



Projects & Technology SCiN Design Office (SCiN-DO)

CTR Catalogue

Project	DED For Asset Security Enhancement Project
Originating Company	SCiN Engineering Design Office
Document Title	CTR Catalogue
Document Number	XXX-SCINDO-XXXXXX-FA-6834-00001
Document Revision	D01
Document Status	Issued For Review
Originator / Author	Abraham Imarhiagbe
Security Classification	Restricted
ECCN	EAR 99
Issue Date	28-Sep-21
Revision History is shown next page	

Rev Status	Date	Desscription	Originator	Checker	Approver
D01	28-Sep-21	Issued For Review	Abraham Imarhiagbe	Oluwaseun Durojaiye	Jide Odunlami

Restricted

ECCN: EAR 99 De Minimis

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ADDITIONAL AGREEMENT/APPROVAL RECORD				
Party	Ref Indicator	Name	Sign	Date

Guidelines:

1. Please consider using hyperlink rather than embedding large documents.
2. Fonts must not be altered from the standard styles- (see SEDO Word Document Template).
3. Graphs to be without borders.
4. Use non-breaking spaces between numbers and units Ctrl+Shift+Space
5. Special Characters such as degree (°C) refer to: <http://www.alt-codes.net/>
6. Maps to follow Shell mapping standards.
7. Figures & tables to be incorporated in the text, with attachments if a larger figure will benefit
8. Units are Oil field Metric. If Oil field standard units are used (e.g. ft and psi, then the metric
9. Use m3 rather than bbl/ft3

Revision Philosophy:

- a. All FEED documents for review shall be issued at R01, with subsequent R02, R03, etc as required.
- b. All documents approved for issue, or approved for design shall be issued at A01 with subsequent A02, A03, etc as required. (Management of Change is required for A02, A03, etc).
- c. All Detailed Design documents for review shall be issued at D01, with subsequent D02, D03, etc as required.
- d. All documents approved for construction shall be issued at C01 with subsequent C02, C03, etc as required. (Management of Change is required for C02, C03, etc).
- e. All approved "As Built" documents shall be issued at Z01, with subsequent Z02, Z03, etc as required. (Use versions Z01.1, Z01.2, Z01.3, etc to review "As Built" document to Z02).

** Note that your document, the document title shall substitute the title of this document which is- "SEDO Excel Document Template/ Cover Page" wherever it exists.*

Revision History

Rev No	Date of issue	Reason for / Change
D01	9-Jul-21	Issued for Review

SORTED BY DISCIPLINE

Discipline	CODE
Business Support	YA
Civil Structural	CX
Electrical	EA
HSE	HX
Instruments	IN
Information Management (inc DCC)	JA
Leadership Team	AA
Materials / Corrosion	RA
Mechanical (Static, Rotating & Piping)	MX
Pipelines	LA
Planning Engineer	FA
Process	PX
Project Engineer	AA
Project Leader	AA
Quality Assurance	QA
User Defined	X

SORTED BY CODE

Discipline	CODE
Change Control Manager	AA
Leadership Team	AA
Project Engineer	AA
Project Leader	AA
Civil Structural	CX
Electrical	EA
Planning Engineer	FA
HSE	HX
Instruments	IN
Pipelines	LA
Mechanical (Static, Rotating & Piping)	MX
Process	PX
Quality Assurance	QA
Materials / Corrosion	RA
User Defined	X
Business Support	YA

DED For Asset Security Enhancement Project					
DISCIPLINES				TOTAL	
	<u>Engineer Hours</u>	<u>Designer Hours</u>	<u>Total Hours</u>	<u>Manhours</u>	<u>Amount (NGR)</u>
<u>Electrical</u>	<u>883</u>	<u>588</u>	<u>1471</u>	1,471	14,376,020
<u>PACO</u>	<u>392</u>	<u>224</u>	<u>616</u>	616	6,049,628
<u>Telecoms</u>	<u>429</u>	<u>18</u>	<u>447</u>	447	4,581,615
<u>Civil</u>	<u>547</u>	<u>1120</u>	<u>1667</u>	1,667	15,689,852
<u>Planning</u>	<u>184</u>	<u>0</u>	<u>184</u>	184	1,895,771
<u>QA</u>	<u>52</u>	<u>0</u>	<u>52</u>	52	535,761
<u>DCC</u>	<u>196</u>	<u>0</u>	<u>196</u>	196	2,019,409
<u>DIRECT TOTAL BUDGET</u>	<u>2,683</u>	<u>1,950</u>	<u>4,633</u>	<u>4,633</u>	<u>45,148,057</u>
<u>PROJECT SUPPORT SERVICES</u>				<u>116</u>	<u>988,132</u>
<u>PROJECT MANAGEMENT</u>				116	988,132
<u>DIRECT + SUPPORT CHARGES</u>					<u>46,136,189</u>
<u>5% OVERHEAD CHARGES</u>					<u>2,306,809</u>
<u>3RD PARTY COST</u>					<u>-</u>
TOTAL COST ESTIMATE					48,442,998

<u>FULL DISCIPLINE SUMMARY</u>					
<u>DED For Asset Security Enhancement Project</u>					
	<u>Engineer Hours</u>	<u>Designer Hours</u>	<u>Total Hours</u>	<u>3rd Party</u>	<u>T&Es</u>
<u>Electrical</u>	<u>883</u>	<u>588</u>	<u>1471</u>	<u>\$ -</u>	<u>\$ -</u>
<u>PACO</u>	<u>392</u>	<u>224</u>	<u>616</u>	<u>\$ -</u>	<u>\$ -</u>
<u>Telecoms</u>	<u>429</u>	<u>18</u>	<u>447</u>	<u>\$ -</u>	<u>\$ -</u>
<u>Civil</u>	<u>547</u>	<u>1120</u>	<u>1667</u>	<u>\$ -</u>	<u>\$ -</u>
<u>Planning</u>	<u>184</u>	<u>0</u>	<u>184</u>	<u>\$ -</u>	<u>\$ -</u>
<u>QA</u>	<u>52</u>	<u>0</u>	<u>52</u>	<u>\$ -</u>	<u>\$ -</u>
<u>DCC</u>	<u>196</u>	<u>0</u>	<u>196</u>	<u>\$ -</u>	<u>\$ -</u>
<u>TOTAL</u>	<u>2683</u>	<u>1950</u>	<u>4633</u>	<u>0</u>	<u>0</u>

