

141/T/14

05 NOV 2025

KPC Trading Ltd.

(a company incorporated under the laws of the Dubai International Financial Center, UAE)
Unit 37-00, Level 37, ICD Brookfield Place, Dubai, UAE.

This sale and purchase agreement (the Special Provisions) No. S-CNT2316-D642-CNT2317-D643:

- (A) sets out the terms of transaction with deal recap dated 5th day of November 2025 made by the parties referred to in clause 1 (*Parties*) below; and
- (B) constitutes the only agreement with respect to the said transaction (any and all agreements issued by the buyer and/or the broker shall have no effect, except for any broker's agreement terms relating to commission).

1. PARTIES

Seller: KPC TRADING LTD

Unit L37-00 Level 37,
ICD Brookfield Place, Dubai International Financial Centre,
Dubai, United Arab Emirates

Buyer: THE MINISTRY OF ENERGY AND WATER, LEBANON

Directorate General of Oil
Lebanon, Beirut, Cornich El Nahr- Beirut, The Ministry of Energy and Water Building, 2nd Floor

2. PRODUCT

- 2.1 Product: Gasoil in accordance with specifications as per Schedule 2.
- 2.2 Seller's obligations with respect to the Product are limited to those expressly set out in these Special Provisions. Except as expressly set out in these Special Provisions and to the extent that the exclusion of warranties or guarantees, express or implied, regarding the Product is not permitted by operation of law, all other conditions, warranties or guarantees, express or implied, arising under statute, at law or otherwise, regarding the Product, including without limitation its satisfactory quality, fitness for any purpose, merchantability or otherwise are excluded. Any stipulations as to the delivery time shall not form part of the Product description. This clause 2.2 supplements, and shall be without prejudice to the effect of, Section 59 of the GTCs.

3. QUANTITY

2 x 44,000 metric ton each in air ± 5 percent at Seller's option.

4. DELIVERY

- 4.1 DAP, Discharge Terminal, one / two safe port, one safe berth, Incoterms® 2020.
- 4.2 Discharge Terminal: Port Zahrani and/or Deir Ammar, Lebanon. Second port costs shall be for Buyer's account.
- 4.3 In one or multiple lot(s), as full or part cargo.
- 4.4 Laydays shall be the range as follows and the Vessel shall tender NOR at the Discharge Terminal without guarantee within the said range:
 - (a) Parcel 1 (44,000 metric ton each in air ± 5 percent at Seller's option): 07-09 November 2025
 - (b) Parcel 2 (44,000 metric ton each in air ± 5 percent at Seller's option): 10-20 December 2025
- 4.5 Any wayleave charges (including cargo dues) incurred at the discharge port shall be for the Buyer's account and shall be payable directly to the Seller.



- 4.6 All time spent at berth due to Product analysis, operational delays, or any other activities prior to commencement of discharge shall be entirely for the Buyer's account.

5. NOMINATION

- 5.1 The Buyer shall notify the Seller of its acceptance or rejection of any nominated or substituted vessel within 24 hours of Seller's nomination/substitution, such acceptance not to be unreasonably withheld.
- 5.2 For the avoidance of doubt, subject to the above provisions, Section 21.2 (*Nomination of Vessels*), Section 21.4 (*Substitution of Vessels*) and Section 21.5 (*Rejection of nominations and Vessels*) of the GTCs (as defined below) shall apply in respect of Vessel nominations, acceptances and rejections under this Agreement.

6. PRICE

- 6.1 The price *per barrel* of the Product in US\$ shall be the arithmetic average of applicable mean quotations for Gasoil 10ppm as published during the Pricing Period / Date (as set out below) under the heading "FOB ARAB GULF" and premium US\$ 12.50 (US Dollar twelve point five zero).
- 6.2 The applicable quotations shall be the 5 published quotations immediately following the Notice of Readiness at the discharge port ("NOR") (NOR date = zero) (the "**Pricing Period/Date**"). The NOR tendered at the first discharge port shall apply to the full volume of the respective Parcel.
- 6.3 Any published corrections to the applicable quotations shall be taken into account.
- 6.4 The price per unit shall not be adjusted for density of the Product (no escalation or de-escalation shall apply).
- 6.5 The price per unit shall be expressed to three (3) decimal places: if the fourth decimal place is five (5) or greater, the third decimal place shall be rounded up to the next digit; and if the fourth decimal place is less than five (5), the third decimal place shall remain unchanged.
- 6.6 The price of the Product shall be the unit price multiplied by the quantity as determined in accordance with this Agreement.

