

بِسْمِ اللّٰهِ الرَّحْمٰنِ الرَّحِیْمِ



ދިވެހިސަރުކާރުގެ ގެޒެޓް ގައި ބަޔާންކުރި ގަވާއިދުގެ ދަށުން  
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Ministry of Environment  
Male', Republic of Maldives.

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(IUL)438-WMPC/438/2019/97 ދިވެހިސަރުކާރުގެ ގެޒެޓް ގައި ބަޔާންކުރި ގަވާއިދުގެ ދަށުން

12/5/2019

ދިވެހިސަރުކާރުގެ ގެޒެޓް ގައި ބަޔާންކުރި ގަވާއިދުގެ ދަށުން



















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<p>የጅምር ስርዓት ለመገምገም የሚያስፈልጉትን ሰነድ ለማግኘት ይህንን ስርዓት ይከተሉ።              ደብዳቤዎን በኢሜይል ወይም በጽሑፍ ለሚኒስቴር ይላኩ።              13-K/CIR/2018/01 ስርዓት ለማግኘት ይህንን ስርዓት ይከተሉ።              ደብዳቤዎን በኢሜይል ወይም በጽሑፍ ለሚኒስቴር ይላኩ።              PR-14 የሚለውን ስርዓት ይከተሉ።</p>	<p>32.2.</p>	
<p>የጅምር ስርዓት ለመገምገም የሚያስፈልጉትን ሰነድ ለማግኘት ይህንን ስርዓት ይከተሉ።              ደብዳቤዎን በኢሜይል ወይም በጽሑፍ ለሚኒስቴር ይላኩ።              7 (ሶስት) የሚሆኑ ሰነዶች ለማግኘት ይህንን ስርዓት ይከተሉ።              ደብዳቤዎን በኢሜይል ወይም በጽሑፍ ለሚኒስቴር ይላኩ።              13-K/CIR/2018/01 ስርዓት ለማግኘት ይህንን ስርዓት ይከተሉ።              ደብዳቤዎን በኢሜይል ወይም በጽሑፍ ለሚኒስቴር ይላኩ።              PR-14 የሚለውን ስርዓት ይከተሉ።</p>	<p>32.3.</p>	
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بخش اول - 3

فهرست منابع آب شیرین

1. شهرستان خاتم، استان خراسان جنوبی		
شماره	توضیحات	ملاحظات
1.1		
1.2	منبع آب شیرین در سطح شهرستان	
1.3	منبع آب شیرین در سطح شهرستان	
1.4	منبع آب شیرین در سطح شهرستان / استان: 1.4.1	
1.5	منبع آب شیرین در سطح شهرستان	
1.6	منبع آب شیرین در سطح شهرستان	
1.7	منبع آب شیرین در سطح شهرستان	
1.8	منبع آب شیرین در سطح شهرستان	
2. شهرستان خاتم، استان خراسان جنوبی (منبع آب شیرین در سطح شهرستان، استان خراسان جنوبی و استان فارس)		
#	شماره	توضیحات
3. شهرستان خاتم، استان خراسان جنوبی (منبع آب شیرین در سطح شهرستان، استان خراسان جنوبی و استان فارس)		
#	شماره	توضیحات
		.....(منبع آب شیرین در سطح شهرستان)
4. شهرستان خاتم، استان خراسان جنوبی		

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4 - جلد 4

دسمبر 2019

....Name or Letterhead of The Business Entity: (Sole Proprietorship / Partnership / Corporative Society / etc).....

**Income Statement  
 For the Year Ended December 31, 20..**

	MVR	MVR
<b>Revenues:</b>		
Category 1	-	
Category 2	-	
<i>*add more categories if required</i>	-	
<b>Total Revenues</b>		-
<b>Expenses:</b>		
Category 1	-	
Category 2	-	
<i>*add more categories if required</i>	-	
<b>Total Expenses</b>		-
<b>NET INCOME (Total Revenues subtracted from Total Expenses)</b>		-

Name of the Authorized Signatory:

Authorized Signature:

*Note: This Income Statement must be completed and submitted by Bidders except the Companies registered under the Companies Act (10/96). Companies are required to submit the Financial Statements as indicated in part 16.2.2 of this document.*







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	(ر) 2 بجے اور 4 بجے کے درمیان ہونے والے کاموں کی شرحیں 1 بجے اور 3 بجے کے درمیان ہوتی ہیں اور ان کی شرحیں 5 بجے اور 6 بجے کے درمیان ہوتی ہیں۔
100	100
60	60