DED For Asset Security Enhancement Project: Project Management

	<u>Engineer</u> <u>Hours</u>	<u>Designer</u> <u>Hours</u>	<u>3rd Party</u>	<u>T&E's</u>
<u>JA001</u> <u>Project Mangement -IM/DCC</u>	<u>36</u>	<u>0</u>	\$ -	\$ -
<u>JA002</u> <u>IM/DCC-2</u>	<u>160</u>	<u>0</u>	\$ -	\$ -
<u>FA001</u> <u>Project Management-Planning</u>	<u>128</u>	<u>0</u>	\$ -	\$ -
<u>FA002</u> <u>Cost & Progress Activities</u>	<u>56</u>	<u>0</u>	\$ -	\$ -
<u>QA001</u> <u>Project Management-QA/QC</u>	<u>40</u>	<u>0</u>	\$ -	\$ -
<u>QA002</u> <u>QUALITY ASSURANCE</u>	<u>12</u>	<u>0</u>	\$ -	\$ -
	<u>432</u>	<u>0</u>	<u>\$ -</u>	<u>\$ -</u>

COST - TIME - RESOURCE (CTR) SHEET

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SEDO COST - TIME - RESOURCE (CTR) SHEET

Client OU	Shell Petroleum Development Company (SPDC)			CTR No.	GPW FA 002
Project Title	DED For Asset Security Enhancement Project			Project No.	SCiNDO-PRJ-0627
Sub-Project/Phase	DED			Discipline	Planning Engineering
CTR Title	Cost & Progress Activities				
Schedule Start (Monday)		Schedule Finish (Friday)		Duration Weeks	0

INPUTS / DEPENDENCIES

Source / Discipline	Description

ACTIVITIES (inc. input to other discipline's deliverables)

[illegible]

DELIVERABLES (that are your discipline's responsibility)

[illegible]

NOTES / ASSUMPTIONS

56.0	0.0	\$	-	\$	-
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RESPONSIBLE PARTIES

Prepared by	Esther Chijioke-Amadi	Discipline Check	Abiola Oyadeyi	Date :	28 Sep 21	Revision :	D01
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COST - TIME - RESOURCE _(CTR) SHEET

Client OU	Shel Petroleum Development Company (SPDC)			CTR No.	GPW JA 001
Project Title	DED For Asset Security Enhancement Project			Project No.	SCiNDO-PRJ-0627
Sub-Project/Phase	DED			Discipline	Im & Dcc
CTR Title	Project Mangement -IM/DCC				
Schedule Start (Monday)		Schedule Finish (Friday)		Duration Weeks	0

INPUTS / DEPENDENCIES

Source / Discipline	Description

ACTIVITIES (inc. input to other discipline's deliverables)

[illegible]

DELIVERABLES (that are your discipline's responsibility)

[illegible]

NOTES / ASSUMPTIONS

OVERALL TOTALS

36.0	0.0	\$	-	\$	-
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RESPONSIBLE PARTIES

Prepared by	Onojaife Irikefe	Discipline Check	Usanga Mfon	Date :	28 Sep 21	Revision :	D01
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SEDO COST - TIME - RESOURCE (CTR) SHEET

Client OU	Shel Petroleum Development Company (SPDC)			CTR No.		GPW JA 002	
Project Title	DED For Asset Security Enhancement Project			Project No.		SCiNDO-PRJ-0627	
Sub-Project/Phase	DED			Discipline	Im & Dcc		
CTR Title	IM/DCC-2						
Schedule Start (Monday)		Schedule Finish (Friday)		Duration Weeks		0	

INPUTS / DEPENDENCIES

Source / Discipline	Description

ACTIVITIES (inc. input to other discipline's deliverables)	MAN-HOURS	COSTS (\$-USD)
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[illegible]

DELIVERABLES (that are your discipline's responsibility)	MAN-HOURS	COSTS (\$-USD)
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[illegible]

NOTES / ASSUMPTIONS	OVERALL TOTALS	160.0	0.0	\$	-	-\$	-
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OVERALL TOTALS	160.0	0.0	\$ -	\$ -
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160.0	0.0	\$	-	\$	-
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RESPONSIBLE PARTIES	
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99	99
100	100

Prepared by: Onojaife Irikefe	Discipline Check: Usanga Mfon	Date : 28 Sep 21	Revision : D01
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DED For Asset Security Enhancement Project:
Electrical

		<u>Engineer</u> <u>Hours</u>	<u>Designer</u> <u>Hours</u>	<u>3rd Party</u>	<u>T&E's</u>
<u>EA001</u>	<u>Project Management</u>	<u>232</u>	<u>0</u>	<u>\$ -</u>	<u>\$ -</u>
<u>EA002</u>	<u>Equipment Layout and Cable Routing</u>	<u>350</u>	<u>476</u>	<u>\$ -</u>	<u>\$ -</u>
<u>EA003</u>	<u>Power Transmission and Distribution</u>	<u>147</u>	<u>112</u>	<u>\$ -</u>	<u>\$ -</u>
<u>EA004</u>	<u>Power System Calculations</u>	<u>98</u>	<u>0</u>	<u>\$ -</u>	<u>\$ -</u>
<u>EA005</u>	<u>Equipment Specifications & Data Sheet</u>	<u>16</u>	<u>0</u>	<u>\$ -</u>	<u>\$ -</u>
<u>EA006</u>	<u>MTO</u>	<u>40</u>	<u>0</u>	<u>\$ -</u>	<u>\$ -</u>
		<u>883</u>	<u>588</u>	<u>\$ -</u>	<u>\$ -</u>

