

# BARBADOS WATER AUTHORITY

GOVERNMENT OF BARBADOS



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**WATER SUPPLY AGREEMENT**

**WITH**

**IONICS INCORPORATED**

**FOR THE SUPPLY OF 27,000m<sup>3</sup>/DAY**

**OF DESALINATED WATER**

**FROM**

**A REVERSE OSMOSIS DESALINATION FACILITY**

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<https://barbadosunderground.wordpress.com/>

**BARBADOS WATER AUTHORITY  
BRIDGETOWN, BARBADOS**

**PROVISION OF 30,000 m<sup>3</sup>/DAY OF  
POTABLE WATER BY DESALINATION.**

**AGREEMENT FOR DESALINATED WATER SUPPLY**

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**BARBADOS WATER AUTHORITY  
BRIDGETOWN, BARBADOS**

**PROVISION OF 30,000 m<sup>3</sup>/DAY OF  
POTABLE WATER BY DESALINATION.**

**AGREEMENT FOR DESALINATED WATER SUPPLY**

1. **GENERAL**

This Agreement (Contract) is made this 11<sup>th</sup> day of NOVEMBER 1998 by and between the Barbados Water Authority incorporated by statute under the Barbados Water Authority Act Cap. 274 A of the Laws of Barbados and having its principal place of business at Pine in the parish of Saint Michael Barbados (hereinafter called "the Authority"), the party of the first part and Ionics Incorporated a company incorporated under the Laws of the State of Massachusetts one of the United States of America with its principal office of business situated at 65 Grove Street, Watertown, Massachusetts, MA 02172, USA (hereinafter called "the Contractor"), the party of the second part.

**WHEREAS**, the Authority is desirous to obtain a reliable supply of desalinated water for augmentation of the Public Water Supply with no capital investment by the Authority other than that of land in which the plant shall be sited and for other ancillary works in connection with the distribution of said desalinated water.

WHEREAS, the Contractor in relation to the above, undertakes to detail design, engineer, fabricate, supply, deliver to site, install, erect, construct, equip, outfit, commission, bond, insure, guarantee performance and test, all at its own expense, and thereafter for a continuous period, of duration as defined herein, to properly operate, maintain, service, replenish, renovate, bond and insure, all at its own expense, a desalination facility to meet the requirement stated above, and to sell the desalinated water thus produced, exclusively to the Authority, on terms and conditions and at prices as set forth herein.

NOW, THEREFORE, for and in consideration of the mutual promises, covenants, terms and conditions set forth herein and the monies to be paid hereunder, the above mentioned two (2) parties (i.e. the Authority and the Contractor) agree and declare as follows:-

2. **DEFINITIONS**

- a "Agreement" means this Agreement for Desalinated Water Supply, which incorporates by reference the other Contract Documents described in Section 38.
- b. The "Plant" shall include all equipment, buildings, infrastructure, fixtures, appurtenances, auxiliaries, ancillaries, supplies, inventories and materials of the complete desalination facility, all within and including the plant perimeter fence and otherwise, and including all pipework and equipment and works necessary for supply of feed water to the plant and disposal of effluents, including desalinated water, from the Plant, and the power supply system.

- c. The "Site" shall be the real property on which the Plant is constructed, operated and maintained as shown in Illustration No.2, Exhibit E2, hereto, and including land occupied by pipework and equipment necessary for feed water supply to the Plant and disposal of effluents, including desalinated water, from the Plant.
- d. "Desalinated Water" and "Satisfactory Desalinated Water" each means water as produced by the plant, and delivered to the Authority having a Total Dissolved Solids content of not more than 150 mg/l or conductivity of not more than 250 micro-siemens and, meeting all other requirements of the World Health Organization guidelines for Drinking Quality Water, Volume 1, 1997 Edition.
- e. The "Rated Capacity" of the plant is the volume of Satisfactory Desalinated Water which the Plant will produce in any consecutive period of twenty-four (24) hours, at any time, during the Desalinated Water Delivery Period of this Agreement.
- f. "Guaranteed Quantity" means the quantity of Desalinated Water which the Contractor guarantees to deliver each calendar month during the Desalinated Water Delivery Period of this Agreement, which is 27,000 cubic meters times the number of days in the relevant month.
- g. The "Water Tariff Meter" shall be a measuring device registering and totalizing the flow of water through the device in cubic meters. The device shall be so located to measure the total quantity of Desalinated Water delivered by the Plant. The Water Tariff Meter shall be calibrated no less often than once every six (6) months or as often as is necessary to maintain its accuracy within plus or minus one percent (+/- 1%) when the flow rate is at the "Guaranteed Water" rate of flow.

