Husky

ENGINEERING SPECIFICATIONS SPECIFICATION DEVIATION REQUEST FORM

DS-GS-01-FM-02 Rev. 1

| Company/Department: | Spectrum Process Systems | Deviation Request No: | DR- |
|---------------------------|--|--|-----------------------|
| | | (For SE&P Technical Services use only) | |
| Project Name: | 02-20 Raven Creek Compressor Station | Project Deviation Request No: | |
| Location: | Edson Area, Alberta, | Project No: | |
| | LSD: 02-20-050-18 W5M | SPS-14-05110 / 4178HUS | |
| | | | |
| Subject: | Skid NDT requirements | Specification / Rev No: | |
| | | Date Requested (yyyy/mm/dd): | 2015/01/12 |
| PS-VT-01 Pressure Ves | | | |
| 7.11.7 Both sides of th | e skirt to head welds shall be 100% WFM | IT or WVMT examined prior to pressu | re testing. |
| | - | | |
| | | 5* | |
| | | | |
| SECTION B: Description | on of Deviation(s) | a ta | |
| MPI of weld between JT | Vessel (V-326) vessel and skirt not comp | leted | |
| | | | |
| | | | 6 |
| andrion of t | 17 28 2 | | |
| SECTION C: Impacts a | | (List affected documents, if any): | |
| Design Impacts 🛛 No | i es ii yes, describe below | (List affected documents, if any). | |
| Health, Safety & Environ | nment Impacts: No 🗌 | Yes If yes, describe below: | |
| Reliability/Operational F | Performance Impacts: No | Yes If yes, describe below: | |
| Maintenance Impacts: | ⊠ No □ Yes If y | es, describe below: | |
| Cost Impacts: No | Yes If yes, describe below | y: | |
| Justification: | | | |
| | drawings did not include this NDE. Spect | | ₩ |
| | have insulation. JT vessel has 3" Cellular | Glass insulation that made it impraction | cal to be removed and |
| complete NDE. | | c | |
| Requested By: | Laing / Spectrum Process Systems | Signature: $\Lambda \cap \Psi_{\alpha}$ | |
| (Name & Company) | Danig / opecuani i rocess systems | _ Signature | <u> </u> |
| Husky Project Lead: | | Signature: | |

∄ Husky

ENGINEERING SPECIFICATIONS SPECIFICATION DEVIATION REQUEST FORM

DS-GS-01-FM-02 Rev. 1

| | | | | | *************************************** |
|--|---|--|--------------|--|---|
| SECTION D: Technical Review | | | | | |
| Deviation Descript | ion | | Approved | Conditionally Approved | Rejected |
| | | noun numanna na | | aka afara ka masa mara ka walio kwa ilifata ka ka fina ka ka a ka a kana ka a ki masha a ka a ka k | |
| | | | | | |
| | | | | | |
| | *************************************** | N. C. S. A. | | | *************************************** |
| | | | .l | | |
| Reviewed By (Print Name) | | Signature | | Date (yyyy/r | nm/dd) |
| | | | | - | |
| Specification Owner (Print Name) | | Signature | | Date (yyyy/r | nm/dd) |
| Is an Operations Review required? | o Yes | ; | | | |
| SECTION E: Operations Review, if required | | | | | |
| Deviation Descript | tion | | Approved | Conditionally Approved | Rejected |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | I |
| Area Superintendant (Print Name) | | Signature | | Date (yyyy/i | mm/dď) |
| Additional approval (where required): | | p= | | | |
| Name | | | Signatu | re | |
| | : | | | | |
| Title | | | Date (yyyy/m | ım/dd) | |
| SECTION F: List of Attachments | | | | | |
| - international control of the contr | | | | | |
| Approved ITP | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
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| | | | | | |
| | | | | | |
| | | | | | <u> </u> |