COST - TIME - RESOURCE_(CTR) SHEET

NOTES / ASSUMPTIONS

OVERALL TOTALS

232.0	0.0	\$ -	\$ -
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This page to be updated in line with the general project management

RESPONSIBLE PARTIES

Prepared by	Dele Kolajo	Discipline Check	Seun Durojaiye	Date :	28 Sep 21	Revision :	D01
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SEDO COST - TIME - RESOURCE (CTR) SHEET					
Client OU		Shell Petroleum Development Company (SPDC)		CTR No. XXXXX EA 002	
Project Title		DED For Asset Security Enhancement Project		Project No. XXXXXX	
Sub-Project/Phase		DED		Discipline Electrical Engineering	
CTR Title Equipment Layout and Cable Routing					
Schedule Start (Monday)		Schedule Finish (Friday)		Duration Weeks 0	
INPUTS / DEPENDENCIES					
Source / Discipline		Description			
PMT		Work Request			
ACTIVITIES (inc. input to other discipline's deliverables)					
Description		MAN-HOURS		COSTS (\$-USD)	
		Eng Design		3rd P T&E	
DELIVERABLES (that are your discipline's responsibility)					
Deliverable No.		Description		MAN-HOURS	
				Eng Design 3rd P T&E	
		Soku			
XXXXX EA002 - 02		DB Schedule		4	
XXXXX EA002 - 03		Control Room Lighting & Small power layout		6 12.0	
XXXXX EA002 - 04		Control Room Earthing & Lightning protection Layout		6 8.0	
XXXXX EA002 - 05		Access control bay Lighting Layout		6 8.0	
XXXXX EA002 - 06		Access control bay Earthing & Lightning protection layout		6 8.0	
XXXXX EA002 - 07		Perimeter Fence Lighting Layout		8 16.0	
XXXXX EA002 - 08		Electrical Cable Routing Drawing layout		8 16.0	
XXXXX EA002 - 09		Electrical Cable Schedule		6	
- 10					
XXXXX EA002 - 11		Gbaran			
XXXXX EA002 - 12		DB Schedule		4	
XXXXX EA002 - 13		Control Room Lighting & Small power layout		6 12.0	
XXXXX EA002 - 14		Control Room Earthing & Lightning protection Layout		6 8.0	
XXXXX EA002 - 15		Access control bay Lighting Layout		6 8.0	
XXXXX EA002 - 16		Access control bay Earthing & Lightning protection layout		6 8.0	
XXXXX EA002 - 17		Perimeter Fence Lighting Layout		8 16.0	
XXXXX EA002 - 18		Electrical Cable Routing Drawing layout		8 16.0	
XXXXX EA002 - 19		Electrical Cable Schedule		6	
- 20					
XXXXX EA002 - 21		Okoloma			
XXXXX EA002 - 22		DB Schedule		4	
XXXXX EA002 - 23		Control Room Lighting & Small power layout		6 12.0	
XXXXX EA002 - 24		Control Room Earthing & Lightning protection Layout		6 8.0	
XXXXX EA002 - 25		Access control bay Lighting Layout		6 8.0	
XXXXX EA002 - 26		Access control bay Earthing & Lightning protection layout		6 8.0	
XXXXX EA002 - 27		Perimeter Fence Lighting Layout		8 16.0	
XXXXX EA002 - 28		Electrical Cable Routing Drawing layout		8 16.0	
XXXXX EA002 - 29		Electrical Cable Schedule		6	
- 30					
XXXXX EA002 - 31		Imo River			
XXXXX EA002 - 32		DB Schedule		4	
XXXXX EA002 - 33		Control Room Lighting & Small power layout		6 12.0	
XXXXX EA002 - 34		Control Room Earthing & Lightning protection Layout		6 8.0	
XXXXX EA002 - 35		Access control bay Lighting Layout		6 8.0	
XXXXX EA002 - 36		Access control bay Earthing & Lightning protection layout		6 8.0	
XXXXX EA002 - 37		Perimeter Fence Lighting Layout		8 16.0	
XXXXX EA002 - 38		Electrical Cable Routing Drawing layout		8 16.0	
XXXXX EA002 - 39		Electrical Cable Schedule		6	
- 40					
XXXXX EA002 - 41		Nun River			
XXXXX EA002 - 42		DB Schedule		4	
XXXXX EA002 - 43		Control Room Lighting & Small power layout		6 12.0	
XXXXX EA002 - 44		Control Room Earthing & Lightning protection Layout		6 8.0	
XXXXX EA002 - 45		Access control bay Lighting Layout		6 8.0	
XXXXX EA002 - 46		Access control bay Earthing & Lightning protection layout		6 8.0	
XXXXX EA002 - 47		Perimeter Fence Lighting Layout		8 16.0	
XXXXX EA002 - 48		Electrical Cable Routing Drawing layout		8 16.0	
XXXXX EA002 - 49		Electrical Cable Schedule		6	
- 50					
XXXXX EA002 - 51		Egbema			
XXXXX EA002 - 52		DB Schedule		4	
XXXXX EA002 - 53		Control Room Lighting & Small power layout		6 12.0	
XXXXX EA002 - 54		Control Room Earthing & Lightning protection Layout		6 8.0	
XXXXX EA002 - 55		Access control bay Lighting Layout		6 8.0	
XXXXX EA002 - 56		Access control bay Earthing & Lightning protection layout		6 8.0	
XXXXX EA002 - 57		Perimeter Fence Lighting Layout		8 16.0	
XXXXX EA002 - 58		Electrical Cable Routing Drawing layout		8 16.0	
XXXXX EA002 - 59		Electrical Cable Schedule		6	
- 60					
XXXXX EA002 - 61		Belema			
XXXXX EA002 - 62		DB Schedule		4	
XXXXX EA002 - 63		Control Room Lighting & Small power layout		6 12.0	
XXXXX EA002 - 64		Control Room Earthing & Lightning protection Layout		6 8.0	
XXXXX EA002 - 65		Access control bay Lighting Layout		6 8.0	
XXXXX EA002 - 66		Access control bay Earthing & Lightning protection layout		6 8.0	
XXXXX EA002 - 67		Perimeter Fence Lighting Layout		8 16.0	
XXXXX EA002 - 68		Electrical Cable Routing Drawing layout		8 16.0	
XXXXX EA002 - 69		Electrical Cable Schedule		6	
OVERALL TOTALS 350.0 476.0 \$ - \$ -					
NOTES / ASSUMPTIONS					
RESPONSIBLE PARTIES					
Prepared by Sunny Eko		Discipline Check Oluwaseun Durojaiye		Date : 28 Sep 21 Revision : Do1	

