

TRANSPORT for NSW (TfNSW)

QA SPECIFICATION TS202

APPROVAL OF ITS SOLUTIONS FOR PROJECTS

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REVISION REGISTER

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Ed 2/Rev 0		Change approval category names to be consistent with new TS200 names	PM - ITS	07/12/16
Ed 2/Rev 1		Change Approver title to Director ITS (or delegate), to align with new titles and roles in RMS	D-ITS	07/08/17
Ed 3/Rev 0	Multiple	References to RMS changed to TfNSW.	J Gordon	30/09/20
Ed 4/Rev 0	Multiple	Director ITS changed to Director ITS Engineering. Words "Policy and" removed from item 3	N Patras	9/2/21



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FOREWORD

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REVISIONS TO PREVIOUS VERSION

All revisions to the previous version (other than minor editorial changes) are indicated by a vertical line in the margin as shown here, except when it is a new edition and the text has been extensively rewritten.

PROJECT SPECIFIC CHANGES

Project Specific changes are **not allowed** to this document.

This document shall only be changed by TfNSW (Director ITS Engineering or delegate).

Requests for clarifications, re-issue, or other questions regarding this document should be directed to the ITS Help desk: ITSHelpDesk@rms.nsw.gov.au

TfNSW QA SPECIFICATION TS202

APPROVAL OF ITS SOLUTIONS FOR PROJECTS

1 GENERAL

1.1 SCOPE

This document details the consultation, approval process, responsibilities and authority for approval and acceptance of Intelligent Transport System solutions and ITS devices for use within a specific project outcome. The objective is to clarify the approval processes for a wide variety of ITS designs, systems and ITS devices, such that the pathways for multiple users to gain approval are clear, and that an appropriate level of diligence is conducted, to minimise risk of issues that can affect TfNSW business outcomes and ITS, such as functional performance, compatibility, on-going operation and maintenance.

The scope covers evaluation, approval and acceptance of the ITS aspects of projects involving ITS designs, devices and systems, including the sub-activities of specification and approval of ITS field devices.

In Scope

- Introduction of new Intelligent Transport Systems
- Novel, one-off or proof of concept ITS solutions (including trials)
- Upgrade of existing ITS designs adding new functionality
- Re-Design of ITS designs to enhance functionality and/or maintainability
- Re-Design of ITS designs to maintain existing functionality and maintainability (e.g. due to ceasing manufacture of key spares that are regularly needed, and need to change design to use alternate components)
- Use of approved ITS Field Devices for an application which is not covered by the device approval certificate

Out of Scope

- Maintenance activity not involving changed design or device model; e.g. replacing broken ITS items with functioning ones.
- Existing physical Traffic Facilities Assets (non-ITS)
- Approvals of Field Devices covered by process TS201; this process is aimed at manufacturer use, verifying if a particular product is suited for generic TfNSW use. Such requirements for capability across multiple projects are usually more extensive than those of any single project, with consequently longer timescales. Requirement scope is usually given in a TfNSW specification. This process is not suited to project specific use.

1.2 STRUCTURE OF THE SPECIFICATION

This Specification includes a series of annexures that detail additional requirements.

1.2.1 Project Specific Requirements

All projects that include ITS components must follow this specification to seek TfNSW approval for appropriate ITS Solutions to endorse inclusion of specific ITS Systems or Field Devices as part of the delivery of projects for TfNSW business outcomes.

Project Specific changes to this specification for approval are **not allowed**.

1.2.2 Schedules of HOLD POINTS

The schedule in Annexure TS202/C lists the **HOLD POINTS** that must be observed. Refer to Specification TfNSW Q (formerly RMS Q) for the definition of **HOLD POINTS**.

1.2.3 Referenced Documents

Standards, specifications and test methods are referred to in abbreviated form (e.g. TS200). For convenience, the full titles are given in Annexure TS202/M.

1.3 DEFINITIONS AND ACRONYMS

1.3.1 Definitions

The terms “you”, and “your”, mean “the Contractor” and “the Contractor’s” respectively.