| Project: | l Omine | Creek Debut IT Destroy | | let Me I | 14-05110 | -81 | | | | | |
|--|--|--|---------------------------------|------------------------------------|------------------|-----------------------|------------------|---------------------|----------------|--|--|
| Customer: | r: Husky Oil Operations Ltd. c/o Excelsior Eng. Do | | | | | | | | | | |
| P.O. # | | | | Document: Inspection and Test Plan | | | | | 1,100 | | |
| P.O. # | | | | Revision: Date: | Aug 28,2014 | | | | | | |
| LEGEND | | ***** | <u> </u> | Date. | 7109 20,2014 | _ | | | | | |
| C | 1. CHECKPOINT | Checks performed in-house with no Documentation. | | | | | | | | | |
| P | | N I Craecis performed in-house with no Documentation. Quality surveillance vertication activities to be performed which do not require advance client notification and are documented for review. | | | | | | | | | |
| R | | mit to client prior to performence of the activity, or make a | | | | | | | | | |
| W . | | Gly the Buyer and 3rd Party Inspector of the dedicated ins | | | | | | | | | |
| Section 1: DEHY | - HOLD: HIGH H | ot proceed post these points until inspection is verified an | a documented. | W-W | Spectrum | 3 | Party Inspector | 200 | Purchaser | | |
| | Location Cod | | | hon on | ACCEPTED | | ACCEPTED | 1001 | | | |
| | In Intomal S. Subcollivac | Controlling Procedure / Accediance | | Inspection / Action | (Date & Initial) | rspection / Action | (Date & Initial) | nspection Action | Sign & Date | | |
| ng Issuance | 1 | Issuance from Drafting | IFC Drawings | - # | nian est | R | | R | | | |
| / PQRs. | 1 | ASME Sec.VIII, Div.1/Sec. IX | Approved WPS/ ITP Sign-Off | * | | R | | R | | | |
| ers' Qualification | 1 | ASME Sec.IX. | QW-484 / Continuity | R | SV | R | Meeling | R | | | |
| ial Identification & Traceability | ı | ASME Sec.VIII, Div.1 , UG 77, UG 80 | Drawings& MTR's | R | | R | | R | - | | |
| est Report (MTR) Review | I | ASME Section II | Stamp per QC Manual | R | | R | | R | | | |
| & welding of Long/Circ. seams | ı | ASME Sec.VIII, Div. 1 | Travel Sheet Sign Off or Rev.00 | P | | P | | P | 6 | | |
| e, Flange, Coupling Fit up and welding | 1 | ASME Sec.VIII, Div. 1 | Travel Sheet Sign Off | P | | P | | P | | | |
| graphy - Density 2-4 Class 1 Film Required | ı | ASME Sec. VIII Div. 1 - RT-1 incl nozzle bw | RT Reports | R | | R | | R | • | | |
| nspection | T. | ASME Sec. VIII, Div. 1 | MPI Report | R | 70 = 1 | R | | R | | | |
| inspection before closing | 1. | Check Internals & Review | Travel Sheet Sign Off | H | | H 7 | | w | | | |
| sional Inspection | ı | Spectrum Mapped Drawings | ITP Sign Off | P | | P | | P | • | | |
| natic Testing of Split Re-Pads | ı | ASME VIII Div 1 | Report | * | | P | | P | | | |
| Inspection of all Welds / Final QC | 1 | ASME VIII Div 1 | Travel Sheet Sign Off | | | P | | P | | | |
| est of vessel. | - 1 | Hold = 1 Hr. / ASME Section VIII Div. 1 | Report / Chart | H | | н | | w | • | | |
| & Air Dry Vessel | 1 - | | Confirmed Observation | P | | P | | P | | | |
| last, prime and painting | 1 | Per Drawing, | Coating Report | R | | R | | R | | | |
| AB | i | Design Registration | Design Acceptance Letters | R | | R | | R | 0.80 | | |
| acturer's Affidavit | -1 | ASME Sec. VIII Div. 1 | U1/U1A/U4 Sign Off | H | | R | | R | 1.00 | | |
| plate Installation/Supplementary Info as per Drawing | 1 | ASME Sec. VIII Div. 1 | Travel Sheet Sign Off | H | | P | | P | 7-3 | | |
| sky Spec. PS-VT-01 R.3 & • PS-MW-05 Rev 1A • PS-M | W-01 Rev. 2 | 28 Quote & helow requirement only | | | THE TLUE | | | | _ 9 | | |

| EXCELSIOR ENGINEERING LTD. |
|--------------------------------|
| |
| SQUAD CHECK # 5QV-002 |
| EXC #4178HUS-POP 0003-1115-001 |
| TAG # 2 - 320 |
| DESIGN LEAD TAMARA |
| RESPONSIBLE ENG MARK O |
| REVIEW DUE DATE 2011. 99. 29 |