[illegible]

SEDO COST - TIME - RESOURCE _(CTR) SHEET

Client OU	Shell Petroleum Development Company (SPDC)			CTR No.		XXXXXX EA 004	
Project Title	DED For Asset Security Enhancement Project			Project No.		XXXXXX	
Sub-Project/Phase	DED			Discipline	Electrical Engineering		
CTR Title	Power System Calculations						
Schedule Start (Monday)		Schedule Finish (Friday)		Duration Weeks		0	
INPUTS / DEPENDENCIES							
Source / Discipline		Description					
PMT		Work Request					
ACTIVITIES (inc. input to other discipline's deliverables)							
Description				MAN-HOURS		COSTS (\$-USD)	
				Eng	Design	3rd P	T&E
DELIVERABLES (that are your discipline's responsibility)							
Deliverable No.		Description		MAN-HOURS		COSTS (\$-USD)	
				Eng	Design	3rd P	T&E
		Soku					
XXXXXX EA004 - 01		Cable sizing & Selection Report		4.0			
XXXXXX EA004 - 02		Equipment Sizing		4.0			
XXXXXX EA004 - 03		Illumination Calculation Report		6.0			
		Gbaran					
XXXXXX EA004 - 01		Cable sizing & Selection Report		4.0			
XXXXXX EA004 - 02		Equipment Sizing		4.0			
XXXXXX EA004 - 03		Illumination Calculation Report		6.0			
		Okoloma					
XXXXXX EA004 - 01		Cable sizing & Selection Report		4.0			
XXXXXX EA004 - 02		Equipment Sizing		4.0			
XXXXXX EA004 - 03		Illumination Calculation Report		6.0			
		Imo River					
XXXXXX EA004 - 01		Cable sizing & Selection Report		4.0			
XXXXXX EA004 - 02		Equipment Sizing		4.0			
XXXXXX EA004 - 03		Illumination Calculation Report		6.0			
		Nun River					
XXXXXX EA004 - 01		Cable sizing & Selection Report		4.0			
XXXXXX EA004 - 02		Equipment Sizing		4.0			
XXXXXX EA004 - 03		Illumination Calculation Report		6.0			
		Egbema					
XXXXXX EA004 - 01		Cable sizing & Selection Report		4.0			
XXXXXX EA004 - 02		Equipment Sizing		4.0			
XXXXXX EA004 - 03		Illumination Calculation Report		6.0			
		Belema					
XXXXXX EA004 - 01		Cable sizing & Selection Report		4.0			
XXXXXX EA004 - 02		Equipment Sizing		4.0			
XXXXXX EA004 - 03		Illumination Calculation Report		6.0			
OVERALL TOTALS				98.0	0.0	\$	- \$
NOTES / ASSUMPTIONS							
RESPONSIBLE PARTIES							
Prepared by	Sunny Eko	Discipline Check	Oluwaseun Durojaiye	Date :	28 Sep 21	Revision :	D01

SEDO COST - TIME - RESOURCE (CTR) SHEET					
Client OU	Shell Petroleum Development Company (SPDC)			CTR No.	XXXXXX EA 005
Project Title	DED For Asset Security Enhancement Project			Project No.	XXXXXX
Sub-Project/Phase	DED			Discipline	Electrical Engineering
CTR Title	Equipment Specifications & Data Sheets				
Schedule Start (Monday)		Schedule Finish (Friday)		Duration Weeks	0
INPUTS / DEPENDENCIES					
Source / Discipline	Description				
PMT	Work Request				
ACTIVITIES (inc. input to other discipline's deliverables)					
Description	MAN-HOURS		COSTS (\$-USD)		
	Eng	Design	3rd P	T&E	
DELIVERABLES (that are your discipline's responsibility)					
Deliverable No.	Description	MAN-HOURS		COSTS (\$-USD)	
		Eng	Design	3rd P	T&E
XXXXX EA005 - 01	Specification for UPS	8			
XXXXX EA005 - 02	UPS Data sheets	8			
OVERALL TOTALS					
		16.0	0.0	\$	- \$
NOTES / ASSUMPTIONS					
RESPONSIBLE PARTIES					
Prepared by	Sunny Eko	Discipline Check	Oluwaseun Durojaiye	Date :	28 Sep 21
				Revision :	Do1