\* اس بات کو یقین دلانے کے لیے کہ اس پر عمل درآمد کیا گیا ہے، اس کی تصدیق کی گئی ہے۔ اس کی شرحیں عام طور پر 1 بجے اور 2 بجے کے درمیان ہوتی ہیں اور ان کی شرحیں 5 بجے اور 6 بجے کے درمیان ہوتی ہیں۔

اس بات کو یقین دلانے کے لیے کہ اس پر عمل درآمد کیا گیا ہے، اس کی تصدیق کی گئی ہے۔ اس کی شرحیں عام طور پر 1 بجے اور 2 بجے کے درمیان ہوتی ہیں اور ان کی شرحیں 5 بجے اور 6 بجے کے درمیان ہوتی ہیں۔

### نصابہ 4 - اس کی شرحیں

\* اس کی شرحیں 1 بجے اور 2 بجے کے درمیان ہوتی ہیں اور ان کی شرحیں 5 بجے اور 6 بجے کے درمیان ہوتی ہیں۔ اس کی شرحیں عام طور پر 1 بجے اور 2 بجے کے درمیان ہوتی ہیں اور ان کی شرحیں 5 بجے اور 6 بجے کے درمیان ہوتی ہیں۔

4.1: اس کی شرحیں (ج.ا.ر.)

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**Ministry of Environment**  
Republic of Maldives

## **TERMS OF REFERENCE**

### **Dismantling, Transferring and Installation of an Incinerator from K. Thilafushi to HDh. Kulhudhuffushi**

#### **Introduction**

The Ministry of Environment (ME) is currently designing to establish a solid waste management system in HDh. Kulhudhuffushi. In order to establish the system, the Ministry has included an incineration facility in its plan for Kulhudhuffushi. Therefore, ME has decided to dismantle, transfer and installation of one unit from the incineration facility in K. Thilafushi to Kulhudhuffushi.

The ME has procured and installed an incineration facility that includes 5 individual incinerators of Inciner 8-700 model with a capacity of 4 tons/d each at K. Thilafushi. Since a larger waste management facility is being planned and designed for Thilafushi by ME, the installed facility mentioned above is expected to be redundant. However, those individual incinerators can be utilized in other islands with lower waste generation.

Therefore, ME seeks a contractor to dismantle, transfer and installation of an incinerator from K. Thilafushi to HDh. Kulhudhuffushi and invites bids. The contractor is expected to carry out the following works.

#### **1. Mechanical Works**

##### **A. Dismantling at K. Thilafushi.**

1. One incinerator from 5 of existing incinerator has to be dismantled and transport and re install at the new island and re commissioning has to be done as per the standard commissioning procedures.
2. Control cabling and power cabling has to be isolated including Programmable Logic Controller (PLC) communication cables of each panel board.
3. Ethernet cables from each remote monitoring system has to be program as per the PLC software before then de terminated.
4. Once the control /power/communication cables de terminated from the panel and the instruments, each sensors and instruments have to be dismantled.
5. Once the instruments and sensors dismantle from the incinerators, main incinerator and secondary combustion chamber and the venturi scrubber, chimney has to be dismantled.
6. PLC of the rest of the 4 incinerators has to be re programmed to run individually since the 5th incinerator is taken out.

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7. Dismantling of burners, sensors, instruments has to be done only by a professional engineer who has experience in thermal engineering.
8. Re programming of existing 4 incinerators has to be done by authorised programmer as per the requirement by the supplier.

## **B. Logistics**

1. For the dismantling and handling has to be done only by a crane above 25ton capacity.
2. Handling of incinerator and chimney by using wheel loaders and excavators are not allowed.
3. Inland transportation has to be done only by trailer.

## **C. Installation at HDh. Kuludhufushi.**

1. Installation main incinerator, secondary combustion chamber, chimney and the venturi by using a crane.
2. Installation of burners, sensors, instruments as per the electrical diagram.
3. Laying of new cabling as per the electrical diagram.
4. Re program whole operation as per the new data.
5. Re commissioning the machine with the PLC as per the commissioning procedures given by the supplier.
6. Re commission the remote monitoring system and connecting to the main server of the INCINER8 and update the software.
7. Once the PLC is programmed and update with new software, new operation password has to be made for different working levels, which should be only done by an authorised electrical engineer with a programmer.
8. Complete new diesel and water piping circuit has to be done at the new site baed on the new layout.

## **D. Expertise and Knowledge**

1. The engineer who is handling the whole work has to be qualified in the field of thermal engineering with the knowledge of incinerators, electronics, automation and PLC programming,
2. Should be able to work with the OMRON and SIEMENS PLC with remote monitoring applications.
3. Engineer should be sound with the knowledge of diesel burner tuning and programming for better emission standards.
4. To carry out the whole commissioning process there should be an electrical engineer and PLC programmer who already have knowledge about the incinerator process and the burners.