- h. The "**Desalinated Water Delivered**" shall be the total amount of satisfactory Desalinated Water delivered, as measured by the Water Tariff Meter. For the purpose of this determination, Water Tariff Meter readings shall be taken at 12:00 noon on every day of each week.
- i. The "**Delivery Point**" shall be the exit flange of the Water Tariff Meter.
- j. The "**Specifications**" means the Bidding Documents and all amendments and supplements thereto issued prior to the submittal of Contractor's initial bid, Contractor's bid ("Bid") and all supplements and amendments thereto, which govern the general provision, design, equipping and testing of the Plant as prepared by the Authority, copies of which are annexed as "Appendix G.". The Plant shall be designed and equipped in accordance with the Specifications except as otherwise agreed in writing between the Authority and the Contractor
- k. "**Guarantees of Performance**" or "**Performance Guarantee**" each means the guarantee by the Contractor to deliver to the Authority Desalinated Water in the Guaranteed Quantity during the Desalinated Water Delivery Period of this Agreement.
- l. "**BDS\$**" is Barbados Dollars.
- m. "**The Authority**" means the Barbados Water Authority, its representatives or agents, duly authorized and accredited by the Authority, in writing, to act on behalf of the Authority.
- n. "**Substantial Completion**" means completion of construction of the Plant so that it is capable of delivering not less than 27,000 cubic meters of Desalinated Water to the Authority in any period of twenty-four (24) consecutive hours.
- o. "**Force Majeure**" means circumstances due to any cause beyond either party's control which prevent a party from meeting its obligations (other than payment obligations) under this Agreement, including, without limitation, acts of government, lockouts, fires, epidemics, floods,



hurricanes, or other abnormal weather conditions, aircraft, explosion, riot, civil commotion, acts of war, malicious mischief or theft, embargoes, strikes, or the inability to obtain or delay in obtaining any necessary permits, or feed water.

### 3. **CONTRACTOR'S CONSTRUCTION OBLIGATIONS**

- 3.1 The Contractor shall, entirely at its own expense, detail design, engineer, manufacture, fabricate, supply, deliver to site, install, construct, insure, bond, equip, outfit, commission, test and in all respects put the Plant into full commercial operation, except that the Authority shall retain responsibility for the design of the feed and disposal well systems.
- 3.2 The Authority acknowledges that the Basis of Design (Appendix F) was developed based on certain representations concerning the feed water in the Bidding Documents. Actual feed water characteristics have not yet been determined. In the event actual feed water characteristics differ from those set forth in Appendix F, then a Change Order shall be required to effect modifications in the Construction Period schedule and in the Contract Water Sale Price for Desalinated Water."
- 3.3 The Contractor shall submit to the Authority for approval:
- a. Such overall and detail drawings, detail specifications, calculations and other information as shall be necessary to satisfy the Authority as to the suitability of the design and the Plant as a whole, and
  - b. Operation and maintenance manuals together with drawings of the Plant "as-built", in sufficient detail to enable the proper and efficient operation, maintenance, dismantling, re-assembly and adjustment of the Plant. The Plant shall not be considered complete until such operation and maintenance manuals, together

with as-built drawings, have been submitted, accepted and approved by the Authority.

Approval as required under "a" and "b" above by the Authority shall not, in any way, relieve the Contractor of any of its responsibilities under the Agreement. A response to any such application shall be given within one week of receipt of such submission

The Authority shall not unreasonably delay approval of the documentation required under "a" and "b" above.

Four (4) copies each of the documents required in "a" and "b" above shall be furnished to the Authority by the Contractor on completion of construction of the Plant.

- 3.4 Any material deviation by the Contractor from any of the Authority's Specifications shall first be approved, in writing, by the Authority.
- 3.5 The Contractor shall fully comply with all relevant Barbadian Laws, Government Ordinances and all Barbadian and other relevant Construction Codes, Regulations and Standards.
- 3.6 On completion of Construction, the Contractor shall ensure that the entire site is neat and tidy in all respects, with all trash, garbage, surplus spoil, surplus materials and the like properly disposed of and/or removed to approved and permissible remote locations, all to the satisfaction of the Authority.

#### 4. SITE USAGE

- 4.1 The Authority grants to the Contractor an irrevocable license to use, occupy and have access to the Plant Site at no cost to the Contractor, during the period that the Agreement is in force, for the purposes of allowing the Contractor to meet its obligations and exercising its rights under the Agreement, including unrestricted access during day or night

for the purposes of this Agreement and irrevocable rights of access to connect and maintain any public utility services of necessary supplies.

4.2 The Authority will use its best efforts to assist the Contractor to obtain all licenses, permits and approvals required under the laws of Barbados to construct and operate the Plant as contemplated by this Agreement.

