



EXPLO National Manual for Projects Management

Volume 6, chapter 3

Development and Implementation of Design Standards Procedure



Document No. EPM-KE0-PR-000001 Rev 004



Document Submittal History:

Revision:	Date:	Reason For Issue
000	12/10/2017	For Use
001	18/02/2018	For Use
002	26/02/2019	For Use
003	12/03/2019	For Use
004	15/08/2021	For Use



THIS NOTICE MUST ACCOMPANY EVERY COPY OF THIS DOCUMENT

IMPORTANT NOTICE

This document, ("Document") is the exclusive property of Government Expenditure & Projects Efficiency Authority.

This Document should be read in its entirety including the terms of this Important Notice. The government entities may disclose this Document or extracts of this Document to their respective consultants and/or contractors, provided that such disclosure includes this Important Notice.

Any use or reliance on this Document, or extracts thereof, by any party, including government entities and their respective consultants and/or contractors, is at that third party's sole risk and responsibility. Government Expenditure and Projects Efficiency Authority, to the maximum extent permitted by law, disclaim all liability (including for losses or damages of whatsoever nature claimed on whatsoever basis including negligence or otherwise) to any third party howsoever arising with respect to or in connection with the use of this Document including any liability caused by negligent acts or omissions.

This Document and its contents are valid only for the conditions reported in it and as of the date of this Document.



Table of Contents

1.0 PURPOSE 5

2.0 SCOPE 5

3.0 DEFINITIONS 5

4.0 REFERENCES 5

5.0 RESPONSIBILITY 5

6.0 PROCESS 5

6.1 Design Standards 5

6.1.1 Standard Design Criteria 6

6.1.2 Standard Specifications 6

6.1.3 Standard Construction Drawings 6

6.2 Review and Approval 6

6.3 Issue and Maintenance 6

6.4 Enforcement 6

6.5 Use 6

6.6 Distribution of Design Standards 7

7.0 ATTACHMENTS 7



Development and Implementation of Design Standards Procedure

1.0 PURPOSE

To establish the procedure for the Entity to identify its Standard Design Criteria, Standard Technical Specifications, and Standard Construction Drawings for use on its Projects.

2.0 SCOPE

This procedure shall be used by all the government Entities in the design of all the infrastructure projects in the Kingdom of Saudi Arabia. The requirements set out in this Procedure shall be employed by the Entity whether the design is performed by an Architect & Engineer (A/E) Contractor, Engineering, Procurement and construction (EPC) Contractor, or Specialty Design Contractor.

3.0 DEFINITIONS

Term	Description
Architect & Engineer (A/E)	Any organization performing Engineering / Detailed Design for a Project.
Entity	A Saudi Government organization which is responsible for the delivery of government funded infrastructure construction projects.

4.0 REFERENCES

1. EPM-KE0-GL-000014 - Codes, Standards & References
2. EPM-KE0-GL-000016 - General Design Guidelines
3. EPM-EN0-PL-000001 - Technical Standardization Plan

5.0 RESPONSIBILITY

The Entity shall be responsible to ensure the implementation of this Procedure in the design execution of its projects. Any needed changes to the Procedure are to be submitted by the Entity to the EXPRO for consideration.

6.0 PROCESS

The objective of standardizing use of, Standard Design Criteria, Specifications, and Standard Construction Drawings is to have designs that conform to one another, that is, designs that are re-usable from one project to the next. The documents are prepared through the implementation of best industry standards, issued by various national and international organizations, and at the same time incorporate all Government directives and requirements on standards and specifications.

The Entity is responsible for selecting, approving and issuing Standard Design Criteria, Standard Specifications and Standard Construction Drawings for use and their enforcement in the design of its projects.

In the event that applicable Standard Design Criteria, Standard Specifications, and Standard Construction Drawings are not available, the Entity shall develop required Standard Design Criteria, Standard Specifications, and Standard Construction Drawings for use on all its projects.