The following definitions apply to this Specification:

Intelligent Transport System (ITS)	An integrated technology solution using computer-based control systems which communicate with field devices to provide a functional outcome designed to improve journeys through the transport network.
ITS Solution	A project, system, sub-system, design, or proposed solution, involving one or more ITS field devices, or back end system, together with an ITS related concept of operations.
ITS Field Device	An electronic device that provides a function at an ITS Field Site (e.g. camera, electronic sign, TSC communication module etc.)
ITS Field Equipment	Equipment needed to support the operation of Field Devices at an ITS Field Site (e.g. housing, power conversion unit, cabling etc.).
Director ITS Engineering	Central TfNSW authority responsible for TfNSW ITS solution design approval, including approval/acceptance for supply of ITS Field Devices and Equipment and for ITS solutions.
ITS Register	The listing of ITS Designs and Devices and the current classes of their suitability for supply to TfNSW by internal and external projects. This document is available to suppliers via the internet as TS200.
Applicant	The individual entity and/or company submitting the application to TfNSW requesting approval/acceptance of an ITS solution, acting as the point of contact with TfNSW for the purpose of the submission. This may be an TfNSW Project Manager, Roads or ITS Service Provider or other entity contracted to deliver a project on behalf of TfNSW.
ITS Helpdesk	Central point of contact for external communication with TfNSW ITS group.
Hold Point	Defined point in the Gating process, requiring a halt in process/project activity until the Hold Point is released by an authorised SME

1.3.2 Acronyms

The following acronyms apply to this Specification:

ITS	Intelligent Transport Systems
NSW	New South Wales
RMS	Roads and Maritime Services, a former agency within the cluster of Transport for New South Wales, now is a part of Transport for New South Wales
TfNSW	Transport for New South Wales
SME	Subject Matter Expert

2 WHICH PROJECTS REQUIRE ITS SOLUTION APPROVAL

A project application for ITS solution approval must be submitted by a project, if the project involves:

- ITS activity other than just like-for-like replacement.

Or involves one or more of the items below

- Proposed use of ITS devices that have not been granted TfNSW "Type Approval" or TfNSW "Acceptable". (refer Register of approved devices; TS200)
- Use of ITS devices that are classed as "Provisional" in TS200. (A check is required because Provisional device prior use may vary significantly from proposed use and business outcomes required)
- Use of ITS devices that are unapproved at the time of project planning
- Proposed novel use of ITS devices, considered likely to be outside the range of conditions for which any existing device "Type Approval" or TfNSW "Acceptable" may have been granted.
- New designs/configurations of ITS.
- New "back end" ITS systems, if these play a key role in ITS outcomes.

3 APPROVAL AUTHORITY

The "Director ITS Engineering" is the Approval Authority. These responsibilities include:

- Approval of new ITS designs and ITS devices (ITS Traffic Facilities Assets)
- Approval of projects using non-approved ITS devices (ITS Traffic Facilities Assets)
- Related approvals processes and Hold Points
- Specifications for ITS devices, ITS systems and infrastructure, and ITS protocols
- Development and approval of ITS specific TfNSW technical guidelines

The Director ITS Engineering may delegate such tasks as they consider appropriate to SME's, or convene groups to assist or perform tasks.

4 SUBMITTING APPLICATION FOR ITS SOLUTION APPROVAL

4.1 WHAT STAGE TO SUBMIT APPLICATION

Early consultation is encouraged to enable assurance activities and submission requirements to be best suited to delivering the business outcomes desired. Ideally, a submission is encouraged at feasibility stage.

Whilst it is noted that not all information will be available at feasibility stage, early application allows major problem areas, if present, to be identified by evaluators, notified to the applicant, and addressed early, potentially saving significant project planning resource and avoiding HOLD POINT delays if a submission is deferred until later in the project.

Where an application is submitted at feasibility stage, it is anticipated that further information would be later submitted to supplement the application, as it became available. It is anticipated that the further information needed would be identified by assessment of the early submission/application.