## 5. **TERM AND DURATION**

5.1 The term of the agreement shall consist of three (3) periods, viz:-

### i. **THE CONSTRUCTION PERIOD**

The construction period shall commence on the date that the Water Authority delivers to the Contractor the detailed design of the well field, including but not limited to, the salinity and capacity of each well and shall continue thereafter for a period not exceeding a maximum of forty (40) consecutive weeks, or for such shorter period as the Contractor may have previously committed itself to, in writing, until the Plant has reached substantial completion, with concomitant delivery of Satisfactory Desalinated Water, as defined herein, to the Authority.

### ii. **DESALINATED WATER DELIVERY PERIOD**

The Desalinated Water Delivery Period shall commence on the date that the Authority acknowledges and advises the Contractor, in writing, that the Plant has achieved Substantial Completion and is producing Satisfactory Desalinated Water. The Desalinated Water Delivery Period shall continue for a period of fifteen (15) consecutive years, unless otherwise adjusted under the provisions of this Agreement.

iii. **THE DEMOBILIZATION PERIOD**

If required, the Contractor's Demobilization Period shall begin at the end of the Desalinated Water Delivery Period and shall continue for a period not exceeding two (2) consecutive calendar months.

6. **UTILITY SERVICES SUPPLY AND COSTS**

- 6.1 Except for power provided by the small gas powered stand-by power generating unit to be supplied for power supply to essential services under mains power failure conditions, power supply for the complete Plant will be provided by the Barbados Light and Power Company only.
- 6.2 The Contractor shall, at its own expense, representing part of the capital cost of the Plant, pay the Barbados Light and Power Company for the installation and connection charges for the complete electrical power supply to the Plant, of adequate capacity required to satisfactorily operate the Plant during the Desalinated Water Delivery Period.
- 6.3 The Contractor shall be responsible for payment directly to the Barbados Light and Power Company for all electricity consumption by the Plant and will be required to enter into an agreement with the Barbados Light and Power Company for the supply of their electrical power requirements.
- 6.4 The Contractor shall, at its own expense, representing part of the capital cost of the Plant, pay the National Petroleum Corporation for the installation and connection charges for the supply of natural gas to the Plant, in sufficient quantity to satisfactorily power the emergency services power generating unit.
- 6.5 The Contractor shall be responsible for payment directly to the National Petroleum Corporation for all natural gas usage by the Plant and will be required to enter into an agreement with the National Petroleum Corporation for the supply of their natural gas requirements.

6.6 The Contractor shall make its own arrangements with the Barbados Telephone Company (BARTEL) for telephone and land line based communication services and shall be responsible for all payments to BARTEL for such services provided.

**7. PURCHASE OF SATISFACTORY DESALINATED WATER**

7.1 The Unit amount of Satisfactory Desalinated Water for billing and other purposes shall be the Cubic Meter (m<sup>3</sup>).

7.2 For purposes of billing by the Contractor to the Authority for Satisfactory Desalinated Water delivered, the meter reading taken in accordance with (2-g) above, on the last day of each month, shall be used. The Authority shall have the right to witness this or any reading if it so chooses.

7.3 During the Desalinated Water Delivery Period, satisfactory desalinated water delivered to the Authority by the Contractor shall be billed on a monthly basis and in accordance with (7.1) and (7.2) above and on the basis of the cost elements to the Contractor during the Desalinated Water Delivery Period. These cost elements include those listed in "Section 5" of the Bid Document. The cost elements of Capital recovery and interest payable thereon, shall remain fixed during the Desalinated Water Delivery Period. The cost elements of all other items shall be subject to escalation as shall the Contractor's profit and handling charges as stated in Appendix B. Escalation shall not apply to the price of desalinated water delivered during the first year of the Desalinated Water Delivery Period. Monthly billings shall be presented to the Authority by the Contractor not later than the fifth day of the month following the month to which the billing applies.

7.4 At the commencement of the Desalinated Water Delivery Period, and for the first year of Desalinated Water delivery, the price per cubic meter of Desalinated Water delivered and billed for by the Contractor shall be as set forth in Appendix A.

