

2b	The design process should include traceability to the system design description and requirements.	Should	4.3.1.1				
2c	The design process should include technical review of the detailed design.	Should	4.3.1.1				
2d	The design process should include procedures for tracking and managing changes to the design throughout the product development lifecycle.	Should	4.3.1.1				
2e	The design process should include procedures for ensuring that design constraints or other areas of risk have been considered and assessed.	Should	4.3.1.1				
3	Detailed design must be performed in accordance with the vendor's documented design process.	Must	4.3.1.1				

Development Process: Implementation

All of these requirements are germane to every certification or verification registration.

Rqmt Num	Base requirement	Level	Reference in Best Practice	Project 1		Project 2	
				Document in which evidence is found	Reference within Document	Document in which evidence is found	Reference within Document
4	The vendor's approach to implementation must be documented.	Must	4.3.2.1				
5	Any processes or technical criteria used to support the implementation process, such as checklists, should be formally documented.	Should	4.3.2.1				
6	For software component implementation, the software development practices employed should include one or more of the following practices: - Coding is done in accordance with the vendor's documented coding standards. - Code walkthroughs, inspections, or reviews are performed. - Formal methods are used as a software development method to establish the correctness of the implementation of each requirement. - Other specified methods are used to ensure the correctness of the implementation.	Should	4.3.2.1				

Development Process: Internal Testing

All of these requirements are germane to every certification or verification registration.

Rqmt Num	Base requirement	Level	Reference in Best Practice	Project 1		Project 2	
				Document in which evidence is found	Reference within Document	Document in which evidence is found	Reference within Document
7	A vendor's internal testing must be performed according to a defined testing process.	Must	4.3.3.1				
8	The defined testing process should include test planning, test specification, test execution, and test reporting.	Should	4.3.3.1				
9	The defined testing process may include root cause analysis.	May	4.3.3.1				
10	The internal testing process should be based on, and closely tied to, the specifications for the system and its various components.	Should	4.3.3.1				
11	The internal testing process must be documented in a vendor's internal test plan.	Must	4.3.3.1				
12	Internal testing must be executed in accordance with this test plan.	Must	4.3.3.1				
13	The vendor's internal test plan must define the method and processes that the vendor will employ during internal testing to assure that the requirements have been correctly implemented and that the system is suitable for delivery to the lottery.	Must	4.3.3.1				
14a	The vendor's internal test plan must cover how the vendor intends to test each new component, and each significant software or hardware change.	Must	4.3.3.1				
14b	The vendor's internal test plan should cover the following levels of testing: unit testing, integration testing, system testing, and regression testing.	Should	4.3.3.1				
14c	For each level of testing to be performed, the vendor's internal test plan must cover the specific types of testing to be performed; Appendix C of the Development Process Best Practice defines the various types of testing options that may be employed during system testing.	Must	4.3.3.1				
14d	The vendor's internal test plan must cover the exit criteria that must be fulfilled in order for the vendor to declare the system components suitable for delivery to the lottery.	Must	4.3.3.1				
14e	The vendors internal test plan must cover test reporting. Test reports that summarize the results of testing must include any deviation between observed and expected behavior of the system components and any defects identified.	Must	4.3.3.1				

15	Final system testing should not be performed by the same people who designed the hardware or wrote the software being tested.	Should Not	4.3.3.1				
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Development Process: Acceptance Test Readiness Review

All of these requirements are germane to every certification or verification registration.

Rqmt Num	Base requirement	Level	Reference in Best Practice	Project 1		Project 2	
				Document in which evidence is found	Reference within Document	Document in which evidence is found	Reference within Document
16	Representatives from the vendor and lottery organizations must hold a review meeting to determine whether the product is ready to transition to Acceptance Testing.	Must	4.3.4.1				
17a	The acceptance test readiness review meeting must include a review of the vendor's test summary report, which must include a summary of the types of testing performed and a summary of the results of that testing.	Must	4.3.4.1				
17b	The acceptance test readiness review meeting must include a review of the open defects and issues.	Must	4.3.4.1				
18	At the conclusion of the acceptance test readiness review, either the lottery must authorize the handover for Acceptance Testing, or the vendor and lottery must agree what steps are required for the product to be approved for Acceptance Testing.	Must	4.3.4.1				

Development Process: Release Process

All of these requirements are germane to every certification or verification registration.