7. PAYMENT

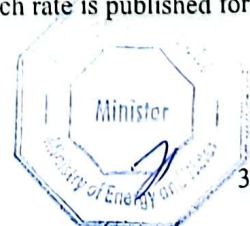
- 7.1 "**Business Day**" shall mean a day (other than a Saturday or Sunday) on which banks are open for general business in New York, USA.
- 7.2 The Buyer shall pay (or procure that payment is made in) within 90 calendar days from the NOR date (NOR date = day one and NOR tendered at the first discharge port shall apply to the full volume of respective Parcel) the full amount specified in Seller's invoice against presentation by the Seller (email copies acceptable, unless otherwise specified) of:
- (a) Seller's provisional or final commercial invoice;
 - (b) Copy of NOR tendered issued by Master of the vessel; (email copy acceptable)
 - (c) Certificate of quality and / or the Independent Inspector's quality report basis multiple ship tank composites prior to discharge at discharge terminal in one original plus two copies;
 - (d) Certificate of quantity and / or the Independent Inspector's quantity report at discharge terminal in one original plus two copies;
 - (e) Full set of original Bill of lading, showing notation "Clean on Board", clearly mentioning discharge port(s)/berth(s) in Lebanon, and load port(s), duly dated and signed by the master or his agent, endorsed to the order of "Ministry of Energy and Water – Directorate General of Oil - Lebanon", "freight payable as per charter party" is acceptable; and



- (f) Certificate of Origin issued or countersigned by the Chamber of Commerce or any other official or governmental entity determining the origin of product except Israel, and except Russia.
- 7.3 If any or all of the documents specified in clause 7.2 above are not available at the time of presentation, the Seller shall be entitled to present in place of such documents and the Buyer shall pay against: (i) Seller's final invoice; and (ii) Seller's warranty of title (email copy acceptable) in the form set out in Schedule 1.
- 7.4 The Buyer shall pay for the Product by means of an irrevocable documentary letter of credit issued by *Banque du Liban* in favour of the Seller (an "L/C"), and the Buyer shall cause such L/C to be (i) issued by a first-class international bank acceptable to the Seller; (ii) advised through a bank nominated by the Seller; (iii) in form and substance acceptable to the Seller; and (iv) confirmed by a first-class international bank acceptable to the Seller.
- 7.5 The Buyer shall ensure that L/C is advised and confirmed before 5.00 pm Gulf Standard Time 7 calendar days prior to the estimated loading date as advised by the Seller.
- 7.6 Any demurrage, waiting time at berth, ullage related delays all costs to be covered under the L/C.
- 7.7 The Buyer shall procure that the L/C remains available for presentation and shall not expire earlier than thirty (30) calendar days after the date when final payment becomes due.
- 7.8 All L/C and confirmation charges shall be for the account of the Buyer.
- 7.9 If the Buyer does not procure that an L/C is issued, advised and confirmed in accordance with the terms set out above within the stipulated time, the Seller shall be entitled to terminate this Agreement forthwith without in any way limiting any other remedies available to the Seller under this Agreement or at law.
- 7.10 Payment of any balance due by either party to the other shall be made within 2 calendar days of receipt of the Seller's final invoice which shall be prepared as soon as practicable after all the relevant pricing and quantity information becomes available to the Seller. No interest shall be due on the difference between the provisional and final invoice.
- 7.11 Any and all payments (procured) by the Buyer must be made in US Dollars, in each case without any discount, deduction, withholding, set-off or counterclaim of any kind whatsoever, by wire transfer in clear and immediately available funds to the Seller's bank account notified by the Seller for such purpose.
- 7.12 The time of: (i) the obligations of the Buyer to pay (including without limitation any advance payment and any cash against documents payment); and (ii) any and all Buyer's obligations to procure that L/C and/or SBLC is/are issued, advised / notified and confirmed, shall be of essence.
- 7.13 The Seller shall not be obligated to ship / deliver the Product unless or until it receives any and all advance payment, L/C and SBLC (including confirmations) in accordance with the terms of this Agreement. Seller may, at its option, extend the time for the performance of any of its obligations under this Agreement, where the Buyer delays any of the said obligations. The Buyer shall be liable for any loss, cost, expense or delay arising as a result, which (if known at the time) shall be invoiced to the Buyer and payable as part of the price.

8. INTEREST

The parties agree that the applicable interest rate for purposes of section 63.9 (*Interest*) of the GTCs, shall be 1-month Term SOFR reference rate administered by CME Group Benchmark Administration Limited (or any other person which takes over the administration of that rate) (the "CME Term SOFR") plus 5% per annum. The applicable CME Term SOFR shall be the rate published on the due date (or, if no such rate is published for that date, the respective CME Term SOFR published immediately prior to that date).