DED For Asset Security Enhancement Project: PACO

	<u>Engineer</u> <u>Hours</u>	<u>Designer</u> <u>Hours</u>	<u>3rd Party</u>	<u>T&E's</u>
<u>IN001</u> <u>Discipline Management Activities</u>	<u>216</u>	<u>0</u>	<u>\$ -</u>	<u>\$ -</u>
<u>IN002</u> <u>Specifications</u>	<u>144</u>	<u>0</u>	<u>\$ -</u>	<u>\$ -</u>
<u>IN003</u> <u>Data Sheets, MTO, Others.</u>	<u>32</u>	<u>224</u>	<u>\$ -</u>	<u>\$ -</u>
	<u>392</u>	<u>224</u>	<u>\$ -</u>	<u>\$ -</u>

SEDO COST - TIME - RESOURCE (CTR) SHEET

Client OU	Shell Petroleum Development Company (SPDC)			CTR No.	XXX IN 001
Project Title	DED For Asset Security Enhancement Project			Project No.	SCiNDO-PRJ-0627
Sub-Project/Phase	DED			Discipline	Inst And Controls Engineering
CTR Title	Discipline Management Activities				
Schedule Start (Monday)		Schedule Finish (Friday)		Duration Weeks	0

INPUTS / DEPENDENCIES

Source / Discipline	Description

ACTIVITIES (inc. input to other discipline's deliverables)	MAN-HOURS	COSTS (\$-USD)
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Description	Eng	Design	3rd P	T&E
Review and Comment on Work Scope	4			
Attend Project Kick-off	2			
Scope Clarifications Meetings	4			
Site Visit	112			
Data Gathering	0			
CTR Catalogue development	4			
Inputs Deliverables Review Matrix	2			
Input to Deliverables Register	4			
Input to Project Schedule	4			
Inputs to Weekly Progress Update	8			
Attend Weekly Project Progress Meeting	16			
Discipline Meetings, Huddle	8			
Conduct Inter Discipline Checks (IDCs)	16			
General Discipline Administration	4			
Project Internal Audit	0			
Attend Health Checks (@25% and 75% completion)	0			
HAZID Workshop	0			
PEFS Review - Roundtable	0			
Bow-Tie Workshop	0			
HAZOP Workshop	0			
HAZOP Closeout	0			
Peer Review, Assist	8			
SIL Workshop	0			
SAFOP Workshop	0			
PDMS Model Review & constructability	0			
Constructability review workshop	4			
Independent Design Review/PEER Review	0			
Interfaces with third party and stakeholders	8			
Risk Based Assessment	0			
Lesson Learnt (Pr- and Post project)	0			
Equipment Criticality Intervention and Assessment	0			
Input to ITT	0			
Technical Bid Evaluation	0			
Input to Basic Design Engineering Package (BDEP)	0			
Inputs to Project Handover Documentation & Close-Out Report	8			

DELIVERABLES (that are your discipline's responsibility)	MAN-HOURS		COSTS (\$-USD)	
	2019	2020	2019	2020
1. Research				
2. Teaching				
3. Service				
4. Other				
TOTAL				

Deliverable No.	Description	Eng	Design	3rd P	T&E
- 01					
- 02					
- 03					
- 04					
- 05					
- 06					
- 07					
- 08					

NOTES / ASSUMPTIONS	OVERALL TOTALS		216.0	0.0	\$	-	\$	-

OVERALL TOTALS	216.0	0.0	\$ -	\$ -
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\$	216.0	0.0	\$	-	\$	-
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RESPONSIBLE PARTIES	
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Prepared by	Marizu Nwachukwu	Discipline Check	Emmanuel Ojediran	Date :	28 Sep 2021	Revision :	Do1
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SEDO COST - TIME - RESOURCE (CTR) SHEET

Client OU	Shell Petroleum Development Company (SPDC)			CTR No.		XXX IN 002	
Project Title	DED For Asset Security Enhancement Project			Project No.		SCiNDO-PRJ-0627	
Sub-Project/Phase	DED			Discipline	Inst And Controls Engineering		
CTR Title	Specifications						
Schedule Start (Monday)		Schedule Finish (Friday)		Duration Weeks		0	

INPUTS / DEPENDENCIES

Source / Discipline	Description

ACTIVITIES (inc. input to other discipline's deliverables)	MAN-HOURS	COSTS (\$-USD)
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[illegible]

DELIVERABLES (that are your discipline's responsibility)	MAN-HOURS	COSTS (\$-USD)
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[illegible]

NOTES / ASSUMPTIONS	OVERALL TOTALS				
	144.0	0.0	\$	-	\$ -

OVERALL TOTALS	144.0	0.0	\$	-	\$	-
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RESPONSIBLE PARTIES	
1	2
3	4
5	6
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11	12
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83	84
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87	88
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91	92
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95	96
97	98
99	100

Prepared by	Marizu Nwachukwu	Discipline Check	Emmanuel Ojedoran	Date :	28 Sep 2021	Revision :	D01
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SEDO COST - TIME - RESOURCE (CTR) SHEET

Client OU	Shell Petroleum Development Company (SPDC)			CTR No.	XXX IN 003
Project Title	DED For Asset Security Enhancement Project			Project No.	SCiNDO-PRJ-0627
Sub-Project/Phase	DED			Discipline	Inst And Controls Engineering
CTR Title	Drawings				
Schedule Start (Monday)		Schedule Finish (Friday)		Duration Weeks	0

INPUTS / DEPENDENCIES					

Source / Discipline	Description

ACTIVITIES (inc. input to other discipline's deliverables)	MAN-HOURS	COSTS (\$-USD)
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[illegible]

DELIVERABLES (that are your discipline's responsibility)	MAN-HOURS	COSTS (\$-USD)
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[illegible]

NOTES / ASSUMPTIONS	OVERALL TOTALS	32.0	224.0	\$ -	\$ -
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OVERALL TOTALS	32.0	224.0	\$ -	\$ -
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32.0	224.0	\$ -	\$ -
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RESPONSIBLE PARTIES	
1	1
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99	99
100	100