Rqmt Num	Base requirement	Level	Reference in Best Practice	Project 1		Project 2	
				Document in which evidence is found	Reference within Document	Document in which evidence is found	Reference within Document
19	The plans for the release of the system or system components must be documented.	Must	4.3.5.1				
20a	The release plans should address the means of delivery.	Should	4.3.5.1				
20b	The release plans should address the delivery medium.	Should	4.3.5.1				
20c	The release plans should address the lottery acceptance process and acceptance test period.	Should	4.3.5.1				
20d	The release plans should address the knowledge transfer from the vendor to the lottery regarding the use and operation of the system.	Should	4.3.5.1				
20e	The release plans should address the problem reporting mechanism to be used after delivery; that is, during Acceptance Testing and post-installation (integration). In some lottery domains, the problem report is referred to as a Testing Incident Report (TIR).	Should	4.3.5.1				
20f	The release plans should address the release notes.	Should	4.3.5.1				
21a	The release notes should include a formal build description for the software portion of the release that includes all of the following: - System version - Version of all component modules - Version of all deliverable documents	Should	4.3.5.1				
21b	The release notes should include a list of any known problems in the release and the plans for resolving them.	Should	4.3.5.1				
21c	The release notes should include any limitations in the scope of the system, or any requirements that were included in the specifications but were deferred or eliminated and will not be implemented as a part of this release.	Should	4.3.5.1				
21d	The release notes should include a definition of any additional functionality that is being delivered but was not defined in the Requirements Specification (i.e. enhancements); this must include a reference to where the functionality is documented.	Should	4.3.5.1				
21e	The release notes should include a list of all deliverables that includes all of the following: - A description of and identifying serial and part numbers for all hardware components - Software components and associated software modules - Documents - Tools	Should	4.3.5.1				
21f	The release notes should include a test report that summarizes the test results of internal testing.	Should	4.3.5.1				
21g	The release notes should include any known usability constraints (for example, performance limitations).	Should	4.3.5.1				
21h	The release notes should include any known portability	Should	4.3.5.1				

	constraints.						
21i	The release notes should include any known interoperability constraints.	Should	4.3.5.1				
22	The lottery and the vendor must work together to produce an integration plan.	Must	4.3.5.1				
23	The lottery and vendor should produce the integration plan during Requirements Definition.	Should	4.3.5.1				
24a	The integration plan should account for reviewing the business processes impacted by the changes.	Should	4.3.5.1				
24b	The integration plan should account for ensuring that people responsible for the affected business functions know of the changes.	Should	4.3.5.1				
24c	The integration plan should account for ensuring that the people responsible for the affected business functions are notified in advance of what business process changes need to be made (if any).	Should	4.3.5.1				
24d	The integration plan should account for ensuring that non-software issues are resolved in time to support the installation of the new software or hardware.	Should	4.3.5.1				
25	The integration plan must include information that covers the complete environment into which the product will be integrated and deployed.	Must	4.3.5.1				
26a	The integration plan must identify the impact of the product release on the overall lottery system.	Must	4.3.5.1				
26b	If any security changes are required, the security changes must be identified in the integration plan together with assigned actions for the responsible parties from either the vendor or the lottery.	Must	4.3.5.1				
26c	If any data conversion is necessary, the vendor must provide details and assigned actions in the integration plan for execution of the data conversion.	Must	4.3.5.1				
26d	The integration plan must include identification of platform variations that may occur at different lottery or retail sites and document assigned actions to address them.	Must	4.3.5.1				
26e	The integration plan must include identification of deployment variations that may occur at different lottery or retail and document assigned actions to address them.	Must	4.3.5.1				
27	The integration plan must be approved by both the lottery and vendor.	Must	4.3.5.1				
28	The integration plan may be refined during Acceptance Testing.	May	4.3.5.1				
29	Integration must be performed in accordance with the agreed plan.	Must	4.3.5.1				
30a	The vendor must provide an installation guide that is unambiguous and includes installation instructions as well as instructions for backup and back-out procedures where appropriate.	Must	4.3.5.1				
30b	The vendor must thoroughly test the installation procedures defined in the installation guide prior to release.	Must	4.3.5.1				

Development Process: Change Control Management

All of these requirements are germane to every certification or verification registration.

Rqmt Num	Base requirement	Level	Reference in Best Practice	Project 1		Project 2	
				Document in which evidence is found	Reference within Document	Document in which evidence is found	Reference within Document
31	The vendor must have a documented change control management process that defines the requirements and process for making modifications to items under change control.	Must	4.3.6.1				
32a	The vendor's documented change control management process should address identification of the items under change control.	Should	4.3.6.1				
32b	The vendor's documented change control management process should address the relationship between problem tracking and change control.	Should	4.3.6.1				
32c	The vendor's documented change control management process should address mechanisms for change control (e.g., most software development projects use an automated system such as CVS).	Should	4.3.6.1				
32d	The vendor's documented change control management process should address document modification (in particular, it is essential that modifications to requirements are tracked).	Should	4.3.6.1				
32e	The vendor's documented change control management process should address build status tracking (i.e., the relationship between module version and the system version).	Should	4.3.6.1				
32f	The vendor's documented change control management process should address contract modification (a special	Should	4.3.6.1				