9. TITLE AND RISK

- 9.1 Title to the Product shall pass to the Buyer when the Product passes the performing Vessel's permanent hose connection at the Discharge Terminal or place of discharging (if discharge takes place by means of vessel-to-vessel transfer).
- 9.2 All risks of loss, damage, deterioration, contamination or evaporation of the Product shall pass from the Seller to the Buyer as the Product passes the performing Vessel's permanent hose connection at the Discharge Terminal or place of discharging (if discharge takes place by means of vessel-to-vessel transfer).

10. LAYTIME AND DEMURRAGE

- 10.1 Demurrage rate and laytime allowance shall be as per the applicable charterparty.
- 10.2 Laytime delay calculations and all other demurrage terms shall be as provided in the GTCs.

11. INSPECTION

- 11.1 The Seller shall appoint and instruct an internationally recognised independent inspector to determine the quantity and quality of the Product (the "**Independent Inspector**").
- 11.2 The Independent Inspector shall be acceptable to both parties, such acceptance not to be unreasonably withheld. All inspection costs shall be shared equally between the Seller and the Buyer.
- 11.3 Sections 18.2.2 and 18.2.3 of the GTCs shall not apply.

12. QUANTITY AND QUALITY DETERMINATION

Quantity

- 12.1 The quantity of the Product shall be determined as per the bill of lading issued at the Loading Terminal.

Quality

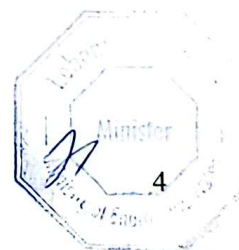
- 12.2 The quality of the Product shall be determined by the Independent Inspector on the basis of ship tank composite taken prior to discharge at the Discharge Terminal.

Results

- 12.3 Determinations of quantity and quality shall be reported by the Independent Inspector in a certificate of quantity and quality, respectively, which certificate shall be final and binding on the parties for all purposes save for fraud or manifest error.

13. SANCTIONS

- 13.1 In section 71.2.1 of GTCs, the text "the European Union, any EU member state, the United Nations or the United States of America" shall be replaced with the text "*the European Union, any EU member state, the State of Kuwait, the United Arab Emirates, the United Kingdom, the United Nations or the United States of America*".
- 13.2 The Product delivered by the Seller shall not be, in all or part, of Russian Federation origin and shall not have been loaded in or transported from the Russian Federation. For purposes of this clause 13.2, the Product shall be deemed to be of "Russian Federation Origin" if it is produced in the Russian Federation or produced through a blending process that uses a product or components produced in the Russian Federation.



14. NOTICES

14.1 Any notice or claim (including any election) to be made or delivered under or in connection with this Agreement: (i) must be in writing; (ii) must be in English; and (iii) unless otherwise stated, may be made or delivered by email or by letter sent by an internationally recognised courier (DHL, FedEx, UPS).

14.2 Notices made by a party to another party by email in accordance with this Agreement shall be deemed received: (i) if sent at, or prior to, 5.00 pm on a business day, on that business day; and (ii) if sent after 5.00 pm or on a day, which is not a business day, on the immediately following business day. For purposes of this clause 14.2: (i) "*business day*" shall mean a day, which is not a Saturday, Sunday or public holiday at recipient's location; (ii) time shall be recipient's local time; and (iii) recipient shall be deemed located at the respective address specified in clause 1 (*Parties*) above.

14.3 The address and email (and the department or officer, if any, for whose attention the communication is to be made) of the respective parties for any communication or document to be made or delivered under or in connection with this Agreement are those set out for each respective party below or any substitute address, email or officer as the party may notify to the other party by not less than five (5) days' notice.

14.4 Notice details:

(a) **Buyer:**

dgo@energyandwater.gov.lb

mimister@energyandwater.gov.lb

combustibles@edl.gov.lb

boutros_hadchiti@hotmail.com

minister@energyandwater.gov.lb

(b) **Seller:**

Contracts: Contracts@kpct.com.kw

Legal: Legal@kpct.com.kw

Operations and Post Deal Expenses: Operations@kpct.com.kw

Demurrage and Expense Claims: Claims@kpct.com.kw

Trade Finance: Tf@kpct.com.kw

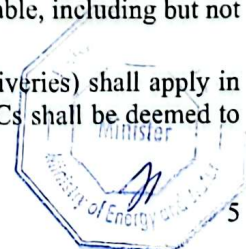
Invoicing: Settlements@kpct.com.kw

14.5 All correspondence, notices, and claims made in connection with this Agreement shall clearly reference the Agreement No.