Prepared by	Marizu Nwachukwu	Discipline Check	Emmanuel Ojedinan	Date :	28 Sep 2021	Revision :	D01
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DED For Asset Security Enhancement Project:
TELECOMS

		<u>Engineer</u> <u>Hours</u>	<u>Designer</u> <u>Hours</u>	<u>3rd Party</u>	<u>T & E`s</u>
<u>TA001</u>	<u>Discipline Project Management</u>	<u>144</u>	<u>0</u>	<u>\$</u>	<u>\$</u>
<u>TA002</u>	<u>Concept Engineering</u>	<u>182</u>	<u>18</u>	<u>\$</u>	<u>\$</u>
<u>TA003</u>	<u>Systems Drawings</u>	<u>103</u>	<u>0</u>	<u>\$</u>	<u>\$</u>
		<u>429</u>	<u>18</u>	<u>\$</u>	<u>\$</u>

Client OU	Shell Petroleum Development Company (SPDC)	CTR No.	XXX TA 002
Project Title	DED For Gbaran Ox-Bow Project	Project No.	SCINDO-PRJ-0627
Sub-Project/Phase	DED	Discipline	Telecoms

INPUTS / DEPENDENCIES	
Source / Discipline	Description
	Telecoms Concept /FEED Deliverables
	Existing Telecoms As-built Documentation including the following:
	Existing LAN/WAN philosophy Document
	Existing Cable Route Documentation
	Existing CCTV architecture .

[illegible]

	Description		Design	3rd P	T&E
XXXTA002	- 01 Concept Engineering	16.00			
	- 02 FAT, SIT and SAT Testing Procedures	16.00			
	- 03 Design Philopshy	12.00			
	- 04 Update Commissioning Checkout Procedures	12.00			
	- 05 Update of Structured Cabling System Specification	12.00			
	- 06 Update of IP Data Network Specification	8.00			
	- 07 Updating Security & Surveillance Systems Specification and detailed Design	8.00			
	- 08 CCTV Systems Specification and detailed design	12.00			
	- 09 Access Control Sytems (ACS) Camera Specification	8.00			
	- 10 Power Supply systems (Input into Electrical Power loading)	8.00			
	- 11 Heat Dissipation calculation and Report	8.00			
	- 12 MTO	16.00			
	- 13 Data Sheets	12.00	12		

NOTES / ASSUMPTIONS	

Prepared by	koko Bassey	Discipline Check	Mfon Usanga	Date :	28-Sep-21	Revision :	Do1
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SEDO COST - TIME - RESOURCE (CTR) SHEET

Client OU	Shell Petroleum Development Company (SPDC)	CTR No.	XXX TA 003
Project Title	DED For Gbaran Ox-Bow Project	Project No.	SCiNDO-PRJ-0627
Sub-Project/Phase	DED	Discipline	MCI
CTR Title	Systems Drawings		
Schedule Start	Schedule Finish	Duration Weeks	

INPUTS / DEPENDENCIES				
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Source / Discipline	Description
PMT	Vendor and 3rd parties Packages
PMT	Vendor Documentations
PMT	Telecom Master Equipment List (Devices, Cables, Panels)
PMT	Telecom Cable Identifications and Device Wiring Practices
PMT	Telecom Room layouts and Equipment General Arrangements
Civil	Security buildings and locations architectures

ACTIVITIES (inc. input to other discipline's deliverables)	MAN-HOURS	COSTS (\$-USD)
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[illegible]

DELIVERABLES (that are your discipline's responsibility)		COSTS (\$-USD)
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[illegible]

OVERALL TOTALS	103.00	118	\$ -	\$ -
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103.00	118	\$ -	\$ -
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[illegible]

RESPONSIBLE PARTIES	
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Prepared by	koko Bassey	Discipline Check	Mfon Usanga	Date :	28-Sep-21	Revision :	D01
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DED For Asset Security Enhancement Project:

Civil

		<u>Engineer</u> <u>Hours</u>	<u>Designer</u> <u>Hours</u>	<u>3rd Party</u>	<u>T&Es</u>
<u>CX001</u>	<u>Discipline Project Managem</u>	<u>174</u>	<u>0</u>	<u>\$ -</u>	<u>\$ -</u>
<u>CX002</u>	<u>Specifications</u>	<u>24</u>	<u>0</u>	<u>\$ -</u>	<u>\$ -</u>
<u>CX003</u>	<u>Architectural Design</u>	<u>39</u>	<u>588</u>	<u>\$ -</u>	<u>\$ -</u>
<u>CX004</u>	<u>Civil/Structural Engineering</u>	<u>310</u>	<u>532</u>	<u>\$ -</u>	<u>\$ -</u>
		<u>547</u>	<u>1120</u>	<u>\$ -</u>	<u>\$ -</u>

