

Annex Template Test plan candidate-EETS-providers Heavy Goods Vehicle Charge

Version 1.0

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Table of contents

1	Objective	4
2	Testing Approach	5
2.1	Testing Principles and Standards	5
2.2	Scope	5
2.3	Roles and Responsibilities	5
2.4	Review and Approval of Test	5
2.5	Defect management	6
2.6	Test environment and test data	6
2.7	Testing Tools	6
2.8	Risk Analysis	6
2.9	Test report	6
3	Test Parts	7
3.1	Part A1 Conformity assessment	7
3.2	Part A2 Transfer of keys and certificates	7
3.3	Part B1 DSRC Compatibility	7
3.4	Part B2 Backoffice Compatibility	7
3.5	Part C1 Map matching and tolling	7
3.6	Part C2 Financial administration and remittance of the Heavy Goods Vehicle Charge	7
3.7	Part C3 Monitoring of the EETS Provider	8
3.8	Operational testing	8
3.9	Other testing	8

1 Objective

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

1. *How the candidate-EETS-provider intends to organise the tests and perform them in each test part, including the collaboration with the Toll Charger and the timeline for testing (section 2);*
2. *The manner in which the candidate-EETS-provider intends to coordinate the test results and progress with the Toll Charger and Third Parties (section 2);*
3. *The manner in which the candidate-EETS-provider intends to document and register the test results in a timely and accurate manner in order to define problems surrounding the testing and register them in a test issue management log (section 2.4 and 2.5);*
4. *The method to link the test results to the success criteria of the test (section 2.4);*
5. *The procedure to be followed if a product to be supplied does not meet the success criteria or gives unexpected results, including a procedure for solving problems surrounding the tests (section 2.4);*
6. *The procedure to be followed to have each respective test plan and resulting test reports approved by the Toll Charger (section 2 and 2.4);*
7. *A description of the resources and organisation necessary for testing, including technical and physical facilities, infrastructure, test frameworks and simulators, personnel, governance and the involvement of the Toll Charger and/or Third Parties in the preparation and execution of the tests (section 3.1, 3.2 and 3.3);*
8. *The procedure(s) for managing the configuration of the test and acceptance environments and test data (section 2.6);*
9. *The risk file, including a description of risks and control measures, as well as major dependencies (section 2.8);*
10. *The arrangements for the Toll Charger's attendance of the tests. The candidate-EETS-provider will give the Toll Charger the opportunity to attend all tests (section 2);*
11. *The manner in which the Toll Charger will have access to all software used by the candidate-EETS-provider to manage and control the tests (section 3.1, 3.2 and 3.3);*
12. *The test approach that the candidate-EETS-provider envisages during the operational phase, including the way in which the candidate-EETS-provider organizes the testing of (periodic) changes in software and hardware (section 3.4);*
13. *How the candidate-EETS-provider has organized continuity and disaster recovery and what the candidate-EETS-provider expects from the Toll Charger after recovery of the systems (optional) (section 3.5).*

2 Testing Approach

In this section the candidate-EETS-provider must describe how the candidate-EETS-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-EETS-provider during the testing phases.

2.1 Testing Principles and Standards

In this chapter the candidate-EETS-provider should be stating which standards and known principles the candidate-EETS-provider will conduct to set up a 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-EETS-provider will be stated which testing, parts of system, testing parts 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 Toll Charger and by the candidate-EETS-provider.

The Toll Charger:

- reviews the test plans and grants permission to start testing after approval of the test plans;
- oversees the performance of the test [A2, B1, B2, and C] by the candidate-EETS-Provider;
- cooperates during the performance of the tests [A2, B1, B2, and C] without affecting any test results;
- Reviews the test reports and grants permissions to continue testing the next test part after approval of the test report;
- assesses the performance of the candidate-EETS-Provider's system in the Dutch HGV Charge based on the test report(s). Of specific interest is the required registration accuracy and operation of the candidate-EETS-Provider's system on all roads in the Dutch HGV charge scheme;
- certifies the candidate-EETS-Provider's system operates properly and in accordance with specifications by providing a Proof of Accreditation.