15. MISCELLANEOUS

15.1 Except as expressly set out in these Special Provisions, BP Oil International Limited General Terms and Conditions for Sales and Purchases of Crude Oil and Petroleum Products 2015 Edition (Version 1.2) (the "**GTCs**") shall govern this transaction and each party hereby warrants to the other party that a copy of such conditions is already in its possession. Capitalised terms not otherwise defined herein shall have the respective meaning given to them in the GTCs, and any capitalised definitions in these Special Provisions shall apply and prevail throughout the Agreement. In the event of any conflict or inconsistency between the provisions of these Special Provisions and the GTCs, the provisions of these Special Provisions shall prevail to the extent of such inconsistency. The repetition of any term in these Special Provisions that also appears in the GTCs is for emphasis or clarification only and shall not be construed as giving such term greater weight, nor shall it be interpreted as excluding, limiting, or overriding any other provision of the GTCs unless expressly stated. For the avoidance of doubt, Schedule E of the GTCs shall apply where applicable, including but not limited to clauses 1.2, 1.6, and 1.9.

15.2 Part three of the GTCs (and any other terms of the GTCs applicable to Ex Ship deliveries) shall apply in respect of these Special Provisions. Any reference to "Incoterms® 2010" in the GTCs shall be deemed to refer to "Incoterms® 2020".

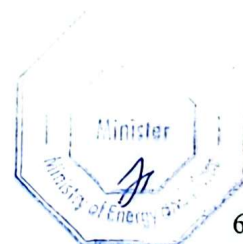


- 15.3 For the avoidance of doubt: (i) losses arising out of, or in connection with, price hedging of the Product shall be deemed direct, foreseeable and be recoverable; and (ii) the definition of "Laydays" in clause 4.4 shall apply in the Agreement and prevail over Section 20.1 of the GTCs.
- 15.4 If the performing Vessel is loaded from a floating storage facility, or other Vessel by means of Vessel-to-Vessel transfer: (i) references in this Agreement to "Loading Terminal" shall be deemed to mean "Loading STS Location"; and (ii) "Loading STS Location" shall be deemed to mean the geographical location where loading from the floating storage facility or another Vessel by means of Vessel-to-Vessel transfer takes (is to take) place and/or the aforesaid floating storage facility or Vessel, as the context requires.
- 15.5 If the Seller and the Buyer agree that the Product is discharged to a floating storage facility or other Vessel by means of Vessel-to-Vessel transfer, then: (i) the place of discharging shall be deemed the Berth for the purposes of this Agreement and all references to the Berth shall be construed accordingly; (ii) references in this Agreement to "Discharge Terminal" shall be deemed to mean "Discharge STS Location"; and (iii) "Discharge STS Location" shall be deemed to mean the geographical location where discharge into the floating storage facility or another Vessel by means of Vessel-to-Vessel transfer takes (is to take) place and/or the aforesaid floating storage facility or Vessel, as the context requires.
- 15.6 These Special Provisions may be executed in any number of counterparts, all of which taken together constitute one and the same document.

16. ARBITRATION

- 16.1 Any dispute arising out of or in connection with this Agreement, including any question regarding its existence, validity or termination (a "**Dispute**"), shall be referred to and finally resolved by arbitration under the LCIA Rules, which Rules are deemed to be incorporated by reference into this clause. The number of arbitrators shall be three. Each party shall nominate one arbitrator and the third arbitrator shall be chosen by the two so appointed. The seat, or legal place, of arbitration shall be London, England.
- 16.2 Notwithstanding clause 16.1 above, any Dispute where the total amount of the claimant's claims or the total amount of any counterclaims (excluding any interest and costs):
- (a) exceeds US Dollars 100,000 or more but does not exceed US Dollars 400,000, shall be referred to and finally resolved by arbitration under *The LMAA Intermediate Claims Procedure 2021*, which is deemed to be incorporated by reference into this clause; and
 - (b) does not exceed US Dollars 100,000, shall be referred to and finally resolved by arbitration under *The LMAA Small Claims Procedure 2021*, which is deemed to be incorporated by reference into this clause.
- 16.3 If at any time a counterclaim or an amended claim (in each case, excluding interest and costs) exceeds US Dollars 400,000, no later than 14 days after service of the counterclaim (or the amended claim being permitted), any party may give notice in writing to other party and the tribunal demanding that both claim and counterclaim be dealt with under in accordance with clause 16.1 above. If such a demand is made, the arbitrator or the tribunal, as the case may be, shall order that the Dispute must be resolved under the LCIA Rules, as provided in clause 16.1 above.
- 16.4 Nothing in this clause 16 shall prevent either party from applying to any competent authority for interim, equitable or conservatory measures (including injunctive relief), whether before the constitution of the arbitral tribunal or thereafter as permitted under the respective arbitration rules or applicable law. For the avoidance of doubt, any such application shall not be construed as a waiver of the right to arbitrate under this Agreement.