COST - TIME - RESOURCE (CTR) SHEET

Client OU		Shell Petroleum Development Company (SPDC)		CTR No.		CX 001	
Project Title		DED For Asset Security Enhancement Project		Project No.		XXX	
Sub-Project/Phase		DED		Discipline	Civil/Structural		
CTR Title		Discipline Project Management					
Schedule Start (Monday)			Schedule Finish (Friday)			Duration Weeks	
INPUTS / DEPENDENCIES							
Source / Discipline		Description					
		Basis for Design (BfD)					
		Geotechnical Reports					
		Existing As-built Documentation					
ACTIVITIES (inc. input to other discipline's deliverables)							
Description		MAN-HOURS		COSTS (\$-USD)			
		Eng	Design	3rd P	T&E		
Review and Comment on Work Scope		4					
Attend Project Kick-off		2					
Scope Clarifications Meetings		4					
Site Visit		70					
Data Gathering		8					
CTR Catalogue development		4					
Inputs Deliverables Review Matrix		2					
Input to Deliverables Register		4					
Input to Project Schedule		4					
Inputs to Weekly Progress Update		8					
Attend Weekly Project Progress Meeting		16					
Discipline Meetings, Huddle		8					
Conduct Inter Discipline Checks (IDCs)		8					
General Discipline Administration		4					
Project Internal Audit		0					
Attend Health Checks (@25% and 75% completion)		0					
HAZID Workshop		0					
PEFS Review - Roundtable		0					
Bow-Tie Workshop		0					
HAZOP Workshop		0					
HAZOP Closeout		0					
Peer Review, Assist		0					
SIL Workshop		0					
SAFOP Workshop		0					
PDMS Model Review & constructability		0					
Independent Design Review/PEER Review		16					
Interfaces with third party and stakeholders		0					
Risk Based Assessment		0					
Lesson Learnt (Pr- and Post project)		0					
Equipment Criticality Intervention and Assessment		0					
Input to ITT		0					
Technical Bid Evaluation		0					
Input to Basic Design Engineering Package (BDEP)		0					
Inputs to Project Handover Documentation & Close-Out Report		8					
DELIVERABLES (that are your discipline's responsibility)		MAN-HOURS		COSTS (\$-USD)			
Deliverable No.	Description	Eng	Design	3rd P	T&E		
OVERALL TOTALS		174.0	0.0	\$	-	\$	-
NOTES / ASSUMPTIONS							
RESPONSIBLE PARTIES							
Prepared by Ekele Ogorchuku		Discipline Check	Saiki Timothy	Date :	28 Sep 21	Revision :	D01

Client OU	Shell Petroleum Development Company (SPDC)		CTR No.	XXXXXX CX 002	
Project Title	DED For Asset Security Enhancement Project		Project No.	XXXXXXX	
Sub-Project/Phase	DED		Discipline	Civil/Structural	
CTR Title	Specifications				
Schedule Start (Monday)		Schedule Finish (Friday)		Duration Weeks	0
INPUTS / DEPENDENCIES					
Source / Discipline	Description				
	Basis for Design (BfD)				
	Geotechnical Reports				
	Existing As-built Documentation				
ACTIVITIES (inc. input to other discipline's deliverables)					
Description			MAN-HOURS		COSTS (\$-USD)
			Eng	Design	3rd P T&E
DELIVERABLES (that are your discipline's responsibility)					
Deliverable No.	Description		MAN-HOURS		COSTS (\$-USD)
			Eng	Design	3rd P T&E
XXXXXX CX002 - 01	Civil Engineering Design Philosophy		4		
XXXXXX CX002 - 02	Structural Steel Specification		4		
XXXXXX CX002 - 03	Specification for Concrete Works		4		
XXXXXX CX002 - 04	Specification for Foundation Works		4		
XXXXXX CX002 - 05	Specification for Earthworks and Site Preparation		4		
XXXXXX CX002 - 06	Specification for Drainage Works		4		
NOTES / ASSUMPTIONS			OVERALL TOTALS		
			24.0	0.0	\$ - \$ -
RESPONSIBLE PARTIES					
Prepared by	Ekele Ogorchuku	Discipline Check	Saiki Timothy	Date :	28 Sep 21 Revision : D01

