

Using the DEXP

Digital Engineering Framework

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Contents

Introducing the DEXP

Purpose of the DEXP

Structure of the DEXP template

Development of a Project DEXP

What does a 'good' DEXP look like?

Inclusions in the DEXP Template

Introducing the DEXP

Many aspects of Digital Engineering (DE) are not new concepts, just up-to-date methods for traditional project activities. However, since DE is still considered a new way of working, it is addressed in a separate management plan, the Digital Engineering Execution Plan (DEXP).

Purpose of the DEXP

The purpose of the Digital Engineering Execution Plan (DEXP) is to:

- To demonstrate to TfNSW the contractor's implementation of the DE requirements
- provide assurance to TfNSW that the DE requirements will be met, by setting out how DE will be executed
- form a basis of agreement between TfNSW and the contractor on how to proceed
- define for the contractor's team how project information will be produced, coordinated and delivered.

The DEXP is a key component of the overall success of delivering DE outcomes and deliverables on a project. The DEXP is a key project delivery management plan document, which is part of the suite of documents to assist both TfNSW and the Delivery partner to understand and deliver against TfNSW DE requirements. Figure 1 illustrates where the endorsed Project DEXP fit into the overall document suite.

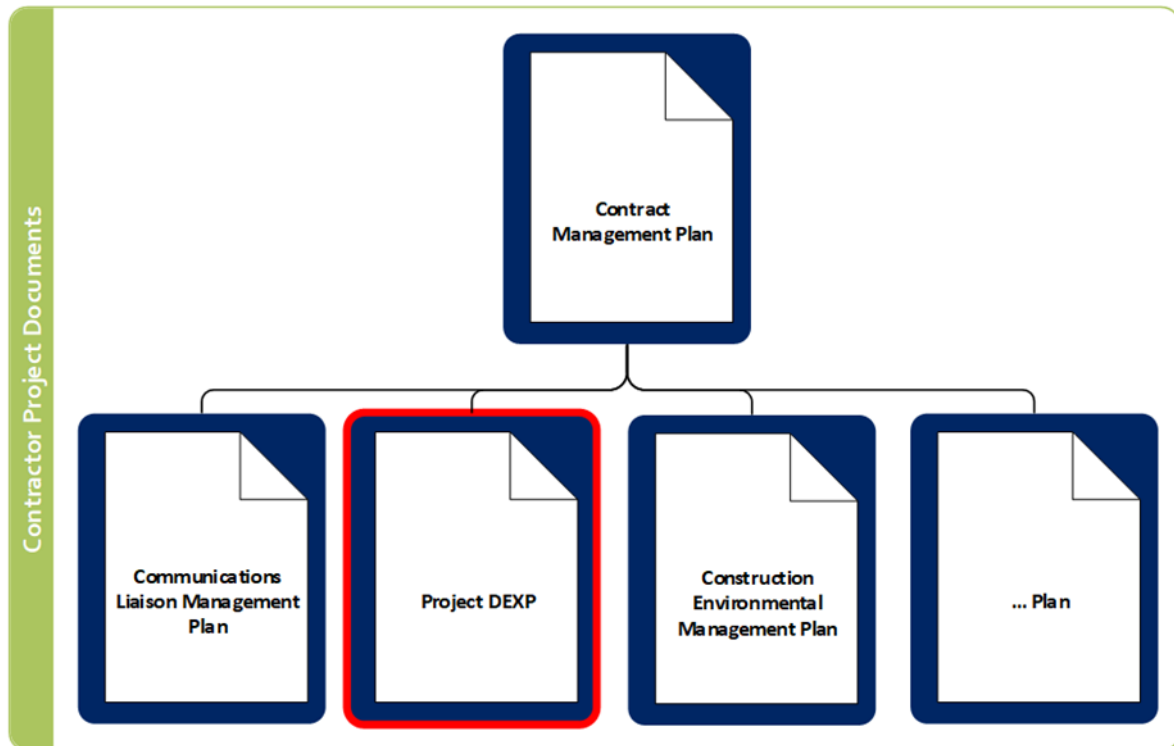


Figure 1 – Project DEXP is a component of the integrated Contract Management Plan

Structure of the DEXP template

The DE Framework provides project teams with a DEXP template (DMS-FT-532).