| Project: | Raven | Creek, Dehy / JT Package | | Job. No: | 14-05110 | STATION. | NGSTELL FOR | | | | |
|--|--|--|---|----------------------|-------------------------------|----------------------|------------------------------|---------------------|----------------|--|--|
| Customer: | Husky Oil Operations Ltd. c/o Excelsior Eng. | | Document: | | ent: inspection and Test Plan | | | | | | |
| P.O. # | 840084 | 43246 | | Revision: | 4 | | | | | | |
| | | Date: Aug 28,2014 | | | | | | | | | |
| <u>LEGEND</u> | | | | | | | | | | | |
| C | - CHECKPOINT: | Checks performed in-house with no Documentation. | | | | | | | | | |
| Alignetic automatic des Para de la | - PROCESS: Qu | DCESS: Quality surveitiance verification activities to be performed which do not require advance client notification and are documented for review. | | | | | | | | | |
| R Land Control of the R | - REVIEW: Subn | rit to client prior to performance of the activity, or make a | vallable for review the the results of the tests conducts | ed as the case m | ney be. | | | | | | |
| MALE WALLES | - WITNESS; Not | By the Buyer and 3rd Party Inspector of the dedicated ins | spection activity. Buyer representative is present. | | | | | | | | |
| | - HOLD: Must no | t proceed past these points until inspection is verified and | d documented. | | PER NEW YORK | | | | Super Super | | |
| Section 1: FLASH VESSEL | | | | | Spectrum | | Party Inspector | | Purchaser | | |
| | Location Code 1* internal S# Subcummen | | | spection / Action | ACCEPTED (Date & Initial) | spection / Action | ACCEPTED (Date & Initial) | nspection Action | Sign & Date | | |
| rawing Issuance | | Issuance from Drafting | IFC Drawings | | | R | | R | | | |
| VPS / PQRs. | 1 | ASME Sec.VIII, Div.1/Sec. IX | Approved WPS/ ITP Sign-Off | | | R | | R | | | |
| Velders' Qualification | 1 | ASME Sec.IX. | QW-484 / Continuity | R | | R | | R | | | |
| laterial identification & Traceability | 1 | ASME Sec.VIII, Div.1 , UG 77, UG 80 | Drawings& MTR's | R | | R | | R | | | |
| fill Test Report (MTR) Review | i i | ASME Section II | Stamp per QC Manual | R | | R | | R | | | |
| it up & welding of Long/Circ. seams | -1 | ASME Sec.VIII, Div. 1 | Travel Sheet Sign Off or Rev.00 | P | | P | | P | | | |
| lozzle, Flange, Coupling Fit up and welding | 1 | ASME Sec.VIII, Div. 1 | Travel Sheet Sign Off | P | EV L | P | | P | | | |
| tadiography - Density 2-4 Class 1 Film Required | 110 | ASME Sec. VIII Div. 1 - RT-2 | RT Reports | R | | R | | R | 7H 7V5•3 | | |
| MPI Inspection 100% Lifting Lugs | 1 | ASME Sec. VIII, Div. 1 | MPI Report | R | | R | | R | | | |
| Isual inspection before closing | T / | Check Internals & Review | Travel Sheet Sign Off | н. | | | i sin'izan | | | | |
| limensional Inspection | 1 | Spectrum Mapped Drawings | ITP Sign Off | P | | P | | P | | | |
| nuematic Testing of Split Re-Pads | 1. | ASME VIII Div 1 | Report | H | | P | | P | | | |
| isual Inspection of all Welds / Final QC | i i | ASME VIII Div 1 | Travel Sheet Sign Off | В | | Р | | P | | | |
| ydrotest of vessel. | 1 | Hold = 1 Hr. / ASME Section VIII Div. 1 | Report / Chart | 4 | | н | | | | | |
| ilean & Air Dry Vessel | | | Confirmed Observation | P | | P | | P | | | |
| andblast, prime and painting | 1 | Per Drawing, | Coating Report | R | | R | | R | • | | |
| RN - AB | 1 | Design Registration | Design Acceptance Letters | R | | R | N ESCHAL | R | | | |
| | | the state of the s | | 45110400191 | EPTH CONTRACTOR | HERESTEEN ST | | 10002055 | | | |

