



B- Documents for the SWAP Spot Public Tender (leg 2)





Appendix No. (1)
A Letter of Commitment

To: Ministry of Energy and Water
Directorate General of Oil

We, (Bidder name.....) hereby present our offer for the sale of a quantity of /.....By numbering/ MT (.....By lettering) metric tons of fuel oil 1.0 % sulfur Grade (A) and / or Grade (B) and/or Gasoil 0.2% for the use of Electricité Du Liban - Lebanon.

We hereby confirm and approve that the offer is in accordance with the SWAP Spot Public Tender conditions with no deviation whatsoever.

Please find enclosed the documents required according to the above mentioned SWAP Spot Public Tender **(Clause No. "6")**.

For all your correspondence, please find here below our mailing address:

Email :

Address:

Tel No.:

Fax No.:

E-mail:

Signature:





Appendix No. (2)a

Price

Quality Grade (A or B) Fuel oil with sulfur content 1.0 pct

The price in U.S. Dollars per Metric Ton (DAP (Delivery At Place) one or more safe port(s)/ berth(s) Lebanon, based on the received quantity, will be equal to: The average of all the means of the high and the low quotations for Fuel 1.0% as published in Platts European Marketscan under the Heading **“FOB Med Basis Italy”** plus a premium of U.S. Dollars /..... / (By numbering) PMT U.S. Dollars (By lettering) per Metric Ton.

The quotations to be taken into consideration will be the effective and valid published quotations of the month of Loading **(to be the same month of loading from Leg 1)**

In case of outturn quantity loss as determined by the appointed inspector at discharge port, the loss, if any, up to 0.5% of the Bill(s) of Lading (B/L) Quantity will be borne by the buyer and any loss above 0.5% of the B/L(s) Quantity will be for Operators account.

The cost of each additional port of discharge in Lebanon will be an additional extra premium of U.S. Dollars /...../(By numbering) PMT U.S. Dollars/...../ (By lettering) per Metric Ton.

The Bidder may notice lowering the average of all the means of the high and the low quotations mentioned above, before adding the premium, and his offer will be accepted. Knowing that the amount of lowering should be mentioned in the absolute value, and not as a percentage discount rate on the total mean of the sum of all the means of the high and the low quotations.

1	The average of all the means of the high and the low quotations for Fuel 1.0% as published in Platts European Marketscan under the Heading “FOB Med Basis Italy” as mentioned above.	
2	Plus: A premium in U.S. Dollars (By lettering)..... per Metric Ton.	In U.S. Dollars/..... / (By numbering) per Metric Ton
3	Plus: The cost of each additional port of discharge in Lebanon in U.S. Dollars (By lettering)..... per Metric Ton.	In U.S. Dollars/..... / (By numbering) per Metric Ton
4	Minus: Discount on (1) in U.S. Dollars (By lettering)..... per Metric Ton.	In U.S. Dollars/..... / (By numbering) per Metric Ton
5	Final Price FP : (2)+(3)-(4) in U.S. Dollars (By lettering)..... per Metric Ton.	In U.S. Dollars/..... / (By numbering) per Metric Ton

SIGNATURE:

OPERATOR





Appendix No. (2)b
Price
Gas Oil 0.1 % Sulfur

The price in U.S. Dollars per Metric Ton DAP (Delivery At Place) one or more safe port(s)/ berth(s) Lebanon, based on the received quantity, will be equal to: The total mean of the sum of all the means of the high and the low quotations for Gas oil 0.1 % as published in Platts European Marketscan under the Heading “**FOB Med Basis Italy**” plus a premium of U.S. Dollars /..... / (By numbering) PMT U.S. Dollars (By lettering) per Metric Ton.

The quotations to be taken into consideration will be the effective and valid published quotations of the month of Loading **(to be the same month of loading from Leg 1)**

In case of outturn quantity loss as determined by the appointed inspector at discharge port, the loss, if any, up to 0.5% of the Bill(s) of Lading (B/L) Quantity will be borne by the buyer and any loss above 0.5% of the B/L(s) Quantity will be for Operators account.