The template includes a structure and guidance, with sections to be customised by the TfNSW project team and then completed by the contractor. Guidance text is highlighted green for the attention of TfNSW and orange for the attention of the contractor.

The appendices of the DEXP template include templates and data schemas for the contractor’s use. Some of the appendices are customised by the TfNSW project team to make them project specific (as appropriate) and then completed or used by the contractor for project delivery.

Refer to Figure 2 as an example for a summary of the DEXP structure.

The contractor may obtain agreement from the TfNSW project team to use a different template but shall address every item in the DEXP template provided.

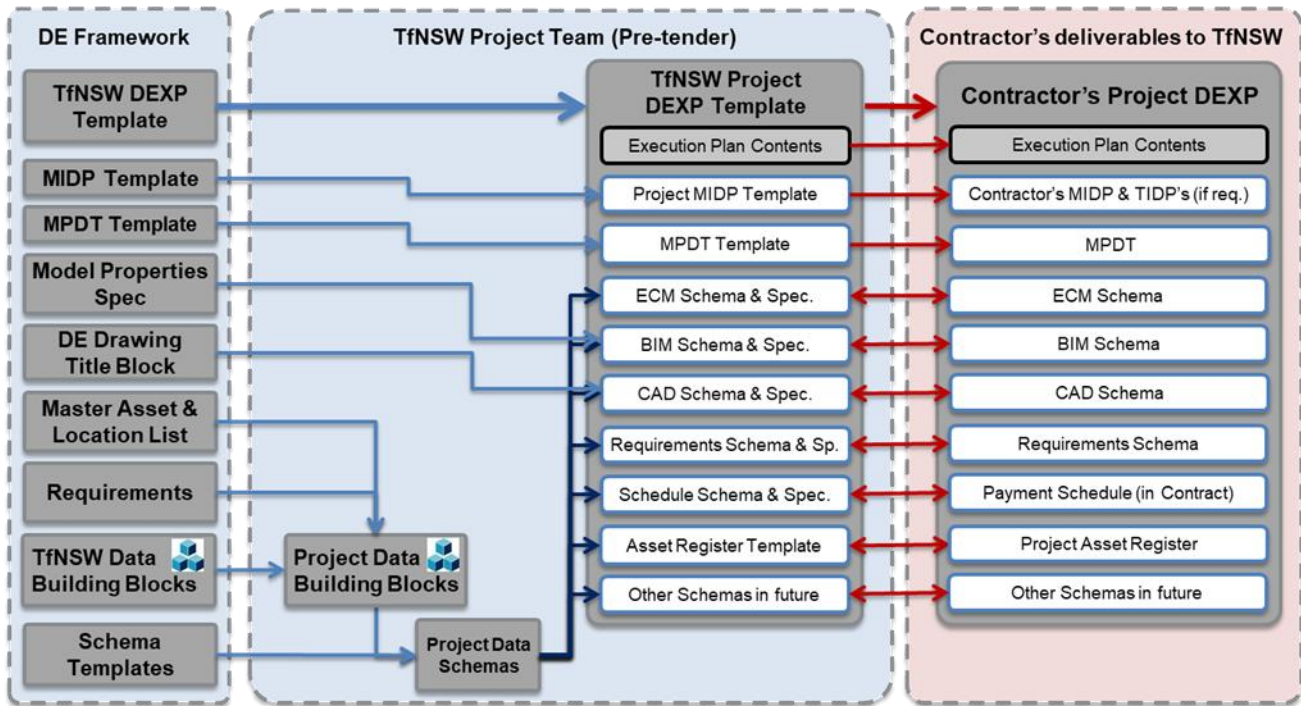


Figure 2 – Assembling the DEXP and its components

Development of a Project DEXP

The Project DEXP Template is developed by the TfNSW project team (refer to Figure 3), with input from the:

- Project Management Plan, including:
 - scope
 - strategy
 - constraints
 - DE uses.
- Project Data Building Blocks (PDBB), used to configure the Project Data Schemas (refer to DMS-SD-143).