4.2 HOW TO SUBMIT APPLICATION

An application must be submitted by email to the ITS helpdesk. The ITS helpdesk is at the following email address: ITSHelpDesk@rms.nsw.gov.au.

An enquiry must be submitted to the same location if a project is unsure whether they need approval for a particular ITS project, installation or activity.

4.3 CONTENT OF APPLICATION

The application must provide sufficient information for understanding of the intended project scope, relating to the proposed ITS elements, so that an effective review can be performed.

An application may initially be made in the form of an outline description. An application may include, as relevant/available:

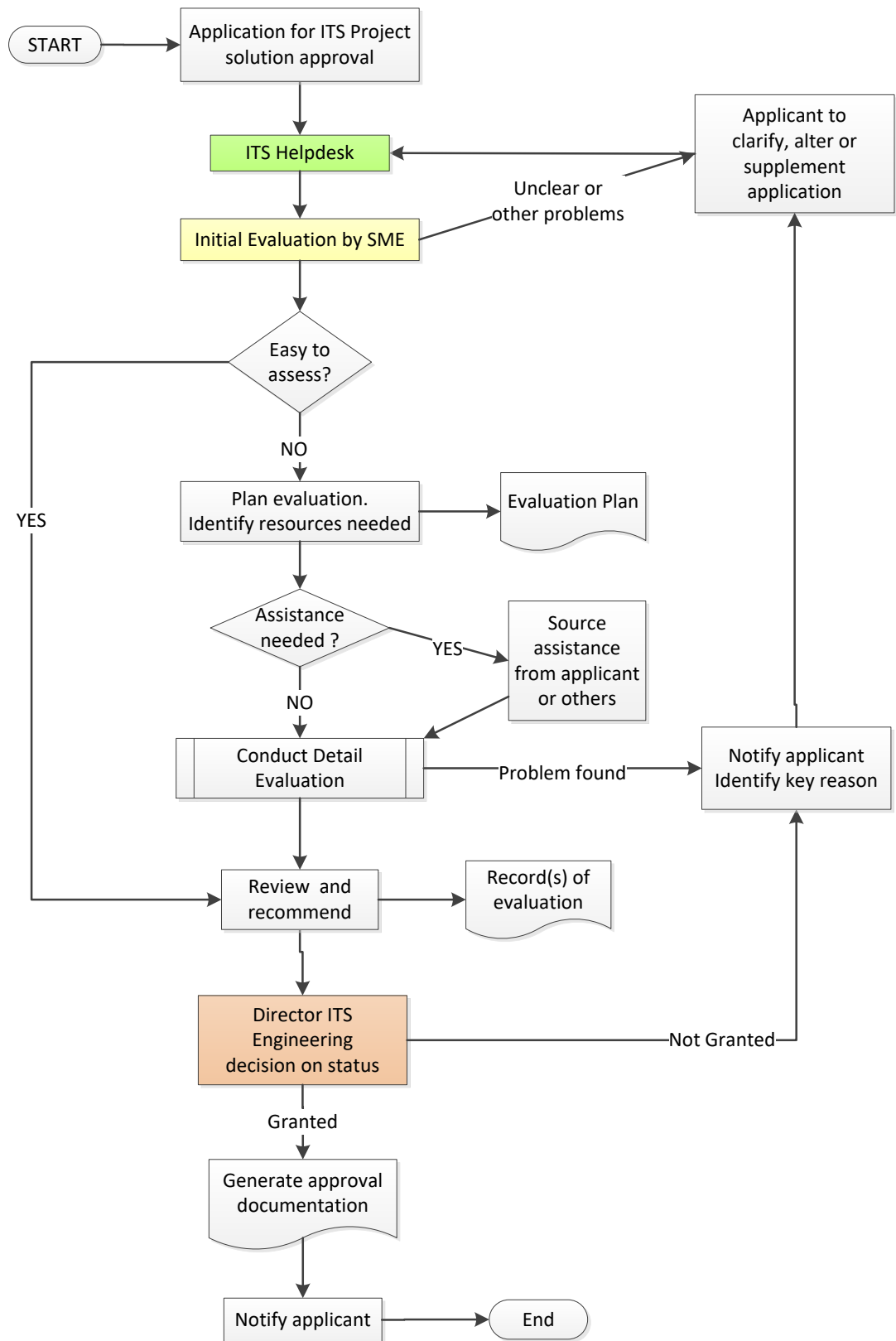
- System Functional Specification
- Concept design
- Environmental conditions
- ITS devices proposed
- Architecture and configuration
- Communications and power arrangements
- Timescales and other key constraints.
- Expected business outcome

