



The Lebanese Republic  
Ministry of Energy and Water  
Directorate General of Oil  
The Minister

الجمهورية اللبنانية  
وزارة الطاقة والمياه  
المديرية العامة للنفط  
الوزير

Clarification of the Tender Document No.127/T dated 03/11/2022- ٢٠٢٢/١١/٠٣ تاريخ  
توضيح دفتر الشروط رقم ١٢٧/ت تاريخ ٢٠٢٢/١١/٠٣  
As per memorandum No. 4/P.P.A/2022 - ٢٠٢٢/ع.ش.٤/٤  
عملاً بالذاكرة رقم ٤/ع.ش.٤/٢٠٢٢  
Issued by Chairman of Public Procurement Authority on 19/08/2022 ٢٠٢٢/٠٨/١٩ تاريخ

Buyer's Name	Ministry of Energy and Water- Directorate General of Oil	وزارة الطاقة والمياه- المديرية العامة للنفط	اسم الجهة الشارعية
Buyer's Address	Beirut, Furn El Chebbak, Gharios Center, 11 <sup>th</sup> Floor	بيروت، فرن الشباك، سنتر غاريوس، الطابق ١١	عنوان الجهة الشارعية

Registration No.: 127/T/5 dated 10/11/2022

رقم التسجيل: ١٢٧/ت/٥ تاريخ ٢٠٢٢/١١/١٠

Information About the Deal

معلومات عن الصفقة

Title of the Deal	Purchase of a Gas Oil Quantity for the month of December/2022 for Electricite Du Liban needs.	شراء كمية من مادة الغاز أويل خلال شهر كانون الأول / ٢٠٢٢ تلبية لحاجات مؤسسة كهرباء لبنان.	عنوان الصفقة
Description of the Deal.	Purchase of a Quantity of /66,000/ MT +/- 5% of Gas Oil product to be delivered DAP (Delivery At Place) one or more safe port(s)/ berth(s) Lebanon, during the delivery window (15-20/12/2022), according to the terms and conditions and appendices of the Public Tender under ref. No. 127/T dated 03/11/2022.	شراء كمية / ٦٦,٠٠٠ / +/- ٥ % من مادة الغاز أويل ليتم تسليمه DAP (التسليم في المكان) في واحد أو أكثر من المرافئ الآمنة / المصببات الآمنة في لبنان، خلال فترة التسليم / ١٥ - ٢٠ / ٢٠٢٢/١٢/٢٠٢٢ وفقاً لأحكام وبنود وملحقات دفتر شروط المناقصة العمومية رقم ١٢٧/ت تاريخ ٢٠٢٢/١١/٠٣.	وصف الصفقة.
Clarifications.	We confirm that the following attached clear gas oil specifications (Total 6 pages from 42 till 47) are the same Gas Oil 0.1 % sulfur specifications requested as per Appendix No. (a) included in the tender document No. 127/T dated 03/11/2022		توضيحات.

Minister of Energy and Water

وزير الطاقة والمياه

Dr. Walid Fayad



د. وليد فياض

**Appendix No. (a)**  
**PRODUCT SPECIFICATION**  
**Product : Gas Oil**

هام وعاجل جداً

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

جانب المديرية العامة للنفط  
فاكس: ٠١/٢٨٠٧٠١

شارع النهر - بيروت - تلفون: ٢٩ - ٤٤٢٧٢٠ - ٩٦١-١  
فاكس: ٥٨٣٠٨٤ - ٩٦١-١  
ص.ب. ١٣١  
رقم المحفوظات:  
رقم الصادر: ٢١٠٤  
بيروت في ٢٠٢١/٠٥/١٢

الموضوع : ملاحظات حول المواصفات الفنية لمادة الغاز أويل موضوع استدراج 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 ASTMD381، 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، نفيديكم 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.



**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 " $d < 10 \mu m$ ,  $10 \leq d \leq 25 \mu m$ ,  $d > 25 \mu m$ " 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.

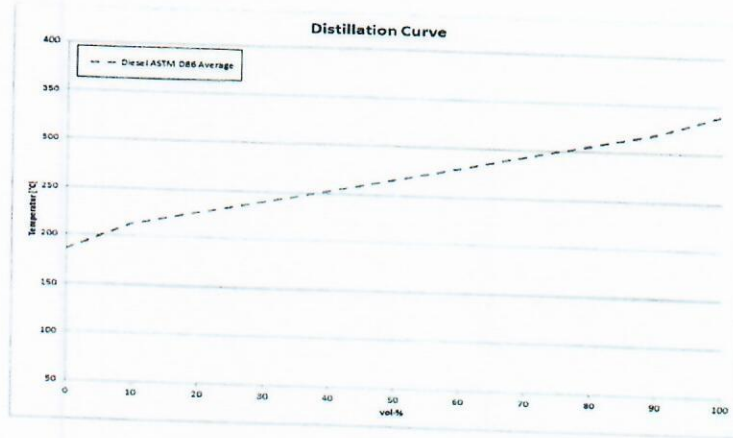
**Answer:** Noted.