Depending on the tender strategy, Draft Project DEXPs may be required at one of the following stages:

- Tenderers may be required to return a Draft Project DEXP as part of their tender submission; or
- The successful tenderer may be required to return a Draft Project DEXP on award (with return of the Contract Management Plan).

The Draft Project DEXP is reviewed and agreed with TfNSW and becomes the accepted Project DEXP.

As the project develops, the Project DEXP is updated to reflect the updated understanding of the project scope and strategy.

What does a ‘good’ DEXP look like?

A good DEXP:

- provides the client with assurance that the project will be managed in a controlled way and the information requirements will be met
- plans the project, clearly stating deliverables, responsibilities, timeframes, data requirements and processes
- is written with all stakeholders in mind, being user friendly for the project team and signposting each user to their relevant sections
- uses clear and concise language, with terms and definitions coordinated with the DE Standard
- uses tables, appendices and diagrams appropriately and to provide clear instruction.

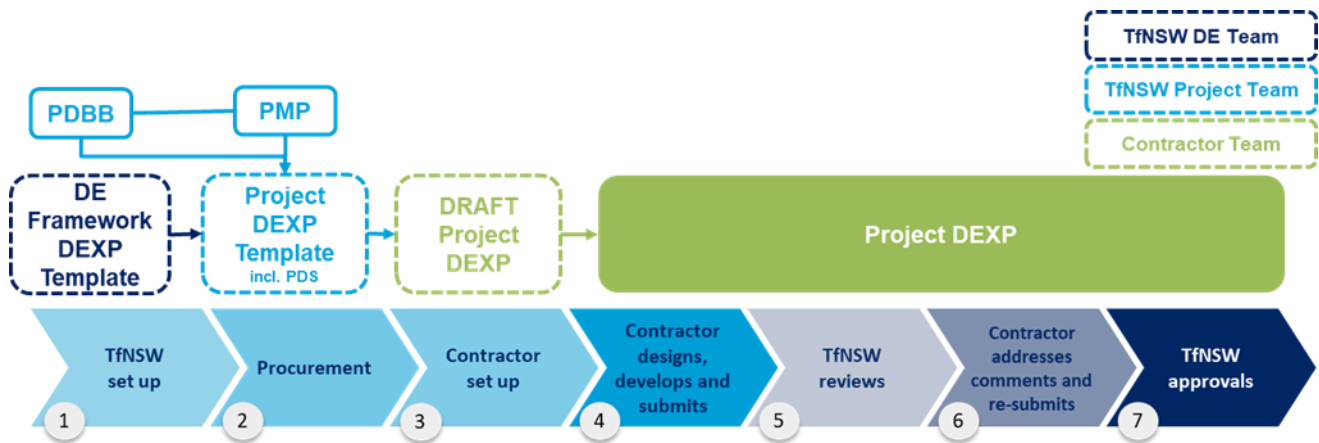


Figure 3 – Development of the Project DEXP

Inclusions in the DEXP Template

A summary of standard inclusions in the Project DEXP are provided in Table 1.

Table 1 – Inclusions in the DEXP Template

Ref	Title	Description
1	Introduction	Gives the purpose and intent of the DEXP, how the DEXP is a living document to be updated over the life of the project and links to terms and definitions.
2	Project details	Gives an overview of the project, its objectives and how DE is going to be used to help achieve these objectives. Lists key personnel and their contact details and responsibilities, the project schedule and standards being complied with for the project.

Ref	Title	Description
3	Project data	Instructs how the Project Data Building Blocks (PDDB), including classification and referencing, will be used on the project. Also confirms which Project Data Schemas (PDS) are to be implemented (linked to appendices).
4	Collaboration	Provides details as to how and when the project will meet and share data and information.
5	DE deliverables	This section lists each DE discipline and what deliverables are to be produced and any requirements that need to be met in their production.
6	Quality and assurance management	Provides any quality assurance procedures that shall be complied with and lists the measures of success (KPIs) that the project will be monitoring.
-	Appendices	Provides data structure and deliverable requirements, and tools for the contractors use to help facilitate delivery.

To find out more about the DEF, contact Digital.Engineering@transport.nsw.gov.au.