Schedule 1, Schedule 2 and signature page follow



SCHEDULE 1
FORM OF WARRANTY OF TITLE

[ON SELLER'S LETTERHEAD]

To: [●]

Date: [●]

We refer to our Agreement dated [DATE] (the "Agreement") in respect of your purchase from us of [QUANTITY] tons of [GRADE] Crude Oil or Product (the "Cargo") [on Vessel "[VESSEL NAME]", bill of lading date [B/L DATE]] at [DISCHARGE TERMINAL].

In consideration of your making payment of US dollars [US DOLLAR AMOUNT] for the Cargo in accordance with the Agreement and having agreed to accept delivery of the cargo without having been provided with [HERE INSERT THE RELEVANT DOCUMENTS AS SET OUT IN THE AGREEMENT] (the "Documents"), we hereby expressly warrant that, at the time property in the Cargo passes to the Buyer under the Agreement:

- (a) the Seller is entitled to possession of the Cargo, has title in the Cargo free of any liens, charges and encumbrances of whatsoever kind, and has the right to sell the Cargo;
- (b) the Cargo is free from any lien, charge or encumbrance not disclosed or known to the Buyer before the Agreement is made; and
- (c) the Buyer will have the benefit of the warranty as to enjoyment of quiet possession implied by law.

No term of this warranty is intended to, or does, confer a benefit or remedy on any party other than the named Buyer under the Agreement whether by virtue of the Contracts (Rights of Third Parties) Act 1999 or howsoever.

This warranty shall be governed by and construed in accordance with English law, shall be subject to the exclusive jurisdiction of the English Courts and shall cease to have effect upon the Documents being provided to you.

Signed by: Title:

of: [COMPANY NAME]



SCHEDULE 2
SPECIFICATIONS

هام وعاجل جداً

كهرباء لبنان
"مؤسسة عامة"
ELECTRICITE DU LIBAN
"Etablissement Public"

٨٣/٥/١٧

شارع النهر - بيروت - تلفون : ٢٩ - ٤٤٢٧٢٠ - ٩٦١
فاكس : ٩٦١ - ٥٨٣٠٨٤
ص.ب. ١٣١
رقم المحفوظات : ٢١٠
رقم الصائر : ٢٠٢١/٠٥/١٧
بيروت في ٢٠٢١/٠٥/١٧

الموضوع : ملاحظات حول المواصفات الفنية لمادة الغاز أويل موضوع استرجاع العروض الفوري رقم T/ ١١١
تاريخ ٢٠٢١/٠٤/٢٩
المراجع : - كتاب المديرية العامة للنفط الى مؤسسة كهرباء لبنان تاريخ ٢٠٢١/٠٥/١١ .

بالإشارة الى الموضوع والمرجع أعلاه،

وعطفاً على كتاب المديرية العامة لإدارة المناقصات رقم ١٠/٤٢ تاريخ ٢٠٢١/٠٥/٠٦ (مستند رقم ١)،
بأن الخبير الأوروبي يوصي من حيث المبدأ بأخذ رأي الشركة الصانعة في طريقة الاختبار ASTM D381، وأن هذا
الأمر يقرر بالنهاية بالاتفاق ما بين مؤسسة كهرباء لبنان والشركة الصانعة، وهو خارج عن اختصاص إدارة
المناقصات،

وعطفاً على كتابكم تاريخ ٢٠٢١/٠٥/١١ (مستند رقم ٢)، وبعد الاطلاع على كتب الشركات المرفقة بكتابكم
ودرس الملاحظات، نفيكم بالتالي:

أولاً: بالنسبة لملاحظات شركة "ZR Energy DMCC" وفق كتابها رقم T0408-42-MEW-PT0802 تاريخ
٢٠٢١/٠٥/٠٤ (مستند رقم ٣):

- **Gum Content:** Can you please clarify if what is meant is "washed gums" or "unwashed gums"? Please confirm the correct testing method that is applicable for gasoil not jet fuel. The notes also mention "washed and unwashed" – does this actually mean "washed or unwashed"?

Answer: The value 7mg/100 mL is for both washed and unwashed Gum content. We confirm that the applicable test method is ASTM D381 as per Siemens request. As for the notes, it is "washed and unwashed".

- **Heat of Combustion:** This test method (ASTM D4809) is not industry standard. We suggest using ASTM D4868 which is industry standard.