- 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.

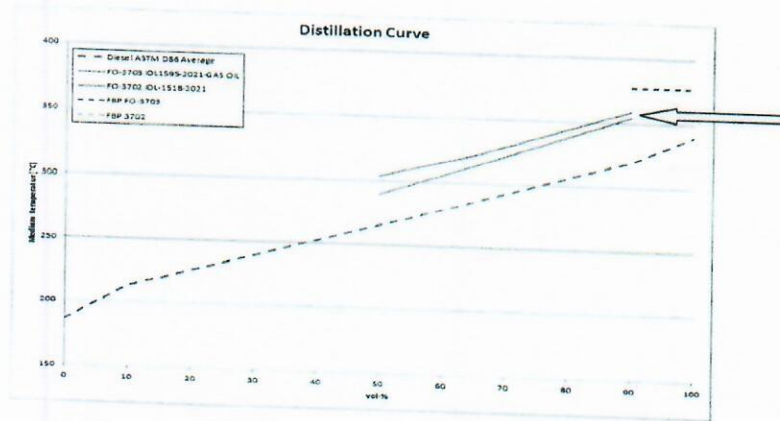
**Answer:** Kindly find below the reference boiling curve according to ASTM D86, where the requested curve shall be parallel to this reference curve, taking into consideration that there is already a max limit for the 90 % volume of Distillation which is set to 365 °C.







As an example, kindly find below the distillation curves for two Gas oil Cargos that were evaluated accordingly and accepted in the last couple of months.



رابعاً: بالنسبة لملاحظات مختبر "Bureau Veritas" - دبي وفق البريد الالكتروني تاريخ ٢٠٢١/٠٥/٠٩ (مستند رقم ٦):

- Recommends splitting the Gum content test into two lines, for the unwashed and washed, while stating the conditions at which the test was performed at, such as temperature and time.

Handwritten signatures and initials.

Date: 4/5/22



**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 29<sup>th</sup> 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 بمراسلة 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 الى ما ورد أعلاه، تجدون 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 الى أن مختبر Bureau Veritas - دبي قد أجرى جميع الفحوصات الأساسية والإضافية المذكورة في الجدول المرفق على عيني الغاز أويل المأخوذتين من الباخرتين Histira Perla و Antares خلال الشهرين الماضيين حيث تم قبول تفريغ الباخرتين على أساسها،  
وبالتالي، نتمنى عليكم إطلاق مناقصة تأمين شحنة الغاز أويل فوراً وبالسعة القصوى وفق ما ورد أعلاه واستناداً الى جدول المواصفات الموضح المرفق، وعطفاً على كتاب مؤسسة كهرباء لبنان رقم ٢٠١٦ تاريخ ٢٠٢١/٠٥/١١.

وتفضلوا بقبول فائق الاحترام.

ب.ع.ر.ع.  
أ.ع.ط.ي.ب.س.  
ف.ح.خ.ح.

رئيس مجلس الإدارة  
المدير العام

كمال الحايك

نسخة الى: - معالي وزير الطاقة والمياه

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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 D3246/D5453/ISO6326	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/m3	820	870	
Kinematic Viscosity (at 40°C)	ASTM D445/ISO-3104/DIN51562-1	mm2/s(cSt)	1.3	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/IP365/95	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	
10<ds<25µm				2	
d>25µm				0	
Water	ASTM D95	Vol %		0.05	
Sediment	ASTM D473/ISO3737/DIN51789/DIN EN 12662	Mass %		0.01	
Gum Content (Unwashed)	ASTM D381	mg/100ml		7	
Pour Point (9PP)	ASTM D97/ISO3016	°C		0	
Flashpoint (9FP)	ASTM D93/D58/ISO2719	°C	60		
Acid Number	ASTM D664	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					
50 % evaporated	D86 / ISO 3405	°C	<p>* the measured distillation curve should show a slope and shape parallel to the above reference boiling curve (according to ASTM D86).</p>		
65 % evaporated					
90 % evaporated (Defined above)					
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.