The cost of each additional port of discharge in Lebanon will be an additional extra premium of U.S. Dollars /...../(By numbering) PMT U.S. Dollars/...../ (By lettering) per Metric Ton.

The Bidder may notice lowering the total mean of the sum of all the means of the high and the low quotations mentioned above, before adding the premium, and his offer will be accepted. Knowing that the amount of lowering should be mentioned in the absolute value, and not as a percentage discount rate on the total mean of the sum of all the means of the high and the low quotations.

1	The total mean of the sum of all the means of the high and the low quotations for Gasoil 0.1% S as published in Platts European Marketscan under the Heading “ FOB Med Basis Italy ” as mentioned above.	
2	Plus: A premium in U.S. Dollars (By lettering)..... per Metric Ton.	In U.S. Dollars/..... / (By numbering) per Metric Ton
3	Plus: The cost of each additional port of discharge in Lebanon in U.S. Dollars (By lettering)..... per Metric Ton.	In U.S. Dollars/..... / (By numbering) per Metric Ton
4	Minus: Discount on (1) in U.S. Dollars (By lettering)..... per Metric Ton.	In U.S. Dollars/..... / (By numbering) per Metric Ton
5	Final Price (FP): (2)+(3)-(4) in U.S. Dollars (By lettering)..... per Metric Ton.	In U.S. Dollars/..... / (By numbering) per Metric Ton

SIGNATURE:
SELLER





Appendix No. (3)
Integrity Declaration
(Relevant to Bidders)

Transaction title:

The Awarding party:

Name of bidder / authorized signatory for the company:

The Company's name:

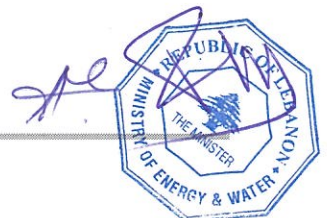
We, the undersigned, affirm the following:

- 1- We, our employees, partners, agents, shareholders, consultants, or their relatives do not have any relationships that may lead to a conflict of interest in the subject matter of this transaction.
- 2- We will inform the Ministry of Energy & Water – Directorate General of Oil and the awarding party if a conflict of interests arises or is discovered.
- 3- Neither we nor any of our employees, partners, agents, shareholders, consultants or their relatives will engage in fraudulent, corrupt, coercive or obstructive practices in relation to our offer or suggestion.
- 4- Neither we nor any of our partners, agents, shareholders, consultants or their relatives had paid any amounts to the workers, partners, or employees participating in the procurement process on behalf of the awarding party or for anyone.
- 5- We undertake to respect the Lebanese and international laws, especially the British ones, and not to pay any kind of bribes, benefits or gifts, and to bear full responsibility for any violation committed by any entity or company or any person working in our name or in our interest to implement this Award under penalty of judicial prosecution and annulment of the Award.
- 6- We pledge to lift banking secrecy from the bank account into which any amount of public money is deposited or transferred to it for the benefit of the administration in every Award, of any kind that deals with the expenditure of public money.
- 7- In the event that we violate this declaration and pledge, we will not be eligible to participate in any public transaction, whatever its subject matter, and accept in advance any exclusion measure taken against us, and we pledge voluntarily not to dispute it. Any false information exposes us to judicial prosecution by the competent authorities.
- 8- We hereby declare that we have the financial capabilities to honor and fully perform any financial obligation and there is no event which impedes or impairs such capability.
- 9- We undertake to indemnify the Ministry of Energy & Water as sum equal to the losses suffered or incurred by the Ministry of Energy & Water out of or in connection with any breach of the representations and warranties herein contained or in the event any of the covenants appear to be inaccurate or misleading.