SEDO COST - TIME - RESOURCE (CTR) SHEET						
Client OU		Shell Petroleum Development Company (SPDC)		CTR No.		XXXXX CX 003
Project Title		DED For Asset Security Enhancement Project		Project No.		XXXXXX
Sub-Project/Phase		DED		Discipline		Civil/Structural
CTR Title		Architectural Design				
Schedule Start (Monday)		Schedule Finish (Friday)		Duration Weeks		0
INPUTS / DEPENDENCIES						
Source / Discipline		Description				
		Basis for Design (BfD)				
		Existing As-built Documentation				
ACTIVITIES (inc. input to other discipline's deliverables)						
Description		MAN-HOURS		COSTS (\$-USD)		
		Eng	Design	3rd P	T&E	
Review of Security Control Room (SCR) Technical and Safety Requirements		4	0			
DELIVERABLES (that are your discipline's responsibility)						
Deliverable No.		MAN-HOURS		COSTS (\$-USD)		
		Eng	Design	3rd P	T&E	
XXXXX CX003 - 01	Overall Site Master Plan Modification - Soku	0.5	12			
XXXXX CX003 - 02	SCR Building Detailed Layout - Soku	0.5	8			
XXXXX CX003 - 03	Detailed Part Layouts of SCR Building - Soku	0.5	8			
XXXXX CX003 - 04	SCR Building Plans (Floor Plan, Roof Plan) - Soku	0.5	8			
XXXXX CX003 - 05	SCR Building Elevations - Soku	0.5	8			
XXXXX CX003 - 06	SCR Building Sections - Soku	0.5	8			
XXXXX CX003 - 07	SCR Building 3D Rendering - Soku	0.5	8			
XXXXX CX003 - 08	SCR Building Doors and Windows Schedule - Soku	0.5	8			
XXXXX CX003 - 09	SCR Building Furniture Layout and Schedule - Soku	0.5	8			
XXXXX CX003 - 10	SCR Building Reflected Ceiling Plan - Soku	0.5	8			
XXXXX CX003 - 11	Overall Site Master Plan Modification - Gbaran	0.5	12			
XXXXX CX003 - 12	SCR Building Detailed Layout - Gbaran	0.5	8			
XXXXX CX003 - 13	Detailed Part Layouts of SCR Building - Gbaran	0.5	8			
XXXXX CX003 - 14	SCR Building Plans (Floor Plan, Roof Plan) - Gbaran	0.5	8			
XXXXX CX003 - 15	SCR Building Elevations - Gbaran	0.5	8			
XXXXX CX003 - 16	SCR Building Sections - Gbaran	0.5	8			
XXXXX CX003 - 17	SCR Building 3D Rendering - Gbaran	0.5	8			
XXXXX CX003 - 18	SCR Building Doors and Windows Schedule - Gbaran	0.5	8			
XXXXX CX003 - 19	SCR Building Furniture Layout and Schedule - Gbaran	0.5	8			
XXXXX CX003 - 20	SCR Building Reflected Ceiling Plan - Gbaran	0.5	8			
XXXXX CX003 - 21	Overall Site Master Plan Modification - Okoloma	0.5	12			
XXXXX CX003 - 22	SCR Building Detailed Layout - Okoloma	0.5	8			
XXXXX CX003 - 23	Detailed Part Layouts of SCR Building - Okoloma	0.5	8			
XXXXX CX003 - 24	SCR Building Plans (Floor Plan, Roof Plan) - Okoloma	0.5	8			
XXXXX CX003 - 25	SCR Building Elevations - Okoloma	0.5	8			
XXXXX CX003 - 26	SCR Building Sections - Okoloma	0.5	8			
XXXXX CX003 - 27	SCR Building 3D Rendering - Okoloma	0.5	8			
XXXXX CX003 - 28	SCR Building Doors and Windows Schedule - Okoloma	0.5	8			
XXXXX CX003 - 29	SCR Building Furniture Layout and Schedule - Okoloma	0.5	8			
XXXXX CX003 - 30	SCR Building Reflected Ceiling Plan - Okoloma	0.5	8			
XXXXX CX003 - 31	Overall Site Master Plan Modification - Imo River	0.5	12			
XXXXX CX003 - 32	SCR Building Detailed Layout - Imo River	0.5	8			
XXXXX CX003 - 33	Detailed Part Layouts of SCR Building - Imo River	0.5	8			
XXXXX CX003 - 34	SCR Building Plans (Floor Plan, Roof Plan) - Imo River	0.5	8			
XXXXX CX003 - 35	SCR Building Elevations - Imo River	0.5	8			
XXXXX CX003 - 36	SCR Building Sections - Imo River	0.5	8			
XXXXX CX003 - 37	SCR Building 3D Rendering - Imo River	0.5	8			
XXXXX CX003 - 38	SCR Building Doors and Windows Schedule - Imo River	0.5	8			
XXXXX CX003 - 39	SCR Building Furniture Layout and Schedule - Imo River	0.5	8			
XXXXX CX003 - 40	SCR Building Reflected Ceiling Plan - Imo River	0.5	8			
XXXXX CX003 - 41	Overall Site Master Plan Modification - Nun River	0.5	12			
XXXXX CX003 - 42	SCR Building Detailed Layout - Nun River	0.5	8			
XXXXX CX003 - 43	Detailed Part Layouts of SCR Building - Nun River	0.5	8			
XXXXX CX003 - 44	SCR Building Plans (Floor Plan, Roof Plan) - Nun River	0.5	8			
XXXXX CX003 - 45	SCR Building Elevations - Nun River	0.5	8			
XXXXX CX003 - 46	SCR Building Sections - Nun River	0.5	8			
XXXXX CX003 - 47	SCR Building 3D Rendering - Nun River	0.5	8			
XXXXX CX003 - 48	SCR Building Doors and Windows Schedule - Nun River	0.5	8			
XXXXX CX003 - 49	SCR Building Furniture Layout and Schedule - Nun River	0.5	8			
XXXXX CX003 - 50	SCR Building Reflected Ceiling Plan - Nun River	0.5	8			
XXXXX CX003 - 51	Overall Site Master Plan Modification - Egbema	0.5	12			
XXXXX CX003 - 52	SCR Building Detailed Layout - Egbema	0.5	8			
XXXXX CX003 - 53	Detailed Part Layouts of SCR Building - Egbema	0.5	8			
XXXXX CX003 - 54	SCR Building Plans (Floor Plan, Roof Plan) - Egbema	0.5	8			
XXXXX CX003 - 55	SCR Building Elevations - Egbema	0.5	8			
XXXXX CX003 - 56	SCR Building Sections - Egbema	0.5	8			
XXXXX CX003 - 57	SCR Building 3D Rendering - Egbema	0.5	8			
XXXXX CX003 - 58	SCR Building Doors and Windows Schedule - Egbema	0.5	8			
XXXXX CX003 - 59	SCR Building Furniture Layout and Schedule - Egbema	0.5	8			
XXXXX CX003 - 60	SCR Building Reflected Ceiling Plan - Egbema	0.5	8			
XXXXX CX003 - 61	Overall Site Master Plan Modification - Belema	0.5	12			
XXXXX CX003 - 62	SCR Building Detailed Layout - Belema	0.5	8			
XXXXX CX003 - 63	Detailed Part Layouts of SCR Building - Belema	0.5	8			
XXXXX CX003 - 64	SCR Building Plans (Floor Plan, Roof Plan) - Belema	0.5	8			
XXXXX CX003 - 65	SCR Building Elevations - Belema	0.5	8			
XXXXX CX003 - 66	SCR Building Sections - Belema	0.5	8			
XXXXX CX003 - 67	SCR Building 3D Rendering - Belema	0.5	8			
XXXXX CX003 - 68	SCR Building Doors and Windows Schedule - Belema	0.5	8			
XXXXX CX003 - 69	SCR Building Furniture Layout and Schedule - Belema	0.5	8			
XXXXX CX003 - 70	SCR Building Reflected Ceiling Plan - Belema	0.5	8			
NOTES / ASSUMPTIONS		OVERALL TOTALS		39.0	588.0	\$ - \$ -
RESPONSIBLE PARTIES						
Prepared by Ekele Ogorchuku		Discipline Check Saiki Timothy		Date : 28 Sep 21	Revision : D01	

