

DEP SPECIFICATION

HUMAN FACTORS ENGINEERING IN PROJECTS

DEP 30.00.60.10-Gen.

February 2017

DESIGN AND ENGINEERING PRACTICE



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1. INTRODUCTION

1.1 SCOPE

This DEP specifies requirements and gives recommendations to project teams for the application of Human Factors Engineering (HFE) in capital projects that have to comply with the Opportunity Realisation Standard (ORS). Projects not covered by the ORS (i.e., those with a capital value of less than USD 100 Million, or not considered to have “unusual” risk), should contact their local Shell Health HFE resource or the Health Project Owner (HPO) regarding the HFE Screening and implementation of a HFE Strategy, if needed.

This is a revision of the DEP of the same number dated February 2015; see (1.5) regarding the changes.

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This DEP is intended for use on all capital projects that are required to comply with the Opportunity Realisation Standard (ORS) and Shell Group HSSE & SP Control Framework. This DEP may also be applied in other situations.

When DEPs are applied, a Management of Change (MOC) process shall 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.

The word **may** indicates a permitted option.

1.3.2 Specific definitions

Term	Definition
Health Project Owner	The role of the HPO is to manage the delivery of the Project Health Plan through co-ordination, management, engagement and delegation of tasks. The HPO is normally identified from among the Principal's Health team members within the country where the project/facility is planned to be constructed.
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 Strategy	The Principal's governing document or plan for ensuring HFE integration into project activities, including actions defining the programme of work to be conducted during DEFINE and EXECUTE phases of a capital project. The Strategy should be derived from the HFE Screening performed during SELECT phase, if the results indicate it is needed.
HFE Plan	Contractor plan, derived from the HFE Strategy, that defines their programme of HFE work required to be conducted during the project DEFINE and EXECUTE phase.
HFE Authorised Person	As defined in the HSSE Control Framework - a person authorised and assigned responsibility to perform work in accordance with HFE Procedures. An HFE Authorised Person has proficiency assured at skill level (see Appendix C for a definition of skill level HFE competence requirements).
HFE SME	A person assigned responsibility by the Discipline to develop and approve Procedures for Human Factors Engineering in line with the HSSE & SP Control Framework HFE section of the Health Manual. Has Proficiency at Skill level and is Accredited by the Shell Health discipline in the specified subject area.
HFE Technical Authority	The individual assigned as Technical Authority for HFE on the project in compliance with Business Unit and Group standards.
HSSE&SP Authorised Person	An individual appointed by the Project Manager, who will establish, maintain and execute the appropriate HSSE & SP studies and/or activities from the HSSE & SP Activity Plan in order to adequately identify, assess, and document the HSSE & SP risks of the project, in line with the HSSE & SP Control Framework Managing Risk Manual.

1.3.3 Abbreviations

Term	Definition
ALARP	As Low As Reasonably Practicable
BDEP	Basic Design Engineering Package
BFD/BOD	Basis for/of Design
DAM	Discipline Authorities Manual
DCAF	Discipline Controls and Assurance Framework
DEP	Design and Engineering Practice
EPC	Engineering, Procurement and Construction
FEED	Front End Engineering and Design
FPD	Flawless Project Delivery
HFE	Human Factors Engineering
HMI	Human-Machine Interface
HPO	Health Project Owner
HSSE&SP	Health, Safety, Security, Environment & Social Performance
ISO	International Standards Organization
O&M	Operate and Maintain
ORS	Opportunity Realisation Standard
PSSR/PSUA	Pre Start-Up Safety Review/Pre-Start-Up Audit
SME	Subject Matter Expert
TA	Technical Authority

1.4 CROSS REFERENCES

Where cross-references to other parts of this DEP are made, the referenced section or clause number is shown in brackets (). Other documents referenced by this DEP are listed in (4).