ASME Sec. VIII Div. 1

ASME Sec. VIII Div. 1

Manufacturer's Affidavit

Nameplate Installation/Supplementary Info as per Drawing

U1/U1A/U4 Sign Off

Travel Sheet Sign Off

^{*}Husky Spec. PS-VT-01 R.3 • PS-MW-05 Rev_1A • PS-MW-01 Rev. 2 & Quote & below requirement only

| Project: | Raven | Creek, Dehy / JT Package | Job. No: | | No: 14-05110 | | | | | | |
|--|---|--|--|------------------------|--------------------------------|--------------------------|------------------------------|---------------------|-----------------|--|--|
| Customer: | Husky Oil Operations Ltd. c/o Excelsior Eng. | | Document: | | ment: Inspection and Test Plan | | | | | | |
| P.O. # | 840084 | 13248 | Revision | | 4 | | | | THE SALE HOLD | | |
| LEGEND | | | | Date: | Aug 28,2014 | | | | | | |
| С | Louisona | | | | | | | | | | |
| | | Checks performed in-house with no Documentation, ality surveillance verification activities to be performed white | th the net marries artuspes effect metification and one docu- | manhad for a | | | | | | | |
| THE RESERVE OF THE PROPERTY OF | 100000000000000000000000000000000000000 | nit to client prior to performance of the activity, or make ava | | | | | | | | | |
| | | By the Buyer and 3rd Party Inspector of the dedicated insp | | | | | | | | | |
| | | t proceed past these points until inspection is vertiled and | | | | | | | | | |
| Section 3: PRESSURE PIPING | | STATE OF THE STATE OF | Contract to the contract of th | Spectrum | 37 | arty Inspe | ctor | Purchasi | | | |
| TASK DESCRIPTION | Location Corte (# Internal Se Subcontract | | | Inspection / Action | ACCEPTED (Date & Initial) | inspaction / Action | ACCEPTED (Date & Initial) | nspection Action | Sign & Date | | |
| awing Issuance | 1 | Issuance from Drafting | IFC Drawings | | | R | | R | | | |
| elding Procedure review | 1 | Review WPS, PQR as per ASME Section IX | Approved WPS | (All) | | R | | R | | | |
| /elder Qualification verification | I s | Review WQR as per ASME Section IX & jurisdictional requirements | Spectrum Mapped Drawings | R | | R | | R | | | |
| eview MIII test reports (Required for all materials including Pipe, inges, fittings, valves, studs/nuts, strainers, traps, etc.) | _ | ASME Section II Part A | Spectrum Mapped Drawings | R | | R | E I BOX | R | | | |
| aterial identity, heat numbers | 1 | ASME Section VIII UG-77 | píping drawings / MTR's | P | | P | | P | | | |
| pe check (Review for grade, size, schedule & visible damage) | 1 | IFC drawings & applicable ASTM Standard | piping drawings / MTR's | P | | P | | P | | | |
| tting check (fitting & flanges for grade, size, sch. & visible mage) | - | IFC drawings & applicable ASTM Standard | piping drawings / MTR's | ρ | | P | | Р | | | |
| yout check (Review configuration of pipe arrangement) | - | IFC drawings | Piping Travel Sheet | P | | P | | Р | | | |
| temal check (Review inside of piping as visibly accessible cluding any internals) | - | ASME B31.3 Para. 341.1 & Table 341.3.2 | Piping Travel Sheet | P | | P | | P | | | |
| mensional check (Review dimensions on piping i.e nozzles, tachments, etc.) | 1 | IFC drawings | Spectrum Mapped Drawings | P | | P | | P | | | |
| rientation check (Review orientation of piping attachments & ozzles) | 1 | IFC drawings | Piping Travel Sheet | P | | P | | P | A VENEZIA | | |
| upport check: (saddles, etc.) - review supports for dimensional couracy | - | IFC drawings | Spectrum Mapped Drawings | P | | P | | P | | | |
| sual wetd check | - 1 | ASME B31.3 Para. 341.1 & Table 341.3.2 | Piping Travel Sheet | P | | P | | P | | | |
| ngnatic Particle Inspection N/A | La. | ASME B31.3 Normal - 10% Socketwelds | MT Reports | R | | R | Year! | R | | | |
| adiography - Film Density 2-4 Class 1 Film Required | _ | ASME B31.3 Sect. 344.5 & 341.3.2 - 10% Buttwelds/Normal | RT Reports | R | | R | | R | | | |
| rdrostatic test | 5 to 1 | ASME B31.3 Section 345 Hold = 1 Hour | pressure test report/chart when required | 1 | | H | | W | Larg amount onl | | |
| andblasting, prime and paint | 1 | Per Drawing, | Piping Travel Sheet | R | | R | | R | | | |
| ping Registration - AB | | Design Registration | CRN Acceptance Letter | R | | R | | R | | | |
| lanufacturer's construction data report | | CSA B.51 report format & IFC drawings | AB-83 | The second second | | The second second second | | # Walley Tollies | | | |

