Ministry of Infrastructure
and Water Management

Annex – Format Test plan candidate-(E)ETS-providers Temporary Tol

Annex to Practical Information Accreditation and
Toll services

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1 Objective

The purpose of this template is to ensure that the candidate-(E)ETS-provider draws up a test plan that correctly describes how the candidate-(E)ETS-provider carries out the required tests per test phase in a verifiable, complete, accurate, correctly and consistently way. This test plan must include at least the following components:

1. How the candidate-(E)ETS-provider organizes the tests, including the cooperation with the toll charger and the timeline for testing (section 2);
2. The resources and organization required for the testing, including the involvement of the toll charger in the preparation and execution of the tests and a description of the tasks and responsibilities of the toll candidate-(E)ETS-provider during the testing (section 2);
3. How the test results are recorded and documented for reporting to the toll charger in the test report (section 2.4);
4. How the test results are related to the test success criteria (section 2.4);
5. The procedure to be followed when the test results do not meet the success criteria (section 2.4);
6. The risks and measures, including the most important dependencies (section 2.8);
7. Arrangements regarding the attendance of the tests by the toll charger (section 2.4);
8. How the predetermined test scenarios are carried out and how the toll charger participates in this (section 2.4);
9. The test approach that the candidate-(E)ETS-provider envisages during the operational phase, including the way in which the candidate-(E)ETS-provider organizes the testing of (periodic) changes in software and hardware (section 3.3);
10. How the candidate-(E)ETS-provider has organized continuity and disaster recovery and what the candidate-(E)ETS-provider expects from the toll charger after recovery of the systems (optional) (section 3.4) ;
11. If applicable, the tests that the candidate-(E)ETS-provider has previously successfully completed, including the test results and description why these results would eliminate or reduce the need for retesting for the temporary toll system (optional) (section 3.1).

2 Testing Approach

In this section the candidate (E)ETS provider must describe how the candidate-(E)ETS-provider organizes the testing, including the cooperation with the Toll Charger, the timetable for the testing, the resources and organization required for the testing, including the involvement of the Toll Charger in the preparation and implementation of the tests and a description of the tasks and responsibilities of the candidate-(E)ETS-provider during the testing phases.

2.1 Testing Principles and Standards

In this chapter The candidate-(E)ETS-provider should be stating which standards en known principles are used by the candidate-(E)ETS-provider to setup an correct testing strategy.

As an example of known standards which are expected and not limited are:
- The way software is developed (a.g. Agile principles or waterfall)
- ISO-25010
- Moscow principles
- ISO-27001
- Risk based strategy

2.2 Scope

In this chapter the candidate-(E)ETS-providers will be stated which testing, parts of system, testing phases will be in scope and **out** of scope.

2.3 Roles and Responsibilities

In this chapter must be stated which roles and responsibilities are conducted by the candidate-(E)ETS-provider.

The candidate-(E)ETS-provider's roles and responsibilities
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2.4 Review and Approval of Test

In this chapter the candidate-(E)ETS-provider must state how the candidate-(E)ETS-provider wants to pass a test, and for the Toll charger to approve the test report and ensure that, at least, and not limited to, the following requirements are met and included:
- In which way test(s) must be completed according to the test plan;
- In which way the Toll charger can have access to follow / oversee the test(s) as agreed and is informed about the progress of these tests;
- In which way Toll charger can approve a test after a defect which has occurred in a previous test;
- In which way, when the finding has been resolved, the candidate-(E)ETS-provider informs the Toll Charger and what measures have been taken to ensure that this finding no longer occurs;
- In which way the candidate-(E)ETS-provider inform the Toll charger and obtain the Toll charger approval when the defects have been remedied.

2.5 Defect management

In this section the candidate-(E)ETS-provider must state in which way the candidate-(E)ETS-provider will handle defects during the different testing phases.

This will include and is not limited to:
- How defects are registered and reported to the Toll Charger;
- How defects are prioritized on the basis of impact;
- How retesting is done after a defect has been solved.