٨٣/٥/١٧



Answer: This is the applicable test method (ASTM D4809) as per the manufacturer Company Siemens' Manual. Knowing that, this method was applied for testing the "LHV" of Gas oil sample from the last two cargos by the certified laboratory Bureau Veritas – Dubai contracted by the General Directorate of Oil.

- **Sediment particulates:** We would like to point out that the test methods applicable are not suitable. The standard test method relevant for gasoil is ASTM D6217 or IP415. Testing method of DIN 51419 is obsolete and was cancelled in 1983. We suggest you remove all test methods that are not ASTM 6217 + IP415.

Answer: All these test methods are according to Siemens Manual, which are applied by the certified laboratory Bureau Veritas – Dubai, contracted by the General Directorate of Oil, for testing the Sediment particulates in the Gas oil sample from the last two cargos.

- **Sediment particulates:** The particulates size specified is " $d < 10 \mu\text{m}$, $10 \leq d \leq 25 \mu\text{m}$, $d > 25 \mu\text{m}$ " which are unknown parameters and seem to look for the sizes of particles, rather than overall quantity. These methods are designed for determination of total quantity of contamination particles and do not imply to calculate their quantity depending on size of each particle as is requested in the spec. If it is necessary to count the particles according to their diameters, then the suggested method is ASTM D7619.

Answer: This test method is according to Siemens Manual, which is applied by the certified laboratory Bureau Veritas – Dubai, contracted by the General Directorate of Oil, for testing the Sediment particulates in the Gas oil sample from the last two cargos.

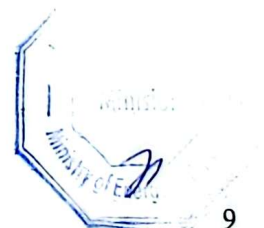
- **Acid number:** The Unit need to be corrected – mg KOH/g instead of mg /g KOH.

Answer: The correct unit for acid number is mg/g KOH as per Siemens Manual.

- **Chlorine:** The test method requested is not suitable. The methods to be used are IP510 or UOP779.

Answer: The method D4929 / ISO15597 for testing "Cl" is requested by the manufacturer Company Siemens.

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- **Notes for evaluation:** This section is extremely unclear. We request further clarifications on this section.

Answer: Kindly specify the exact points that are not clear in the evaluation.

ثانياً: بالنسبة لملاحظة شركة "Independent Petroleum Group Limited" وفق كتابها تاريخ ٢٠٢١/٠٥/٠٤ (مستند رقم ٤):

- Requesting a waiver in the Gum which will make us in a better position to participate in your tender for subject requirement.

Answer: The Gum Content is requested by the Manufacturer company Siemens, knowing that the additional set of parameters marked as "Ranges as per Siemens Experience" will be evaluated if the Gum Content (washed and/or unwashed) are outside the specified range 7mg/100mL, where two Gas oil cargos were evaluated and approved according to these additional parameters.

ثالثاً: بالنسبة لملاحظات شركة "ELINOIL Hellenic Petroleum Company" وفق كتابها تاريخ ٢٠٢١/٠٥/٠٥ (مستند رقم ٥):

- Given that Gasoil should be tested for Gums under ASTM381 if unwashed and , if anyway if it is tested, the method cannot produce a result of less than 7mg/100mL (unwashed), we presume that the second set of parameters marked as "Ranges as per Siemens Experience", will always be applicable.

Answer: Correct, if the unwashed Gum Content exceeds 7mg/100mL.

- We are still reviewing the relative values for C, H, and O.

Answer: Noted.

- Regarding distillation, we have noticed that the rejection criteria are totally vague. In ASTM D86, there is no reference boiling curve. Therefore, we don't understand where the requested specification refers to. Furthermore, the notion of a "strong deviation" is totally subjective and open to wide interpretation. Could you please specify what stands for strong deviation? We would strongly recommend that you revise the specification to indicate min/max values for the distillation, as per the diesel specification for example.

Answer: Kindly find below the reference boiling curve according to ASTM D86, where the requested curve shall be parallel to this reference curve, taking into consideration that there is already a max limit for the 90 % volume of Distillation which is set to 365 °C.