* Husky Spec. PS-PF-04 • PS-MW-05 Rev_1A • PS-MW-01 Rev. 2 & Quote & per list below only

| Project: | Raven | Creek, Dehy / JT Package | | Job. No: |). No: 14-05110 | | | | | | |
|--|------------------|--|---|---------------------|------------------------------|-----------------------|------------------------------|-----------|----------------|--|--|
| Customer: | Husky (| Oil Operations Ltd. c/o Excelsior Eng. | Do | cument: | Inspection and Test | Plan | - | 1 000 | | | |
| P.O. # | 840084 | 3246 |] | Revision: | 4 | | | | | | |
| | | | | Date: | Aug 28,2014 | | | | | | |
| <u>LEGEND</u> | | | | | | | | | | | |
| С | - CHECKPOINT: | Checks performed in-house with no Documentation. | | | | | | | | | |
| P | - PROCESS: Qua | illy surveillance verification activities to be performed whic | ch do not require advance client notification and are do | cumented for | review. | | | | | | |
| R | - REVIEW: Subm | it to client prior to performance of the activity, or make ava | stable for review the the results of the tests conducted | as the case m | ary be. | | | | | | |
| W () | -WITNESS: Noti | y the Buyer and 3rd Perty Inspector of the dedicated insp | ection activity. Buyer representative is present. | | | | | | | | |
| THE RESIDENCE HOUSE, NO THE PARTY OF THE PAR | - HOLD: Must not | proceed past these points until inspection is verified and | documented. | | | | | 31, 1 | 100 | | |
| Section 4: STRUCTURAL SKID | | | | Spectrum | 3/* | Party Inspe | ector | Purchaser | | | |
| TASH DESCRIPTION | Location Code | | | inspe ction / | ACCEPTED (Date & Initial) | this pe ction 1 | ACCEPTED (Date & Initial) | inspe | Sign & Date | | |
| awing Issuance | 1 | Issuance from Drafting | IFC Drawings | | | R | | R | -W | | |
| eview of Welding Procedures | 1 | CSA W47.1 | Reference Dwgs. | R | | R | | R | | | |
| eview of Welders Qualifications (WQR) | s | CSA W47.1 | CWB Welder Tickets | R | | R | | R | 1000000000 | | |
| aterial identification | s | Audit project materials | Drawings, BOM, MTR | P | | Р | | P | | | |
| Veld Check: Skid, Platform & Miscellaneous (Stairs, Handralis etc) | s | Review skild upside down for weld integrity on members and floor plate if applicable. | Weld map as per CSA W59, ASME Section V and approved drawing weld details | H | | Р | | P | | | |
| Itrasonic 10% main members only | s | ASME Sec. /CSA & PS-CS-02 | UT Reports | R | | R | | R | 4-1-1 | | |
| IPI Inspection 100% B&White | s | ASME Sec. VIII Div.1 MT Lift Lugs | MT Reports | R | | R | | R | | | |
| mensional Check | s | Review dimensional tolerances | Approved drawings | P | | Р | | P | | | |
| ientation Check | S | Review orientation of material, attachments and hotes | Approved drawings | P | | P | | P | | | |
| ipport Check | S | Locational verification of cross beam & longitudinal beam supports for dimensional accuracy. | Approved drawings | P | | P | | P | | | |
| andblast, prime and painting | s | Per Drawing, SP-6/1 Primer/2 Top Coat - Warm Grey F34 | Coating Report | R | | R | | R | | | |
| kid Insulation | s | 3" Spray Urethane Insulation | | P | | P | | P | | | |

