Partial Vision**		
a.	The vendor shall conduct summative usability tests on the voting system using **partially sighted individuals**. The vendor shall document the testing performed and report the test results using the Common Industry	**Doc #3** - Section 1.1 Purpose of Document, pg. 4. **Doc #6** - Appendix B: Participant emographics, pgs. 45-46.	Y

Req #	VVSG 2005 Testing Standards - Vol.2 unless otherwise specified	Traced	Comments
	Format. This documentation shall be included in the Technical Data Package submitted to the EAC for national certification.		
Vol. 1, 3.2.2.2	**Blindness**		
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.	**Doc #3** - Section 1.1 Purpose of Document, pg. 4. **Doc #6** - Appendix B: Participant emographics, pgs. 45-46.	Y
Vol. 1, 3.2.3	**Dexterity**		
a.	The vendor shall conduct summative usability tests on the voting system using individuals lacking fine motor control. The vendor shall document the testing performed and report the test results using the Common Industry Format. This documentation shall be included in the Technical Data Package submitted to the EAC for national certification.	**Doc #3** - Section 1.1 Purpose of Document, pg. 4. **Doc #6** - Appendix B: Participant emographics, pgs. 45-46.	Y

*Supplementary material for VVSG 2005 3.1.1, 3.2.2.1a, 3.2.2.2a & 3.2.3a: EAC Guidance on Usability Testing Performed by the Manufacturer (EAC RFI Decision 2013-04)

The Modified CIF Template requires voting system manufacturers to list the number and types of participants included in the usability test. These participants must provide a representative sample of the voting population. To comply with the VVSG requirements noted above, this section **shall** include:

- Total number of participants tested
  - Types of user groups tested:
  - o Voters from the general population.
  - o Voters with low vision.
  - o Voters who are blind.

      o Voters with dexterity disabilities.

      ▪ Key characteristics and demographics of the participants. This information can be expressed in a table, a bulleted list or even in a graph/chart.

After adequately describing the voters who participated in the usability test, it is important to note how these users were selected. Manufacturers should describe their recruiting strategies and detail any compensation given to participants. Voting system manufacturers **shall** also describe how the voters were selected and their recruiting strategy to find test participants matching their target profile. Any differences between the users profiled as recruits and the users who participated in the actual study, should be noted as well.

Specific Guidance

✓ Voting System Manufacturers **shall** recruit at least eight test participants within each user group, including at least eight general voters, eight voters with low vision, eight blind voters, and eight voters with dexterity disabilities. Using fewer than eight participants makes it difficult to ascertain issues with the product because of the variability between subjects. Recruiting people with disabilities may actually be easier than expected because of the high rate of civic engagement within the disability community. Places to look for participants with disabilities include the following:

• Organizations for specific disabilities or conditions

      • Cross-disability organizations
      • Mailing lists
      • College and university programs for students with disabilities
      • Local disability-related support groups
      • Local or regional government rehabilitation or disability services departments
      • Seniors organizations and local senior centers
      • Independent living organizations

✓ Although a minimum of eight participants is required, it is strongly suggested that test administrator(s) consider testing with larger numbers of voters in order to gather additional data to support the study's conclusions. For greater statistical analysis, studies with 30 or more users are recommended. In addition, the initial recruitment should target at least 10 - 12 participants in order to ensure that at least 8 individuals are able to complete the testing sessions.

✓ Not only is it important to recruit a sufficient sample size, but it is also crucial to recruit as representative a sample as possible. Manufacturers should recruit a mix of voters including users of different ages, genders, levels of education, ethnicity, voting experience, geography, etc. Detailed tables of participant demographics should be included as an appendix to the test report.

End of Document