Date:

Seal:

Signature:



Appendix No. (a1)
PRODUCT SPECIFICATIONS
Product : Fuel Oil Quality Grade (A)

HEAVY FUEL OIL PARAMETERS FOR GRADE A HFO				
	Parameters	Specified	Rejected	Test Method
1	Density Kg/l at 15 °C		> 0.991	ASTM D 1298:1999 OR ASTM D 4052:1996
2	KINEMATIC VISCOSITY AT 50 DEG C (MM2/S)	165	>240 <92	ASTM D 445:1997
3	FLASH POINT pensky martins closed cup °C		<66	ASTM D 93:2002
4	SULFUR CONTENT % MASS		>1	ASTM D 129:2000 OR ASTM D 4294:2002
5	SEDIMENT PCT MASS		>0.2	ASTM D 473:2002
6	WATER & SEDIMENTS PCT VOL	1	>1.5	ASTM D 1796:1997
7	ASH CONTENT PCT MASS	0.12	>0.15	ASTM D 482:2000
8	SODIUM CONTENT PPM	40	>45	ASTM D 5863:2000
9	VANDIUM CONTENT PPM	110	>135	ASTM D 5863:2000
10	POUR POINT °C		>30	ASTM D 97:1996
11	ASPHALTENES PCT MASS	3	>5	IP 143
12	HEAT OF COMBUSTION MJ/kg Gross		<41	ASTM D 4868:2000
13	CARBON RESIDUE PCT WT		>18	ASTM D 524:2000

8-10-17
 15-17-18
 19-20-21



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ADDITIONAL SPECIFICATIONS FOR HFO PARAMETERS FOR GRADE B				
S.N ^a	Parameters	Units	Specifications	Test Methods
19	Bromine Number	g Br/100g	< 12	ASTM D 1159
20	Ratio of Asphaltene content / Conradson Carbon Residue		< 0.56	ASTM D 189 (OR ASTM D4530)/IP 143
21	p-Value		> 1.5	ASTM D7112 / SMS1600
22	Heptane Insoluble	(mass/mass)%	min: 0.5 and max: 30	ASTM D6560
23	Cleanliness rating	-	< 2	ASTM D4740
24	Paraffin Wax content	(mass/mass)%	< 5	UOP 46

Notes

* Limit to two different HFO sources as maximum for ship loading.

† HFO should be supplied according to ISO 8217 : 2017.

‡ a. For Vanadium / Sodium Ratio, if Vanadium / Na > 40 mg/kg sodium Na < 1/2 of Vanadium

§ b. The total sediment content should include the following tests: TSE, TSP and TA

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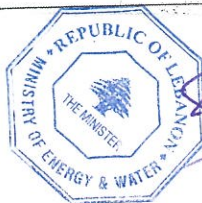
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- Middle left: $\frac{1}{2}$
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PRODUCT SPECIFICATIONS**Product : Gas Oil Specs and EDL Clarifications**

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	ASTM D6217/IP415/DIN51419/DIN EN 12662	mg/kg		20	
d<10µm				18	
10≤d<25µm				2	
d≥25µm				0	
Water	ASTM D95	Vol %		0.05	
Sediment	ASTM D473/ISO3737/DIN51789/DIN EN 12662	Mass %		0.01	
Gum Content	ASTM D381	mg/100ml		7	
Pour Point (°PP)	ASTM D97/ISO3016	°C		0	
Flashpoint (°FP)	ASTM D93/D56/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	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.					



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.

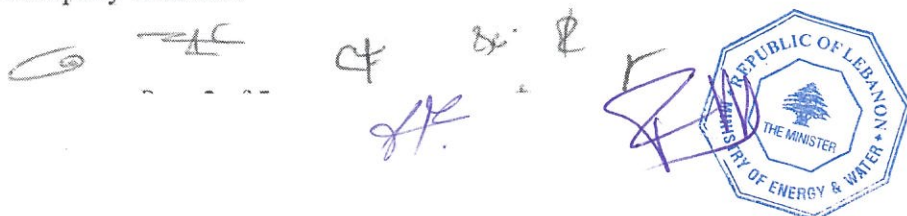
Answer: This test method is according to Siemens Manual, which is applied by the certified laboratory Bureau Veritas – Dubai, contracted by the General Directorate of Oil, for testing the Sediment particulates in the Gas oil sample from the last two cargos.

