



Broadcast Control System (BCS)

NRK 2023-1264

SSA-T Appendix 5 – Testing and approval

[Contractor name]

[Contractor logo]

Norwegian Broadcasting Corporation Ltd. (NRK)

Bjørnstjerne Bjørnsons plass 1

N-0340 OSLO, Norway

Switchboard: +47 23 04 70 00

Website: www.nrk.no

Norwegian Business Registration NO976 390 512

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1 INTRODUCTION

Requirements for the testing and approval procedures, including the test criteria, routines and so on are outlined in this Appendix.

The Contractor shall respond to the requirements at the bottom of each section. If some of the requirements are not met, please explain why and any alternative solution.

Text inserted by the Contractor should be marked with blue font.

Note: the remaining descriptions of this Appendix will be clarified during the negotiation phase.

2 PARTIAL DELIVERIES (CF 2.1.4)

The implementation of the project will be done as iterations/work packages with different functionality implemented in NRK. These functions implemented will be tested and approved as the rollout commences and each package will follow the guidelines in the Agreement.

Each work package will have an individual test plan and approval period.

Contractor's response:

3 TEST METHODOLOGY

Describe the testing methodology to be used in this project, both automatic and manual. If the Contractor will utilize a test management tool, please include which tool and how it will be used.

Describe the different tests and test-types for the project, implementation, go-live and operations phases including prerequisites and procedures.

The Contractor is responsible for executing volume, capacity, and response time tests. The Contractor shall execute these tests as a part of the system test before handing over to NRK acceptance tests. Test results from the tests shall be presented to and approved by NRK.

For manual testing, NRK shall have the option to participate in all tests, including development of test scenarios and test scripts. For automatic on-site integration tests, NRK shall have access to the test-portal/-reports.

Tests completing the different phases must be documented with a sign-off from the responsible tester from the Contractor or Customer depending on test phase. Please describe in detail the sign-off regime to be used in this project. The test documentation must include input/test data used in the test, and the result based on this input/test data. Describe typical documentation formats.

All functional requirements must be associated with and verified by specific test scenarios and test scripts. Describe how this is accomplished.

Contractor's response:

4 DELIVERY AND APPROVAL OF THE DETAILED SPECIFICATION (CLAUSE 2.2.2)

If the Customer wants to specify detailed terms and conditions for the Customer's approval of the detailed specification, cf. clause 2.2.2 of the Agreement, the terms and conditions shall be stated here.

5 CONVERSION (CLAUSE 2.3.8)

The Customer shall approve the Contractor's procedures for conversion (conversion programme) by performing one or more test conversions of data and verifying that the test conversions have been successful, including that the data has been transferred and is in the correct format. The Customer shall specify how test conversions shall be verified here.

The Customer shall describe how conversions shall be approved here.

6 PREPARATIONS FOR ACCEPTANCE TESTS (CF 2.4.1)

The Contractor shall clearly describe their own and NRK's obligations and tasks related to the preparations of acceptance tests.

Contractor's response:

7 SOLUTION READY FOR ACCEPTANCE TEST (CAUSE 2.4.2)

Any requirements the Customer has that limits the number of errors in various categories in the solution at the start of acceptance testing shall be stated here.

8 PLAN FOR THE CUSTOMER ACCEPTANCE TEST AND THE APPROVAL PERIOD (CF 2.4.3)

The Customer shall create a test plan and test scenarios for the acceptance tests in cooperation with the Contractor as defined in chapter 4. The acceptance test plan may contain more detail acceptance criteria regarding approval of the Customer acceptance test (cf. 2.4.6).

The Contractor is required to create the tests based on these test scenarios. All test scenarios and test scripts shall be linked to the requirements as outlined in SSA-T Appendix 1, 2 and 3 with a coverage of 100%.

The test plan will be created as part of the specification phase.

Contractor's response:

9 SCOPE OF THE ACCEPTANCE TEST (CF 2.4.4)

The Customers acceptance test shall comprise the software and the equipment that form part of the deliverables. The scope of acceptance tests must verify the requirements as outlined in SSA-T Appendix 1, 2 and 3 for each iteration/delivery.

The Contractor shall describe the software, equipment and tools that are a part of the deliverables and must be tested.

Contractor's response:

10 PERFORMANCE OF THE CUSTOMER ACCEPTANCE TEST (CF 2.4.5)

The Contractors is requested to describe how the appetence test will be conducted and what must be in place before the test starts. All delivered functionality will be thoroughly tested according to the acceptance test plan. Routines for how rectified versions should be delivered to the Customer for re-testing, and how the re-testing should be conducted, shall also be described here. Examples of points that should be covered by the description;

Before starting:

- Obtain the equipment that will be used in the test
- Train the testers
- User documentation and other materials the testers need
- Describe routines for how the testers must document and report errors
- Obtain the test data
- Produce test descriptions
- Produce a plan describing the order in which the tests will be conducted, and which takes into account any interdependencies between the tests

Conducting the tests:

- Administer the execution of the tests rounds
- Follow up the testers, provide user support as needed
- Check that errors can be reproduced and quality assure error reports before they are sent to the Contractor for error rectification

Ending:

- Ensure that everything that should be tested has been tested
- Re-test the final error rectifications
- Run a regression test
- Ensure that the level of outstanding errors is within the limits of what has been agreed

Routines for how rectified versions should be delivered to the Customer for re-testing, and how the re-testing should be conducted, shall be described here.

[Contractor's response:](#)

11 APPROVAL OF THE CUSTOMER ACCEPTANCE TEST (CLAUSE 2.4.6)

If other or more detailed criteria will be used for approving the acceptance test which differ from what is stipulated in the Agreement's clause 2.4.6, the Customer shall specify this here.

12 COMMISSIONING (CF 2.4.7)

The details of responsibilities for assisting NRK with the commissioning will be discussed during the specification phase. However, NRK expects that the Contractor will be present on-site at least during the very first commissioning to assist in any unforeseen events that may occur. Furthermore, we see it as an important success criterion that relevant personnel from the Contractor is available for remote assistance at every commissioning event during the solution roll-out.

[Contractor's response:](#)

13 DURATION (CLAUSE 2.5.1)

If a duration for the approval period has been agreed that differs from that stipulated in the Agreement's clause 2.5.1, this shall be stated here.

14 IMPLEMENTATION OF THE APPROVAL PERIOD (CF 2.5.2)

NRK will test the functionality as it is delivered. However, for some of the work packages, it might be relevant to perform load tests, meaning we might expose the work package to a number of users in production or simulated testing.

During the approval of each iteration, NRK will perform realistic testing of redundancy and functionality level adapted to each iteration. Details will be discussed and agreed upon during the specification/design phase.

During final approval, NRK will perform realistic testing of both redundancy and disaster recovery. Details will be discussed and agreed upon during the specification/design phase.

In addition to the provisions that follow from section 2.5.2 of the general agreement text, the following applies for the final approval:

Errors reported during the approval period must be rectified continuously and by the end of the approval period, however, so that a month's continuous operation without A or B errors is achieved. If such errors occur during the last month of the approval period, the approval period must be extended accordingly.

[Contractor's response:](#)

15 FINAL APPROVAL – DELIVERY DATE (CLAUSE 2.5.3)

If criteria for the approval of the deliverables are agreed other than those stipulated in the Agreement, the Customer shall specify this here.