6.1 Design Standards

In this chapter the term Design Standards includes Standard Design Criteria, Standard Specifications, and Standard Construction Drawings. The Entity's Design Standards define the requirements that describe the design practices established by the Entity with the aim to achieve the following objectives:

- Establish uniform design criteria for designs, drawings and construction;
- Have consistent design across projects/regions
- Reduce Engineering job-hours
- Reduce review time and effort



Development and Implementation of Design Standards Procedure

- Improve Construction quality, productivity, and reduce construction costs.
- Standards developed by one Entity can be used by other Entities for similar applications.
- Local material content could be developed over time.
- Promotes safety, consistency, and compatibility by encouraging competition, efficiency, and value.
- Facilitates data exchange.

The Entity shall develop Standard Design Criteria, Standard Specifications, and Standard Construction Drawings to be used in the design of every project.

6.1.1 Standard Design Criteria

Standard Design Criteria describe the Entity requirements for the materials, methods, codes, standards, regulations, and design requirements to be used for the project. The Design Criteria may also include industry best practices. The Entity is responsible for developing, reviewing, and approving the Standard Design Criteria. Refer to Document No. EPM-KE0-GL-000016, General Design Guidelines, for guidance on development of Standard Design Criteria.

6.1.2 Standard Specifications

Standard Specifications are quantitative, measurable criteria that set out documented requirements to be satisfied by a material, design, product, or service and will provide consistency across all the Entity's projects. The Entity is responsible for developing, reviewing, and approving Standard Specifications that are to be used by A/E's for its projects. Refer to Document No. EPM-KE0-GL-000016, General Design Guidelines, for guidance on development of Standard Specifications.

6.1.3 Standard Construction Drawings

Standard Construction Drawings provide commonly used engineering details that are consistent with the Entity's design practice. The Entity is responsible for developing, reviewing, and approving the Standard Construction Drawings which will be used in the design of Entity projects. Refer to Document No. EPM-KE0-GL-000016, General Design Guidelines, and the associated discipline sections for sample of Standard Construction Drawings.

6.2 Review and Approval

The technical requirements contained in the Design Standards, Standard Specifications, and Standard Drawings will be reviewed by the Entity periodically or when required, due to revisions in National or International Codes and Standards; **but the period is not to exceed five (5) years**. The Entity shall be responsible for coordinating such reviews with discipline specialists and other appropriate departments within the Entity's organization and if required with third parties e.g. Saudi Telecom Company (STC), National Water Company (NWC), etc.

6.3 Issue and Maintenance

Upon approval, the Standard Design Criteria, Standard Specifications, and Standard Construction Drawings will be stored, maintained, regularly updated, and placed on the Entity's web site. The Entity will also be responsible for the distribution of these documents to the A/E.

6.4 Enforcement

The enforcement of the Entity's Standard Design Criteria, Standard Specifications, and Standard Construction Details shall be ensured by the Entity through design reviews and check lists. The Entity will provide technical direction and approval for waiver of specific requirements or approve alternatives when it is assured that safety, quality, and structural integrity are not compromised.

6.5 Use

The Entity may desire to revise the standard Design Criteria, Specifications and/or Construction Drawings to be project specific. The Entity shall ensure that its A/E's comply with the provisions of the Entity's Design Criteria and incorporate the requirements into the designs they prepare. Deviations from the Design Criteria must be specifically identified by the A/E and submitted to the Entity for evaluation and approval. When revising a document, altered means revising the intent or requirements of the document.



Development and Implementation of Design Standards Procedure

The Standard Specifications shall be incorporated in contract bid documents either directly "as is", or by altering or preparing new project specific specifications. Any altered Specification shall be approved by the Entity before being issued for use.

Standard Construction Drawings shall be included in the design either directly "as-is" or by altering and preparing new project construction drawings. Any altered Construction Drawings shall be reviewed and approved by the Entity before being "Issued for Construction" by the A/E.

The Entity may require the use of other Entity's standards, such as the Ministry of Transportation (MOT), Saudi Electric Company (SEC), Ministry of Communications and Information Technology (MCIT) which the A/E shall be required to follow and utilize in their design as well.

6.6 Distribution of Design Standards

Design Standards, will be made available by the Entity to appropriate personnel and agencies for use and information through Entity's Electronic Content Management System (document control system) and its website.

7.0 ATTACHMENTS

None.