- **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.



- **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.

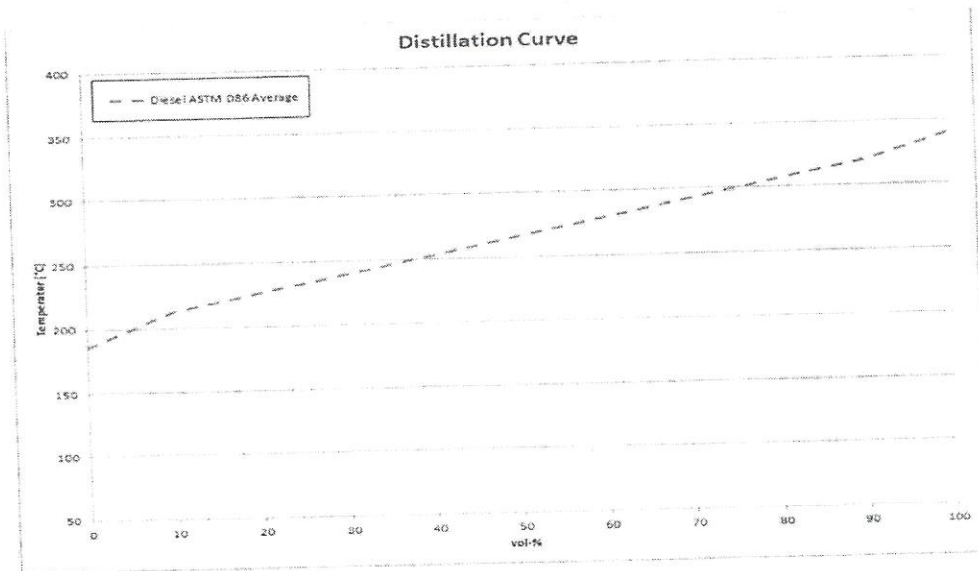
- We are still reviewing the relative values for C, H, and O.

Answer: Noted.

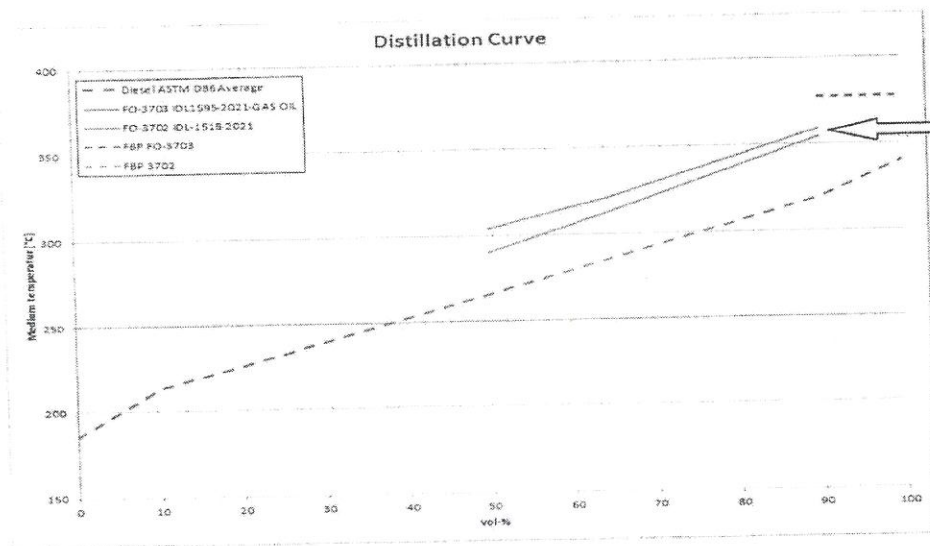
- Regarding distillation, we have noticed that the rejection criteria are totally vague. In ASTM D86, there is no reference boiling curve. Therefore, we don't understand where the requested specification refers to. Furthermore, the notion of a "strong deviation" is totally subjective and open to wide 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.