An applicant must be identified on the application and act as the point of contact. They must provide requested clarifications or further information, if requested.

The typical applicant is expected to be a project manager submitting an application relating to a TfNSW installation project. However, the origins of an applicant are not specifically constrained.

An application may relate to more than a single project, if several projects have the same type of use.

5 WORKFLOW FLOWCHART



6 OVERVIEW OF EVALUATION OF APPLICATION

Evaluation of an application for ITS Solution for Project Approval will be based on determination of whether the ITS elements of that particular project, including devices, are “fit for purpose”.

Such an evaluation does not necessarily require a TfNSW specification to exist for a device or type of device. The documentary and functional requirements will depend on the specifics of the project and business outcomes expected.

Applicants must note that evaluators are not assigned to develop or design the solution for the applicant. However, as projects broadly exist to provide a positive outcome for the people of NSW, evaluators will reasonably aid the applicant to progress towards such positive outcomes, through the Director ITS engineering, or delegate, as appropriate.

Depending on the exact nature of the application, a degree of confidentiality may need to be applied, restricting parts (generally around technical intellectual property) or all of an application and subsequent related activity, to specific individuals or roles. Where instigated, this will be agreed between the applicant and the Director ITS Engineering, or delegate.

7 EXPLANATION OF WORKFLOW

The following sections explain selected elements in the workflow in some detail:

7.1 ITS HELP DESK

The applicant, or potential applicant, must initially contact the ITS Help desk to initiate an application. The ITS Help desk can also provide clarifications on approvals processes, how to access specifications and other applicable documents, and are the point of contact for following up applications in progress.

The ITS Help desk is at the following email address: ITSHelpDesk@rms.nsw.gov.au

7.2 SELECTION OF EVALUATORS

The D – ITS, as the person responsible for approvals, will select how project applications received are handled, and who is involved in the different stages of assessment. It is expected that the personnel involved will differ according to the nature of the approval sought. Personnel who the D – ITS may involve include:

- Members of ITS reporting to the Director ITS Engineering
- Subject Matter Experts
- Asset management, planning and maintenance
- Applicant/Project’s representative
- Network Optimisation
- Motorway Management
- CMO representative (Contract Management Office)
- TMC Transport Operations Systems
- TMCS representative

It must be noted that, whilst many persons may be involved with assessment, authority for approval itself resides with the Director ITS Engineering.

7.3 INITIAL EVALUATION

The submitted application will be evaluated to determine whether to proceed to the detail evaluation stage or whether the project is simple in nature to assess, and can be fast tracked for approval. Factors considered will include, but are not limited to:

- New ITS content – does this application have such content.
- Use of devices classed as “Provisional” in TS200. If the nature of described proposed usage is equivalent to prior successful TfNSW use of this Provisional device, this would typically be fast tracked for approval.
- System integration. Can the device or system integrate with those systems it needs to, in terms of power, communications, protocols and similar.
- Approach/need (e.g. can an already approved ITS device meet requirements).
- Functionality.
- Impact of business outcome or failure thereof.
- Lifetime/Maintenance issues.
- Ongoing costs and Risks.

The evaluator may request further information to be provided by the applicant, clarifications, or flag major issues to the applicant and request changes to the application.