2.6 Test environment

In this section the candidate-(E)ETS-provider must state which test environment or environments are available for testing and how those will connect to the accreditation environment of the toll charger.

2.7 Testing Tools

In this section the candidate-(E)ETS-provider must state which tools will be used during testing. The different tools that can be, which are not limited to, used are:
- Test management tool
- Test automation tool
- Defect management tool
- Risk management tool

2.8 Risk Analysis

In this section the candidate-(E)ETS-provider must state in which way he will identity way risks, how they are managed and how they are registered. Also a clear statement of how risks are mitigated can be stated in here.

2.9 Testing report

The test report must be in the format which is provided by the toll charger and can only be accepted if, according to assessment of the Toll charger, there are no longer any outstanding blocking/restrictive findings and all of the aforementioned test phases have been completed and the conditions of the test plans have consequently been met.

3 Test Phases

In this section the candidate-(E)ETS-provider must explain which phases of testing he will execute and how this will be done, including a short description of the tests, the expected results, etc.

3.1 Phase 1 Conformity Testing Backoffice

In this section the candidate-(E)ETS-provider states which information the candidate-(E)ETS-provider will hand over regarding the conformity of the back-office of the candidate-(E)ETS-provider.

3.2 Phase 2 Compatibility Testing Backoffice

In this section the candidate-(E)ETS-provider must explain in which way he will conduct the selected test scenarios (as stated in appendix A of this document or appendix III of the ETS domain statement) and/if he wants to perform any other test scenarios which must be accepted by the toll charger.

3.3 Operational testing

In this section the candidate-(E)ETS-provider may state in which way he wants to perform testing if in the operational phase changes in hardware/software will be conducted. This may also conclude changes in legal perspective. This section can include, and is not limited to, the following:
- How the candidate-(E)ETS-provider will in this case setup a test plan or test strategy;
- How and if the candidate-(E)ETS-provider will perform a risk analysis;
- Which tests the candidate-(E)ETS-provider wants to perform regardless the change in system;
- How the candidate-(E)ETS-provider will setup a test report.

3.4 Other testing phases

This section can also used to stated if other tests such as performance tests, Backup/restore tests and disaster recovery tests shall be performed.

All these tests can only be executed after these tests has been accepted and approved by the toll charger. For each test phase a separate test report must be set up and approved by the toll charger.

Appendix A Overview of requested test scenario's

Overview of Technical interface tests

TI: Technical InterfaceTesting			
Proof of Technical interface connection from service provider to Toll Charger			
Id.	**Name**	**Description**	**Purpose**
1	Transmission of an empty ExceptionList (Whitelist).	The Service Provider sends an empty ExceptionList (Whitelist) to the Toll Charger. The Toll charger confirms a technical succesfull receipt and sends a technical acknowledgement to the service provider.	Proof of successful transmission of a Whitelist including synchronisation and confirmation.
2	Transmission of an empty ExceptionList (Blacklist).	The Service Provider sends an empty ExceptionList (Blacklist) to the Toll Charger. The Toll charger confirms a technical succesfull receipt and sends a technical acknowledgement to the service provider.	Proof of successful transmission of a Blacklist including synchronisation and confirmation.
3	Transmission of an Information request (Vehicle Passage Image Request).	The Service Provider sends an empty Information Request list to the Toll Charger. The Toll charger confirms a technical succesfull receipt and sends a Technical Acknowledgement to the service provider.	Proof of successful transmission of an information request including synchronisation and confirmation.
4	Transmission of an empty Adjustment request (Adjustment Request).	The Service Provider sends an empty Adjustment request to the Toll Charger. The Toll charger confirms a technical succesfull receipt and sends a Technical Acknowledgement to the service provider.	Proof of successful transmission of an adjustment request including synchronisation and confirmation.

