The Shell Petroleum Development Company of Nigeria Ltd.

STANDARDIZATION OF COFFERDAM FOR THE DIFFERENT OPERATING/GEOLOGICAL CONDITIONS

BUSINESS CASE & IMPLEMENTATION PLAN

Rev	Date of Issue	Originator	Reviewed	Approved
	5/9/2023	Abure Ehizogie	Tochukwu Nnabugwu	Collins Asilonu
		Ehizogie Abure Digitally signed by Ehizogie Abure Date: 2023.09.05 14:15:03 +01'00'	Tochukwu Nnabugwu Digitally signed by Tochukwu Nnabugwu Date: 2023.09.08 08:41:14 +01'00'	Omotayo Tella Digitally signed by Omotayo Tella Date: 2023.09.08 08:44:21 +01'00'

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1.0 PROBLEM STATEMENT

Excavation of existing ground level for pipeline repairs, land remediation and construction activities to a depth greater than 1.2m is hazardous construction operation. There are currently no structural **design** for the cofferdam protective system) deployed to protect employees from cave-ins.

Current practice typically involves installation of a generic prefabricated cofferdams without consideration for the peculiarities at the site which leads to trial and re-work when working challenging environment and exposes employees to risk of possible cave-ins.

In some cases, cofferdam installation takes a long-time during pipeline repairs (with >1 week in manhours on locations with very weak soil) due to re-work or re-installation to enable the structure to function as required.

2.0 BUSINESS CASE

Standardizing the cofferdam design for the different operating/geological conditions will improve the safety and speed of execution for pipeline repair and construction works in SPDC.

3.0 OPPORTUNITY

Pipeline and land remediation activities occur at different locations in SPDC. However, the locations will be grouped and categorized in-line with the most predominant terrain and soil type. These groups are considered for cofferdam standardization.

4.0 SCOPE

- Integrated review of the SPDC locations

- SPDC locations categorization utilizing most onerous soil data and terrain classification
- Cofferdam analysis utilizing different operating/geological conditions
- Development of design report for the selected categories
- Development of standard drawings
- Report out and closeout

5.0 DESIRED OUTCOMES

- Enhance & standardize cofferdam installations days to 3days across board by ensuring fit for purpose structures are deployed.
- Improve operational safety.

6.0 IMPLEMENTATION PLAN

S/N	Activity	Timeline
1	Ideation & feasibility review	31st August 2023
2	Location categorization and geotechnical data correlation	15th September 2023
3	Cofferdam analysis	29th September 2023
4	Develop design report	15th October 2023
5	Develop design drawing	29th October 2023
6	Report Out	31st October 2023

7.0 TEAM

LEAD: Asilonu Collins

MEMBERS: Martyns, Ibiso; Mba, Ejikeme; Tom-West, Jenbarimiema; Saniyo, Eworitse; Omoruyi, Iyare; Malaolu, Abayomi; Abure, Ehizogie; Ukaoha, Franklin, Nnabugwu, Tochukwu; Tella, Omotayo; Saiki, Timothy; Oyelakin, Tolulope