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All parameters must be filled by the Gas oil supplier					
Parameters	Test Method	Unit	Limits as per Siemens Manual		For Evaluation
			Min	Max	
Total Sulfur (S)	ASTM D3242/D5453/ISO 328	Mass %		0.2	These parameters shall be evaluated in all conditions
Fuel Bound Nitrogen (FBN)	ASTM D4820	Mass %		0.015	
Lower Heating Value (LHV)	ASTM D4809/DIN 51900	MJ/kg	42		
Density (at 15°C)	ASTM D1298/DIN 51757	kg/m ³	820	870	
Kinematic Viscosity (at 40°C)	ASTM D445/ISO 3104/DIN 51552-1	mm ² /s(cSt)	1.3	5.5	
Distillation, 90 % volume recovered @ °C max	ASTM D86/ISO 3405	°C		365	
Carbon Residue	ASTM D4530/ISO 10370/DIN 51551	Mass %		0.15	
Oxidation Stability	ASTM D2274/IP365/85	mg/100ml		2.5	
Sediment & Water	ASTM D2709	Vol %		0.1	
Sediment Particulates		mg/kg		20	
<10µm	ASTM D8217/IP415/DIN 51414/DIN EN 12662			18	
10<25µm				2	
>25µm				0	
Water	ASTM D95	Vol %		0.05	
Sediment	ASTM D470/ISO 3737/DIN 51759/DIN EN 12662	Mass %		0.01	
Gum Content (Unwashed)	ASTM D381	mg/100ml		7	
Pour Point (PP)	ASTM D97/ISO 3016	°C		0	
Flashpoint (FP)	ASTM D66/D56/ISO 2719	°C	60		
Acid Number	ASTM D864	mg KOH		0.1	
Ash content	ASTM D482/ISO 6245/DIN 51575/DIN EN 2645	Mass %		0.01	
Na + K	ASTM D3605 / DIN 51790	mg/kg		0.5	
V	ASTM D3605 / DIN 51790	mg/kg		0.5	
Pb	ASTM D3605 / DIN 51790	mg/kg		1	
Cd	ASTM D3605 / DIN 51790	mg/kg		1	
Cr	ASTM D4629/ISO 15597	mg/kg		6	
Parameters	Test Method	Unit	Ranges as per Siemens Experience		These parameters shall be evaluated if Gum content value (washed and/or unwashed) > 7mg/100ml
Carbon (C)	D5291 / DIN 51721	% Mass	85 - 87.5		
Hydrogen (H)	D5291 / DIN 51721	% Mass	11 - 14.5		
Oxygen (O)	D5291 / DIN 51721	% Mass	< 0.2		
Distillation range	D86 / ISO 3405	°C	* the measured distillation curve should show a slope and shape parallel to the above reference boiling curve (according to ASTM D86)		
50 % evaporated					
95 % evaporated					
99 % evaporated (Defined above)					
End point					
Cold filter plugging point (CFPP)	D637/EN110	°C	Fuel temperature > 10 °C + CFPP		

Note for Evaluation:

* If Gum content (washed and unwashed) ≤ 7mg/100ml, and all the parameters (with limits as per Siemens manual) comply with the above mentioned limits then the gas oil sample complies with the required specifications.

* If Gum content (washed and/or unwashed) > 7mg/100ml, and all the parameters (with limits as per Siemens manual) and all the remaining parameters (with ranges as per Siemens Experience) comply with the above mentioned limits and ranges, then the gas oil sample complies with the required specifications.

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Answer: Siemens has already clarified to Bureau Veritas during the online meeting held on 29/03/2021 that the performed modifications to ASTM D381 by BV are plausible and this depends on the core know how of the laboratory itself, and this was mentioned in Siemens letter dated 02/04/2021 as follows:

"As stated in the meeting from 29th of March 2021 and the customer letter (dated 30.3.2021) the performed modifications are plausible. Necessary modifications to ASTM D381 depending on fuel quality and sample are core know how of the individual laboratories."

كما نفيديكم بأننا سنقوم بمراعاة مختبر Bureau Veritas - دبي والشركة الصانعة Siemens لمراجعة ملاحظات شركة ZR Energy، علماً أنه تم تطبيق طرق الفحص المذكورة من شركة ZR Energy من قبل مختبر Bureau Veritas- دبي دون تدوين أي اعتراض،

استناداً إلى ما ورد أعلاه، تحددون ربطاً جدول المواصفات المطلوبة للغاز أويل حيث تم توضيح طريقة تقييم الـ Distillation range، مع وضع رسم بياني كمرجع لاعتماده لدى تقييم نتيجة فحص هذا المكون.

كما تجدر الإشارة إلى أن مختبر Bureau Veritas - دبي قد أجرى جميع الفحوصات الأساسية والإضافية المذكورة في الجدول المرفق على عينتي الغاز أويل المأخوذتين من الباخريتين Histira Perla و Antares خلال الشهرين الماضيين حيث تم قبول تفريغ الباخريتين على أسسها،

وبالتالي، نتمنى عليكم إطلاق مذاقصة تأمين شحنة الغاز أويل فوراً وبالسعة القصوى وفق ما ورد أعلاه واستناداً إلى جدول المواصفات الموضح المرفق، وعطفاً على كتاب مؤسسة كهرباء لبنان رقم ٢٠١٦ تاريخ ٢٠٢١/٠٥/١١.

