

DEP SPECIFICATION

HUMAN FACTORS ENGINEERING IN PROJECTS

DEP 30.00.60.10-Gen.

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DESIGN AND ENGINEERING PRACTICE



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TABLE OF CONTENTS

1.	INTRODUCTION	4
1.1	SCOPE.....	4
1.2	DISTRIBUTION, INTENDED USE AND REGULATORY CONSIDERATIONS	4
1.3	DEFINITIONS	4
1.4	ABBREVIATIONS	5
1.5	CROSS REFERENCES.....	5
1.6	COMMENTS ON THIS DEP	6
1.7	SUMMARY OF MAIN CHANGES.....	6
2	APPLICATION OF HFE	7
3	HFE PROCESS	8
3.1	SELECT PHASE	8
3.2	DEFINE PHASE.....	8
3.3	EXECUTE PHASE.....	9
4	ORGANISATION AND RESPONSIBILITIES.....	11
4.1	PROJECT HFE CO-ORDINATOR.....	11
4.2	HFE WORKING GROUP	11
4.3	RESPONSIBILITIES	11
4.4	COMPETENCIES	11
5.	REFERENCES	13

APPENDICES

APPENDIX 1	TERMS OF REFERENCE FOR PROJECT HFE CO-ORDINATOR (For ORM project)	17
APPENDIX 2	TERMS OF REFERENCE FOR AN HFE WORKING GROUP (HFEWG)	18

1. INTRODUCTION

1.1 SCOPE

This DEP specifies requirements for the application of Human Factors Engineering (HFE) in capital projects.

This is a revision of the DEP of the same number dated May 2007; see (1.7) regarding the changes.

1.2 DISTRIBUTION, INTENDED USE AND REGULATORY CONSIDERATIONS

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This DEP is intended for use in facilities related to oil and gas production, gas handling, oil refining, chemical processing, gasification, distribution and supply/marketing. This DEP may also be applied for other similar facilities.

When DEPs are applied, a Management of Change (MOC) process should be implemented; this is of particular importance when existing facilities are to be modified.

If national and/or local regulations exist in which some of the requirements may be more stringent than in this DEP, the Contractor shall determine by careful scrutiny which of the requirements are the more stringent and which combination of requirements will be acceptable with regard to the safety, environmental, economic and legal aspects. In all cases the Contractor shall inform the Principal of any deviation from the requirements of this DEP which is considered to be necessary in order to comply with national and/or local regulations. The Principal may then negotiate with the Authorities concerned, the objective being to obtain agreement to follow this DEP as closely as possible.

1.3 DEFINITIONS

1.3.1 General definitions

The **Contractor** is the party that carries out all or part of the design, engineering, procurement, construction, commissioning or management of a project or operation of a facility. The Principal may undertake all or part of the duties of the Contractor.

The **Manufacturer/Supplier** is the party that manufactures or supplies equipment and services to perform the duties specified by the Contractor.

The **Principal** is the party that initiates the project and ultimately pays for it. The Principal may also include an agent or consultant authorised to act for, and on behalf of, the Principal.

The word **shall** indicates a requirement.

The word **should** indicates a recommendation.

1.3.2 Specific definitions

term	definition
ALARP	As Low As Reasonably Practicable. As defined in HSSE & SP CF Glossary - the point at which the cost (in time, money and effort) of further risk reduction is grossly disproportionate to the risk reduction achieved.
CF	Shell Group HSSE Control Framework
HEMP	Hazards and Effects Management Process
HFE Technical Authority	The individual assigned as Technical Authority for HFE on the project in compliance with Business Unit and Group standards.
Human Factors Engineering	A multidisciplinary science that focuses on the interaction between the human and the work system in order to design human-machine interactions that optimise human and system performance. [ISO 6385]
HFE Implementation Plan	Plan that defines the programme of work required to be conducted during the project Execute Phase.
HFE Strategy	Strategy for incorporating HFE into project activities, including actions defining the programme of work to be conducted during DEFINE phase of a capital project. The strategy should be derived from the HFE Screening performed during SELECT or early in DEFINE.
HFE Working Group	Comprising at least OPS/Maintenance representatives, Project Manager or delegate, Process Engineer/Integrator and HFE Coordinator. Depending on the specific scope, the team could be expanded to include relevant Shell and Contractor(s) engineering disciplines.
Critical Task Inventory	An inventory of human tasks, identified by application of DEP 30.00.60.19-Gen., that are considered to be critical to asset integrity or process safety.
Ops	Operations
ORM	Shell Group Opportunity Realisation Manual.

1.4 ABBREVIATIONS

EPC	Engineering, Procurement and Construction
HFE	Human Factors Engineering
HFEIP	Human Factors Engineering Implementation Plan
HFE Plan	Human Factors Engineering Plan (deliverable by EPC contractors)
HFEWG	Human Factors Engineering Working Group
HSSE & SP	Health, Security, Safety, Environment and Social Performance
ORM	Opportunity Realisation Manual
TA	Technical Authority

1.5 CROSS REFERENCES

Where cross-references to other parts of this DEP are made, the referenced section number is shown in brackets. Other documents referenced by this DEP are listed in (7).

1.6 COMMENTS ON THIS DEP

Comments on this DEP may be sent to the Administrator at standards@shell.com, using the DEP Feedback Form. The DEP Feedback Form can be found on the main page of “DEPs on the Web”, available through the Global Technical Standards web portal <http://www.shell.com/standards> and on the main page of the DEPs DVD-ROM.

1.7 SUMMARY OF MAIN CHANGES

This DEP is a revision of the DEP of the same number dated May 2007.

Content of the previous version that was background information, explanation and guidance, and therefore not required to be communicated to the Contractor, has been removed.

This revision also:

1. Aligns with changes in the Group Standard for HSSE and Social Performance and the introduction of the HSSE & SP Control Framework.
2. Aligns with the Shell Group Manual of Authorities and the Technical Authority framework introduced by the Discipline Control and Assurance Framework (DCAF)
3. Reflects experience and feedback from application of HFE on projects since 2007.
4. Allows for customisation of the way HFE is implemented on projects based on assessment of the complexity of the project, rather than simply on capital size.

This revision also aligns with recent updates to other DEPs in the HFE series (30.00.60.xx).