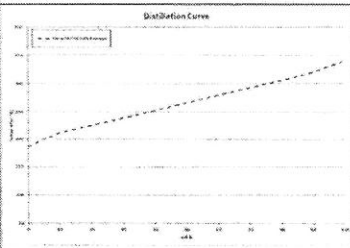
As an example, kindly find below the distillation curves for two Gas oil Cargos that were evaluated accordingly and accepted in the last couple of months.



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.

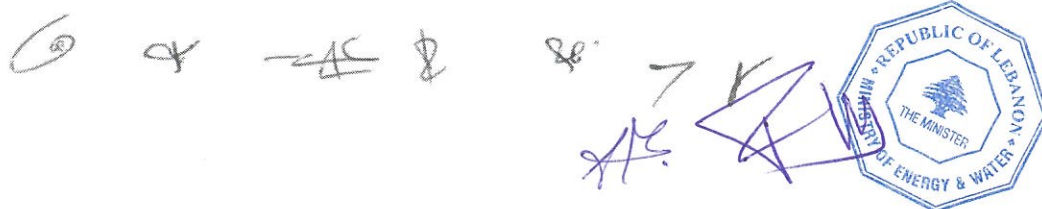


All parameters must be filled by the Gas oil supplier					
Parameters	Test Method	Unit	Limits as per Siemens Manual		For Evaluation
			Min	Max	
Total Sulfur (S)	ASTM D3246/D5453/ ISO6326	Mass %		0.2	These parameters shall be evaluated in all conditions
Fuel Bound Nitrogen (FBN)	ASTM D4829	Mass %		0.015	
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/D56/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	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>		
50 % evaporated					
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.



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 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 عينتي 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 وبالسريعة القصوى وفق ما ورد أعلاه واستناداً الى جدول المواصفات الموضح المرفق، وعطفاً على كتاب مؤسسة كهرباء لبنان رقم ٢٠١٦ تاريخ ٢٠٢١/٠٥/١١.

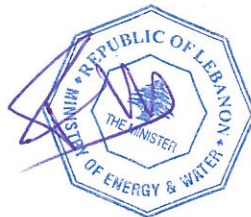
وتفضلوا بقبول فائق الاحترام.

ب.ع.ح.ر.ع.
أ.ع.ط.ي.ب.س.
ف.ح.خ.ح.

رئيس مجلس الإدارة
المدير العام

كمال الحايك

نسخة إلى: - معالي وزير الطاقة والمياه





Appendix No. (b/1)
Technical Requirements of ports/berths
ZOUK TERMINAL
PORT REGULATIONS

The Zouk Terminal is a S.B.M. berth, located 5 miles north of Beirut Harbor, and 1500 meters from the shore, the sea line is 20 inches diameter.

The depth at the buoy is about 25 meters.

Tanker size

D.W.T.	40.000 Maximum
L.O.A.	200 meters Maximum

Tanker Requirements:

- 1- Preferable if equipped forward with standard S.B.M. bracket (Smit of AKD" system).
- 2- Manifold connection 12 inches A.S.A.
- 3- Derrick 5 tons minimum.
- 4- Pumps must be centrifugal, and capable to maintain 100 P.S.I pressure of ship's manifold at 1500 tons/hour discharge rate.
- 5- Must be able to discharge cargo and take ballast simultaneously, or has permanent ballast tanks about 25% of her D.W.T.
- 6- Must be able to heat up the cargo above 125deg F prior and during discharge.
- 7- Ship's crew has to assist in mooring and hose connection.