7.4 EVALUATION PLAN

If the application is deemed as requiring an Evaluation Plan, this must be generated, tailored to the application requirements, and to define what needs to be done, in broad terms. The plan may potentially include:

- Resource requirements, including resources to generate Evaluation Plan
- Review of applicant document submission
- Review of relevant specifications, standards and regulations
- Review of prior similar use
- Desk study
- Device suitability evaluations (project needs based)
- Assess maintenance and life cycle cost aspects
- System compatibility/configuration trials
- Risk assessments
- Field trials
- Specifying broad criteria for approval
- Constraints
- Test witnessing, if required
- Who will conduct each required activity

It must be noted that evaluation plans intrinsically vary significantly, in scope, length and complexity, since they assess issues specific to particular candidate devices and application projects.

7.5 ASSISTANCE WITH EVALUATION

In some cases, ITS internal resources may be unable to perform all the activities identified as being required for an evaluation, particularly in cases of short timescales. Resources may be sought from the project applicant to assist, or from others.

7.6 RECORD OF EVALUATION

A record must be kept of the Evaluation, recording key activities, results, and other key factors that potentially influence an approval decision. Such a record must be kept irrespective of the direction the workflow takes; “Detail Evaluation” path, or a “fast track” route via an SME.

7.7 PROBLEM FOUND DURING EVALUATION

If a problem is found during evaluation that is considered likely to result in recommendation to not grant approval, then the applicant will be notified, and the key reason given. In most such cases, it is expected that the applicant would seek to modify the application, to address the issues flagged. The approach then needed on the changed application would then be considered, typically to resume the evaluation from an appropriate point, that point depending on the nature of change.

If the applicant, on being notified of the issue, does not advise intent to change their application, the evaluation process will continue on the basis of the submitted application - through to review, recommendation, and decision on status made by the Director ITS Engineering or delegate.

7.8 RESULTS REVIEW AND RECOMMENDATION

Review will consider the evaluation, and make recommendation for approval, rejection or further activity. A record of review will be kept. This may be combined with the evaluation record.

Review recommendations, whether for approval or otherwise, will be notified to the Director ITS Engineering or delegate, together with references to evaluation records and other relevant documentation.

7.9 NOTIFICATION OF APPLICANT

When an outcome is reached on the application, the applicant will be notified of whether they were successful or not. Notification will clarify the scope of approval, or not, as project specific.

If the application is unsuccessful, the notification will identify key reasons. Notification might not identify all shortcomings potentially present in the application; particularly in the case of an early rejection, where parts of the application information may not have been reviewed.

7.10 PROJECT AND DEVICE CHANGES

Any changes in projects and or devices that change ITS items or system designs from those originally approved, must be notified to the ITS helpdesk and direction sought from the Director ITS Engineering or delegate.

8 HOLD POINT

8.1 SUPPLY OF ITS SOLUTIONS FOR PROJECTS

ITS Solutions proposed for supply to TfNSW must be approved as being suitable by TfNSW.

HOLD POINT

Process Held:	Supply of ITS Equipment for maintenance or project works.
Submission Details:	Confirmation that proposed ITS Solution has been approved.
Release of Hold Point:	The Director ITS Engineering or delegate will validate the information provided, prior to authorising the release of the Hold Point.

ANNEXURES TS202/A TO TS202/B – (NOT USED)

ANNEXURE TS202/C – SCHEDULE OF HOLD POINTS

Refer to Clause 1.2.2

C1 SCHEDULE OF HOLD POINTS

Clause	Type	Description
8.1	Hold	Supply of ITS Equipment for maintenance or project works

ANNEXURES TS202/D TO TS202/L – (NOT USED)

ANNEXURE TS202/M – REFERENCED DOCUMENTS

M1 TfNSW SPECIFICATIONS

TfNSW Q	Quality Management System (formerly RMS Q)
IC-QA-TS200	Register of ITS Field Equipment
IC-QA-TS201	Approval of ITS Field Equipment