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### 3 Civil Works and Shed works

Incinerator will be placed in a rain and water proofed shed. The shed will be constructed by the contractor as per the design and drawings provided by ME.

Regarding the civil works the required space is minimum 40 feet x 40 feet incinerator building and maximum as shown in the attached concept drawing. The building needs a special high span truss with steel beams and there should not be any column between the span of the building. This requirement is set to allow for wheel loader access to inside the building (shed) for loading waste into the incinerator. **The design and load calculation report of the steel structure should be submitted to Ministry of Environment for approval.** Final approved drawing ministry should be stamped by a Structural Engineer registered in Maldives. Therefore, the price for civil works should include.

1. Concrete plinth works
2. Floor concrete
3. Steel shed with roof
4. Side cladding for 3 sides
5. Louvers or mechanical exhausts for ventilation
6. Brick boundary wall
7. Required down pipes and gutters
8. Materials, consumables, labour,
9. Required roofing lights and power outlet sockets.

### 4. Bid Price

Bid price shall include both for mechanical and civil works. For the mechanical works CVs of technical experts mentioned in 2D (Expertise and knowledge) should be given in the bid proposal.

نومبر 4.2 : دسؤرا لاجھو گھوگو

دسؤرا لاجھو گھوگو

سرسرو موجر	نمبر موجر	نومبر																		دسؤرا لاجھو (نومبر)	دسؤرا لاجھو		
		18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1				

نوٹ: گھوگو، رڈس، ہڈی، رڈس، رڈس، دسؤرا لاجھو، دسؤرا لاجھو، دسؤرا لاجھو، دسؤرا لاجھو.

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شماره: 4.3: هیئت مدیره سازمان بهزیستی کشور. موضوع: گزارش عملکرد هیئت مدیره در سال 1397 (مجلس شورای اسلامی)

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نوٹ نمبر 4.4: ایئر سیٹھ سٹریٹ، بج سٹی، لاہور ڈسٹرکٹ ڈائریکٹوریٹ آف سٹیٹنگ اور سٹیٹنگ ڈیپارٹمنٹ  
ڈسٹرکٹ

### **Working Site**

The site should be kept clean during the construction work period and should be thoroughly cleaned once the works are completed. Works should be carried out on site in a safe manner to all the workers on site and the people living in the vicinity of site. Disturbance to the neighborhood should be kept to a minimum. Electricity and water supply to the site, during construction period, should be provided by the contractor

### **Concrete**

Cement conforming to BS standards should be used for all concrete, masonry and plastering works. The cement intended for use should be fresh and should not have any traces of hardened cement in the bag.

1. All concrete works should be done using one brand of cement
2. Sand and aggregate used for concrete works should be well graded.
3. Concrete should be mixed in the ratio 1:2:3 which are 1 part cement, 2 parts sand and 3 parts aggregate.
4. All foundations should be cast on a 50mm thick lean concrete layer. The lean concrete should be placed on well compacted ground.
5. Concrete should be mixed using a concrete mixer. Concrete should not be mixed by hand. When pouring concrete into the formwork, the mix should be compacted using a mechanical vibrator.
6. Aggregate used for concrete works should not be larger than 20mm.
7. Sand and aggregate used for concrete works should be clear from dust, mud and other debris.
8. All reinforcement bars used for the concrete works should be free from rust and grease that could weaken the bonding between the reinforcement bar and the concrete. Care should be taken to use continuous bars rather than short segments joined by laps.

### **Masonry Works**

1. All masonry work should be done using Cement confirming to BS standards.
2. Masonry blocks should be made from imported sand or local white sand sourced from a permitted sand borrow area. The sand should be free from organic matter and other debris.
3. Masonry blocks should be made from mortar mixed at 1:5 ratio with 1 part cement to 5 part sand.
4. Average size of sand particles should not exceed 5mm.

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### **Plastering Works**

1. All plastering work should be done using Cement confirming to BS standards.
2. Plaster mix should be made from imported or local sand white sand sourced from a permitted borrow area. The sand should be free from organic matter and other debris.
3. Plaster mix should be made by mixing Cement and Sand at a ratio of 1:3 with 1 part Cement to 3 part Sand.
4. Average size of sand particles should not exceed 5mm.

### **Structural Steel work**

1. All steel pipes obtained for the work should be new pipes and free from rust.
2. Thickness of pipes should not be less than 2.5mm
3. All weldings should have protective paint applied on top

### **Electrical works**

1. All materials used for electrical wiring should comply with MEA standards.

### **Roofing works**

1. All materials used for roofing work should be newly purchased for the project.
2. All screws or bolts used for roof fixing should be G.I or Zinc finish screws.