Overview of Functional interface tests

FI: Functional InterfaceTesting			
Proof of functional correctness of the interfaces from service provider to Toll Charger and vica versa			
Id.	**Name**	**Description**	**Purpose**
1	Transmission of a new contract at the service provider (Whitelist).	The Service Provider sends 10 separate Whitelists each containing a different license plate number to the Toll Charger. The Toll charger sends a functional acknowledgement to the service provider.	Proof of successful transmission of a Whitelist including synchronisation and confirmation of the functional correctness.
2	Transmission of an ended contract at the serviceprovider (Blacklist).	The service Provider sends 2 separate Blacklists each containing a different license plate number (randomly chosen from the list used in scenario FI.1) to the Toll Charger. The Toll charger sends a functional acknowledgement to the service provider.	Proof of successful transmission of a Blacklist including synchronisation and confirmation of the functional correctness.
3	Transmission of an Information request (Vehicle Passage Image Request).	The Service Provider sends an Information Request list to the Toll Charger. The Toll charger confirms a technical successful receipt and sends a functional acknowledgement to the service provider.	Proof of successful transmission of an Information request including synchro-nisation and confirmation.
4	Transmission of an Adjustment request (Adjustment Request).	The Service Provider sends an Adjustment request to the Toll Charger. The Toll charger confirms a technical successful receipt and sends a functional acknowledgement to the service provider.	Proof of successful transmission of an Adjustment request including synchro-nisation and confirmation.
5	Receiving the response of the adjustment request (Response to Adjustment Request)	After the (E)ETS provider has sent an adjustment request to the toll charger, it is assessed by the toll charger and the response to the adjustment request is send to the (E)ETS provider.	It has been demonstrated that successful transmission of the response to the adjustment request to the (E)ETS provider has taken place and a functional confirmation has been received by the toll charger.
6	Receiving of the Billing Details.	The Toll charger sends a BillingDetails to the service provider.	Proof of successful transmission of the billing details to the Service Provider and the receiving of a functional acknowledgement of that by the Toll Charger.
7	Receiving of an Area Exemption.	The Toll charger sends an Area Exemption to the service provider.	Proof of successful transmission of an Area Exemption to the Service Provider and receiving a functional acknowl-edgement of that by the Toll Charger.
8	Receiving of a Payment Claim.	The Toll charger sends a PaymentClaim to the service provider.	Proof of successful transmission of the Payment Claim to the Service Provider and receiving a functional acknowl-edgement of that by the Toll Charger.

Overview of End-to-End Tests

Id	Name	Description	Purpose
EE: End-to-End Testing			
Proof of overall functional correctness of system between Service Provider en Toll Charger			
1	Basic end to end testing with service contracts with the service provider.	The service provider sends 10 separate whitelists, each containing a different license plate number, to the toll charger. After successful receipt of this whitelist, the service provider sends 2 different blacklists (randomly selected from the list provided earlier in this test) to the Toll charger. After this, the Toll charger will add passage information to the selected license plate numbers and will send the billing details to the service provider.	This scenario will proof that by registering and deregistering various service contracts, billing details can be send to the service provider including synchronisation and confirmation of the functional correctness.
2	Testing of adjustment request with correction of the billing details.	The service provider starts collecting the vehicle passage information from the Toll charger by using the Vehicle Passage Information Message for 2 of the whitelist license plate numbers (chosen at random from the list used in scenario EE.1). The service provider then sends 2 adjustment requests for these 2 license plate numbers to the Toll charger with 2 different reasons, 1 of which includes a requested mandatory attachment. After assessment by the Toll charger, the Toll charger sends 2 functional confirmations of the adjustment requests to the service provider in which 1 is accepted and 1 is refused. The accepted adjustment request will be processed in the billing information that will be sent to the service provider.	This scenario shows that after submitting an information request, 2 correction requests with the correct reason and an attachment can be submitted bij the service provider. After assessment by the toll charger, the service provider is informed about why a correction request was rejected and that the accepted correction request leads to an adjustment in the billing data.