	case of change control requiring formal approval by both the lottery and vendor).						
32g	The vendor's documented change control management process should address criteria for approval of different change control elements.	Should	4.3.6.1				
33	The change control management process should include procedures for submitting change requests and tracking the progress of a change request.	Should	4.3.6.1				
34	A change request must include the following: - A unique tracking number provided by the change management system - Description of the change requested - Reason for the request - Date of the request - Who requested the change - Component or system which is effected	Must	4.3.6.1				
35	A change request should pass through defined stages as it is being addressed.	Should	4.3.6.1				
36	The change request tracking mechanism must provide all relevant parties with access to the status of defects which: In the case of products under development, are adversely affecting milestone delivery dates or: In the case of products in the field, are adversely affecting operations	Must	4.3.6.1				
37	When a change request is approved that requires software modification, the change control process should require use of a software and documentation modification tracking mechanism.	Should	4.3.6.1				
38	The change control tracking mechanism must require certain information including: - Module - Version - Code modification linked to the version	Must	4.3.6.1				
39	The change control tracking mechanism may include additional information including: - Check out date - Engineer - Size - Check in date	May	4.3.6.1				
40	The change control process should require that code modifications be versioned and documented before they are checked back into a library.	Should	4.3.6.1				
41	If a source code modification alters the system functionality, the change control process should require that the system functional specifications be updated and versioned.	Should	4.3.6.1				

Development Process: Problem Reporting

All of these requirements are germane to every certification or verification registration.

Rqmt Num	Base requirement	Level	Reference in Best Practice	Project 1		Project 2	
				Document in which evidence is found	Reference within Document	Document in which evidence is found	Reference within Document
42	The problem reporting process must provide a mechanism that allows each issue to be submitted in a standardized format with standard content, and provides all relevant parties with access to the most current data.	Must	4.3.7.1				
43	Each problem reporting issue must have a unique tracking identifier.	Must	4.3.7.1				
44	Submission of an issue must include the following information: - Description of the issue - The component or system in which the issue was found - Severity of the problem - Date the issue was submitted - The submitter of the issue - Phase in which the issue was reported, such as vendor internal testing, acceptance testing, or production - Product version in which the issue was found	Must	4.3.7.1				
45	Information included in the submission of an issue may include a suggestion of how to recreate the issue; for example, pay a ticket after the pay out period expiration.	May	4.3.7.1				
46	The problem reporting process must include a defined process for reviewing and resolving problems.	Must	4.3.7.1				
47	A team of representatives from each key party should perform review of problem reports.	Should	4.3.7.1				
48a	The problem review team may include representatives from the lottery quality assurance team.	May	4.3.7.1				
48b	The problem review team may include representatives from the development team.	May	4.3.7.1				
48c	The problem review team may include representatives from the project management.	May	4.3.7.1				
49	Each problem submission should be reviewed by the review	Should	4.3.7.1				

	team to determine whether it requires immediate action or if it may be deferred to a future release.						
50a	The review of a problem report should consider the overall risk associated with fixing the problem (this may increase or decrease risk).	Should	4.3.7.1				
50b	The review of a problem report should consider the cost associated with fixing the problem.	Should	4.3.7.1				
50c	The review of a problem report should consider the impact on the lottery system or system component associated with fixing the problem.	Should	4.3.7.1				
51	The problem reporting process should include mechanisms that prevent any one individual or group from moving an issue from initial submission to closure.	Should	4.3.7.1				
52	A problem report should flow through distinct, defined stages.	Should	4.3.7.1				
53	At the completion of each stage in the problem reporting process, the responsible individual should update the problem report with the action taken and a time and date stamp. This ensures that the current status of any issue is available at any time.	Should	4.3.7.1				
54	The problem reporting mechanism should provide a means to track issues and their resolution to ensure that critical problems found during one stage are fixed and integrated prior to delivery to the next phase.	Should	4.3.7.1				
55	The problem reporting process must ensure that the fixes are integrated following the change management system guidelines.	Must	4.3.7.1				

Requirements from NSI Acceptance Testing Best Practice

Acceptance Testing: Acceptance Test Plan

Rqmt Num	Base requirement	Level	Reference in Best Practice	Project 1		Project 2	
				Document in which evidence is found	Reference within Document	Document in which evidence is found	Reference within Document
3	The Acceptance Test Plan must be reviewed with the vendor.	Must	4.3.1.1				
4	The vendor should especially review the Acceptance Test Plan with respect to any dependencies on the vendor.	Should	4.3.1.1				