Appendix No. (b/2)
JIEH TERMINAL
PORT REGULATIONS



The Jieh Terminal is a Multi – Buoy Mooring (M.B.M.) berth and consists of seven (7) buoys.

Tanker size

D.W.T.	50.000 Maximum
L.O.A.	Between 170m. and 200m. Maximum

Tanker Requirements:

- 1- Maximum draught loaded 12m.
- 2- Manifold connection 12 inches A.S.A.
- 3- Derrick 5 tons minimum.
- 4- Pumps must be centrifugal, and capable to maintain 7.28 bars mx. pressure for a fuel having viscosity 130Cst at 50 deg C(1500 Redwood No. 1 at 100 deg F).
- 5- Must have permanent ballast tanks about 25% to 30% of her D.W.T.
- 6- Must be able to heat up the cargo above 55deg C prior and during discharge.
- 7- Ship's crew has to assist in mooring and hose connection.





Appendix No. (b/3)
Technical Requirements of ports/berths
ZAHRANI POWER PLANT TERMINAL REGULATIONS

The Zahrani Terminal is a S.P.M. (Single Pile Mooring) berth located approx. 3 miles south of Saida Harbour, and approx. 2500 meters from the shore (Sealine departure point)

- The Sealine is 20" Diameter.
- The depth at the S.P.M. location is about 23 meters.

TANKER SIZE

- DWT 60.000 Max.
- L.O.A. : 225 meters max.

TANKERS REQUIREMENTS

- 1- Manifold connection: 16 inches ANSI 150 FF flange, intended for 16" quick connection Camlock type installed at the end of the SPM system rail hose.
- 2- DERRICK: 5 Ton Min.
- 3- PUMPS : Centrifugal and capable of maintaining 10 to 14 Bar offload pressure range on ship's manifold, at a discharge rate of 2400 C.M/Hour for gasoil fuel having a min. viscosity of 1.9 CST(9.5 CST at 20 deg C and 2.8 CST at 40 deg C) .
- 4- Must be able to discharge cargo and take ballast simultaneously, or has a permanent ballast about 25% of her D.W.T.
- 5- Ship's crew has to assist in mooring and floating hose connection.
- 6- Max. draft loaded 13Mt.





Appendix No. (b/4)

DEIR AMMAR POWER PLANT TERMINAL REGULATIONS

The Beddawi Terminal is a S.P.M. (Single Pile Mooring) berth located approx.3 miles North of Tripoli Harbor, and approx. 3500 meters from the shore (Sea line departure point).

- The Sea line is 20" Diameter.
- The depth at the S.P.M. location is about 22 meters.

TANKER SIZE

- DWT 60.000 Max.
- L.O.A.: 225 meters max.

TANKERS REQUIREMENTS

1-Manifold connection: 16 inches ANSI 150 FF flange, intended for 16" quick connection Camlock type installed at the end of the SPM system rail hose.

2-DERRICK: 5 Ton Min.

3-PUMPS: Centrifugal and capable of maintaining 10 to 14 Bar offload pressure range on ship's manifold, at a discharge rate of 2400 C.M/Hour for gasoil fuel having a min. viscosity of 1.9 CST (9.5 CST at 20 deg C and 2.8 CST at 40 deg C).

4- Must be able to discharge cargo and take ballast simultaneously, or has permanent ballast about 25% of her D.W.T.

5-Ship's crew has to assist in mooring, and floating hose connection.




6-Max. draft loaded 13Mt.