| Project: | Raven | Creek, Dehy / JT Package | | No: 14-05110 | | | | | | |
|--|-----------------|---|--|--|------------------|----------------|------------------|-----------|---------|--|
| Customer: | | | | Document: Inspection and Test Plan Revision: 4 | | | | | | |
| P.O. # | | | | | | | | | | |
| | | | | Date: | Aug 28,2014 | | | | | |
| LEGEND | | | | | | | | | | |
| С | - CHECKPOINT | Checks performed in-house with no Documentation. | | | | | | | | |
| P. 101 | | ality surveillance verification activities to be performed with | ich do not mauire solvance client notification and | are documented for a | ulaw | | | | | |
| AND THE PERSON OF REPORT OF THE PERSON OF TH | | it to client prior to performence of the activity, or make av | | | | | | | | |
| | | fy the Buyer and 3rd Party Inspector of the dedicated Insp | | | | | | | | |
| TENEDLE HE SAVESTON | - HOLD: Must no | t proceed past these points until inspection is verified and | documented. | 2010 | | | | | | |
| Section 5: ASSEMBLY | | CASS P. 2 18 18 18 18 18 18 18 18 18 18 18 18 18 | E E E | Spectrum | 3' | Party Inspe | ctor | Purchaser | Serve ! | |
| STASK/DESCRIPTION | Local on Code | Controlling Procedure / Acceptance | Vestiving Document | inspe ction | ACCEPTED | Inspe Clion | ACCEPTED | 9 5 | Sign | |
| THE PERSON NAMED IN COLUMN TWO IS NOT THE OWNER. | S Sauss trict | | | á 0 | (Date & Initial) | 8.9 | (Date & Initial) | £ 5 . | & Date | |
| essel placement (Review location & anchoring of vessels) | 1 | IFC drawings | ITP sign-off | R | 1.0 | R | | R | 1 | |
| quipment placement (Review location & anchoring of equipment) | 1 | IFC drawings | ITP sign-off | R | | R | | R | | |
| elded & screwed piping layout (Review run location for access & terference) | - | IFC drawings & Inspector's judgement, placement of flanges/unions for removal | ITP sign-off | R | | R | | R | • [| |
| strument location | 1 | Inspector's judgement & approved drawings / Confirm All Tegged | ITP sign-off | R | 727 | R | | R | | |
| pe supports (Review number and location) | 1 | Inspector's judgement & approved drawings | ITP sign-off | R | 1, | R | | R | - | |
| low check including vents/drains | | Approved P&ID & inspector's judgement on high point vents & low point drains | ITP sign-off | w | | W | | w | | |
| inal Pressure Testing | 1 | Review Instrumentation & Function Test | ITP sign-off | # | | H | | · · | • | |
| coating (Final Touch Ups) | 1 | Per Drawing | ITP sign-off | P | | Р | | Р | | |
| ackage Final Walk Down | 1 | IFC drawings | ITP sign-off | H | | H | | W. | | |
| ectrical Installation | 1 | | | R | | R | | R | | |
| Section 6: FINAL TESTING | | 新学学里面 | THE WAY | Spectrum | 3' | Party Inspe | ctor | Purchaser | | |
| strumentation Function Test | - 1 | Open / Close | ITP sign-off | THE RES | | н | | 1 | nel . | |
| ustomer Release | | | Customer Acceptance Report | 1 | | | | 1/40 | | |

EXCELSIOR ENGINEERING LTD VENDOR DOCUMENT REVIEW V1 - CORRECT AND RESUBMIT; WORK

MAY NOT PROCEED

V2 - CORRECT AND RESUBMIT; WORK MAY PROCEED

V3 - RECEIVED AS IS; FOR INFORMATION ONLY

V4 - ACCEPTED FOR CONSTRUCTION/ **FABRICATION**; SUBJECT TO

INCORPORATION OF ANY COMMENTS V5 - ACCEPTED AS FINAL SUBMISSION

NOTE: This review does not relieve the Vendor/ Contractor from their due diligence, nor their responsibility for errors in design/ installation or the execution/ detailing in conformance with the contract and

regulatory requirements

Page 5 of 5 PEPT 2/14 MARK NUGARA