وتفضلوا بقبول فائق الاحترام.

ب.ج.ع. م.
أ.ع. - ط.ي. - ب.س. م.
ف.ج. - ع.ج. م.

رئيس مجلس الإدارة
المدير العام

كمال الحايك

نسخة إلى: - معالي وزير الطاقة والمياه



All parameters must be filled by the Gas oil supplier					
Parameters	Test Method	Unit	Limits as per Siemens Manual		For Evaluation
			Min	Max	
Total Sulfur (S)	ASTM D3246/D5453/ISO9328	Mass %		0.2	These parameters shall be evaluated in all conditions
Fuel Bound Nitrogen (FBN)	ASTM D4629	Mass %		0.015	
Lower Heating Value (LHV)	ASTM D4809/DIN51900	MJ/kg	42		
Density (at 15°C)	ASTM D1298/DIN51757	kg/m ³	820	870	
Kinematic Viscosity (at 40°C)	ASTM D445/ISO-3104/DIN51562-1	mm ² /s(cSt)	1.1	5.5	
Distillation, 90 % volume recovered @ °C max	ASTM D86/ISO3405	°C		365	
Carbon Residue	ASTM D4530/ISO10370/DIN51551	Mass %		0.15	
Oxidation Stability	ASTM D2274/JP355/95	mg/100ml		2.5	
Sediment & Water	ASTM D2709	Vol %		0.1	
Sediment Particulates		mg/kg		20	
d<10µm	ASTM D6217/IP415/DIN51419/DIN EN 12662			18	
10µm<25µm				2	
d>25µm				0	
Water	ASTM D95	Vol %		0.05	
Sediment	ASTM D473/ISO3737/DIN51788/DIN EN 12662	Mass %		0.01	
Gum Content	ASTM D381	mg/100ml		7	
Pour Point (9PP)	ASTM D97/ISO3016	°C		0	
Flashpoint (9FP)	ASTM D93/D50/ISO2719	°C	60		
Acid Number	ASTM D554	mg/g KOH		0.1	
Ash content	ASTM D482/ISO6245/DIN51575/DIN EN 2645	Mass %		0.01	
Na + K	ASTM D3605 / DIN 51790	mg/kg		0.5	
V	ASTM D3605 / DIN 51790	mg/kg		0.5	
Pb	ASTM D3605 / DIN 51790	mg/kg		1	
Ca	ASTM D3605 / DIN 51790	mg/kg		1	
Cl	ASTM D4929/ISO15597	mg/kg		6	
Parameters	Test Method	Unit	Ranges as per Siemens Experience		These parameters shall be evaluated if Gum content value (washed and/or unwashed > 7mg/100mL)
Carbon (C)	D5291 / DIN 51721	% Mass	85 - 87.5		
Hydrogen (H)	D5291 / DIN 51721	% Mass	11 - 14.5		
Oxygen (O)	D5291 / DIN 51721	% Mass	< 0.2		
Distillation range	D86 / ISO 3405	°C	The reference is the boiling curve in ASTM D86, where the evaluated curve should show a slope and shape parallel to this reference, i.e. - strong deviations to higher temperature indicate an increased potential for forming soot during combustion, which is not acceptable - strong deviations to lower temperature with initial boiling points < 100°C indicate volatile fuel fractions, which is not acceptable		
50 % evaporated					
65 % evaporated					
90 % evaporated					
End point					
Cold filter Plugging point (CFPP)	D637/EN116	°C	Fuel temperature > 10 °C + CFPP		

Note for Evaluation:
 * If Gum content (washed and un-washed) ≤ 7mg/100mL, and all the parameters (with limits as per Siemens manual) comply with the above mentioned limits, then the gas oil sample complies with the required specifications.
 * If Gum content (washed and/or un-washed) > 7mg/100mL, and all the parameters (with limits as per Siemens manual) and all the remaining parameters (with ranges as per Siemens Experience) comply with the above mentioned limits and ranges, then the gas oil sample complies with the required specifications.

Signature page follows



SIGNATURE PAGE

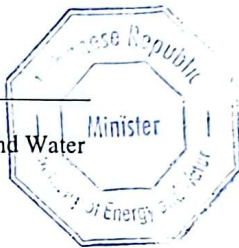
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