The candidate-EETS-Provider's responsibilities:

- set up a test plan matching the Template Testplan EETS Providers HGVC;
- elaborates the test plan with each time new test part;
- set up separate test reports for each test part matching the Template Test Report EETS Providers HGVC;
- executes all test activities as described in the corresponding Test plans.

2.4 Review and Approval of Test

This format of the test plan has been set up in such a way that it can be further elaborated and supplemented according to an iterative process.

However, for each test part/ (part A2, part B1, part B2, part C, operational testing and other tests (optional)) a separate test report must be delivered and accepted by the Toll Charger.

In this chapter the candidate-EETS-provider must state how the candidate-EETS-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 must be 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, when the defect or finding has been resolved, the candidate-EETS-provider informs the Toll Charger and what measures have been taken to ensure that this finding no longer occurs.
- In which way the candidate-EETS-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-EETS-provider must state in which way the candidate-EETS-provider will handle defects during the testing.

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 and test data

In this section the candidate-EETS-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. Also, the candidate-EETS-provider must state how test data will be managed and matched with the Toll Charger.

2.7 Testing Tools

In this section the candidate-EETS-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-EETS-provider must state in which way it will identify 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 Test 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 parts have been completed and the conditions of the test plans have consequently been met.

3 Test Parts

In this section the candidate-EETS-provider can explain which test parts he will execute and how this will be done, including a short description of the tests, the expected results, etc etc.
This will be in accordance with the accreditation process of the HGVC procedure.

3.1 Part A1 Conformity assessment

Not applicable, see Article 46.3 of the EETS Domain Statement HGVC.

3.2 Part A2 Transfer of keys and certificates

In this section the candidate-EETS-provider must explain in which way he will conduct the selected test scenarios and/if the candidate-EETS-provider wants to perform any other test scenarios, which must be accepted by the Toll Charger.

More information of Test Part A2 can be found in the EETS Domain Statement HGVC.

3.3 Part B1 DSRC Compatibility

In this section the candidate-EETS-provider must explain in which way he will conduct the selected test scenarios and/if the candidate-EETS-provider wants to perform any other test scenarios, which must be accepted by the Toll Charger.

More information of Test Part B1 can be found in the EETS Domain Statement HGVC.

3.4 Part B2 Backoffice Compatibility

In this section the candidate-EETS-provider must explain in which way he will conduct the selected test scenarios and/if the candidate-EETS-provider wants to perform any other test scenarios, which must be accepted by the Toll Charger.

More information of Test Part B2 can be found in the EETS Domain Statement HGVC.

3.5 Part C1 Map matching and tolling

In this section the candidate-EETS-provider must explain in which way he will conduct the selected test scenarios and/if the candidate-EETS-provider wants to perform any other test scenarios, which must be accepted by the Toll Charger.

More information of Test Part C1 can be found in the EETS Domain Statement HGVC.

3.6 Part C2 Financial administration and remittance of the Heavy Goods Vehicle Charge

In this section the candidate-EETS-provider must explain in which way he will conduct the selected test scenarios and/if the candidate-EETS-provider wants to perform any other test scenarios, which must be accepted by the Toll Charger.

More information of Test Part C2 can be found in the EETS Domain Statement HGVC.

3.7 Part C3 Monitoring of the EETS Provider

In this section the candidate-EETS-provider must explain in which way he will conduct the selected test scenarios and/if the candidate-EETS-provider wants to perform any other test scenarios, which must be accepted by the Toll Charger.

More information of Test Part C3 can be found in the EETS Domain Statement HGVC.

3.8 Operational testing

In this section the candidate-EETS-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 include changes in legal perspective. This section can include, and is not limited to, the following:

- How the candidate-EETS-provider will in this case setup a test plan or test strategy;
- How and if the candidate-EETS-provider will perform a risk analysis;
- Which tests the candidate-EETS-provider wants to perform regardless the change in system;
- How the candidate-EETS-provider will setup a test report.

The test plan also must contain a plan applied for testing during the operational phase, a comprehensive overview of the tests to be performed (recurringly) during the operational phase (regression testing), and the manner in which the relevant test plan and resulting test reports will be recorded and agreed with the Toll Charger, including the manner in which the candidate-EETS-provider lays down the testing of (periodic) changes in software and hardware.

3.9 Other testing

This section can be used to state 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 part a separate test report must be set up and approved by the Toll Charger.