Appendix No. (b/5)

**TRIPOLI OIL INSTALLATIONS
TRIPOLI PORT REGULATIONS
TERMINAL REQUIREMENTS FOR PRODUCT
DELIVERY MARITIME VESSEL**

1. The discharge berth is an open sea berth. C.B.M.
2. The maritime vessel to be able to keep 25% of its deadweight as ballast and be ready to move under her own power all times.
3. The maritime vessel 's length not to be less than **600 Feet**
4. The maritime vessel to be equipped with centrifugal pumps capable of maintaining a steady manifold ship's pressure of **120 PSI (8, 4 KGS / CM2)**
5. Maximum draught loaded **60 Feet**.
6. Seven tons derrick SWL.
7. Eight mooring ropes **120 fathoms each**.
8. Port and starboard anchors to have a minimum of ten shackles each.
9. Mid ship connections (**Portside 1 x 12 "inch 150 ASA**) .
10. Pumping is against a head of **300 Feet**.
11. Cargoes loaded on top of slops are not acceptable and an appropriate Dry and Clean Certificate to be issued by loading terminal.

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Appendix No. (b/6)
ZAHRANI OIL INSTALLATIONS
ZAHRANI PORT REGULATIONS
TERMINAL REQUIREMENTS FOR PRODUCT
DELIVERY MARTIME VESSEL

Zahrani Terminal is an open sea berth ; only one berth in operation .
berth # 2 ; only Motor Tankers are accepted.

TANKERS SIZES & CARGO LIMITATIONS

Winter Season : (From November 15 Till April 30)

Tankers arriving to Zahrani Oil Installations to Discharge Her Cargo , Their D.W.T. Must Not Exceed 80.000 Tons & Carrying a Maximum Cargo of 50.000 Tons .

a) Maximum Draft on Her Arrival 38 Feet Even keel .

b) Tanker's Manifold must be located at a Distance Must Not Exceed 435 Feet From The Stern .

Summer Season : (from May 1 Till November 15)

Tankers Arrive to Zahrani Oil Installations Discharge her Cargo .Their D.W.T. Maximum 100.000 Tons & carrying a Maximum Cargo of 60.000 Tons. Also Maximum 40 Feet even keel .

TANKERS REQUIREMENTS

- 1) Tankers Must Have S.B.T. (Segregated Ballast Tank)
Or she Can Discharge Her Cargo & Take Ballast Simultaneously Without Any Contamination . As Per IMO Regulation, Quantity of Ballast 1/3 of her Deadweight.
- 2) Tankers Over 60.000 Tons, Must Have on Each Bow Anchor 12 European shackles.
- 3) Tanker Must Have on Her Port Side Manifold a 10 Tons Derrick.
- 4) Connection on port Side Manifold one Hose Diameter 12 Inch A.S.A.
- 5) The maritime vessel Must Have Enough Deckcrew (Minimum 7 Seamen) to Handle & Fasten The Tanker in a proper & Safe Manner.
- 6) Tankers Must Be Equipped With Centrifugal Pumps & to Reach a Pressure At Ship's Manifold of 7.5 KG/ Cm2 During Unloading Operation .
- 7) Tankers Carrying Fuel Oil Cargo Must be Able to Heat Up The Cargo To a Temperature Between 125 F (50 C) & 150 F (65 C) Maximum .
- 8) Reciprocated Pumps Are Rejected
- 9) Tankers Must Not Drain Her Cargo Into Our Sea Line As Air Injected During This Operation May Cause The Hoses To Float & Buckle.



Appendix No. (b/6) cont'd



ZAHRANI MOORING SYSTEM

Refer to The sketch attached To The Port Regulations :

Berth #2 IS An open Sea Berth .It IS AN M.B.M. (Multiple Buoys Mooring) 7 Cylindrical Buoys .

Tankers Must Be Equipped With The Following Mooring Systems .

- 1) A winch in Front of The Bridge Aft To Heave Up No. 1 & 7 Mooring Ropes Which Are The Beam Ropes .
- 2) Must have Minimum (12) Good Ropes, Proper Size & Standard Length 120 Fathoms Each.
- 3) Poop Mooring
 - a) 2 Winches With Wires
 - b) 5 Bitts

N.B.

- 1) No Overage Tankers Are Accepted At Z .O. Inst Tankers Over 20 Years Are Rejected.
- 2) No **O.B.O.** (Oil Bulk Ore) Accepted At Z .O. Inst .