- 7.5 The Contractor shall at all times procure fully suitable water treatment chemicals at the lowest available competitive commercial prices, demonstrated as such by the Contractor to the Authority, to the satisfaction of the Authority, on request by the Authority.
- 7.6 The Desalinated Water Price per cubic meter shall be subject to an annual adjustment on each anniversary date of the commencement of the Desalinated Water Delivery Period, as set forth in Appendix B.
- 7.7 Adjustments to the Desalinated Water Price per cubic meter claimed by the Contractor due to escalation shall be fully documented, calculated, authenticated and certified by the Contractor to the reasonable satisfaction of the Authority, and shall be effective as of the relevant anniversary date of the commencement of the Desalinated Water Delivery Period.
- 7.8 The Contractor is responsible to include in its price per cubic meter of Satisfactory Desalinated Water all employment taxes associated with its employees supplying services or performing the work herein in connection with the Contractor's obligations under this Agreement, or any other tax, levy or compulsory payment in connection with employment levied by the Barbados Government and/or the country of domicile of the Contractor, or to any other lawful authority in connection with the performance of this Agreement. If during the period of this Agreement any additional taxes or taxes not imposed at the time of the signing of this Agreement are imposed which directly affect the cost of production of desalinated water by the Contractor, the price payable to the Contractor by the Authority shall be adjusted in accordance with accepted accounting procedures to reflect the cost impact to the Contractor on the production of desalinated water by reason of such tax.
- 7.9 The Water Authority is permitted to import certain goods, materials, plant and equipment free of Customs Duty. Correspondingly, the Desalinated Water Price per cubic meter delivered shall be exclusive of Customs Duty

on plant, equipment, materials, vehicles or tools incorporated into the Plant, consumed in the construction, operation or maintenance of the Plant, maintained as spare parts for the Plant, or used in connection with the construction, operation or maintenance of the Plant during the term of this Agreement and any extension thereof (but only as to such plant, equipment, materials, vehicles or tools which can be imported free of Customs Duty).

- 7.10 The Contractor shall acquaint itself with and observe all regulations pertaining to the duty free importation of materials, equipment, consumables etc. required for the construction and operation of the plant. The Contractor shall allow in its prices for all freight, brokerage, landing charges etc. on all materials and plant to be imported in connection with this Agreement.
- 7.11 The Contractor shall consign to the Water Authority, all plant, materials and equipment to be used for the construction of and incorporation into the Plant which the Contractor imports into Barbados. In addition, all consumables to be used in the operation of the Plant during the Desalinated Water Delivery Period that the Contractor imports into the Barbados are to be consigned to the Barbados Water Authority.
- 7.12 The Desalinated Water Price per cubic meter as billed, shall be inclusive of all costs and charges incurred on account of the construction and operation of the Plant and all consumables required during the Water Desalination Period.
- 7.13 The Contractor shall be solely responsible for the condition of, and any damage to goods, materials, equipment and Plant consigned to the Authority, as above, through to their delivery at the Plant site.
- 7.14 Any plant, equipment, materials, vehicles or tools imported into Barbados under this Agreement and not (a) incorporated into the Plant, (b) consumed in the construction, operation or maintenance of the Plant, (c)

maintained as spare parts for the Plant, or (d) used in connection with the construction, operation or maintenance of the Plant and not re-exported from Barbados at the end of this Agreement or any extension thereof, shall be liable to assessment and subsequent payment of Customs and Import Duties by the Contractor..

7.15 The Contractor shall not be entitled to, nor shall it claim for a refund of duty and allied charges on any materials, goods, plant or equipment purchases in Barbados on which Customs Duties and allied charges have already been paid.

8. **BASIC ELEMENTS OF THE PRICE OF DESALINATED WATER DELIVERED**

The basic elements of the price of Desalinated Water delivered by the Contractor to the Authority, per cubic meter, include the following:

- i. Capital Costs
- ii. Interest on Capital Costs
- iii. Water Treatment Chemicals Costs
- iv. Labour and Labour Allied Costs
- v. Consumables Costs, other than Water Treatment Chemicals Costs and Electricity (Power) Costs
- vi. General and Administrative Costs
- vii. Electricity (Power) Costs
- viii. Contractor's Profit on items 3 through 6

The basic price of Desalinated Water per cubic meter shall be the sum of the above elements.

The Capital Cost of the Plant is a fixed sum for the period of the Agreement and not subject to any change during the period of the Agreement unless pursuant to a change order, hence the price in Item "1" above shall remain fixed



throughout the Desalinated Water Delivery Period unless changed pursuant to a change order.

The Interest on Capital during the Desalinated Water Delivery Period is also a fixed sum for such period of the Agreement unless the Capital Cost is changed pursuant to a change order, hence the price in Item "2" above shall remain fixed throughout the Desalinated Water Delivery Period unless changed pursuant to a change order.

Items "3" through "6" above shall be subject to escalation after the first year of the Desalinated Water Delivery Period.

Item "7" above shall be based on the actual per unit cost paid by the Contractor for electricity (power).

The percentage rate of Item "8" above shall remain fixed in relation to Items "3" through "6" above during the Desalinated Water Delivery Period.

## **9. QUANTITIES OF DELIVERED AND ACCEPTED DESALINATED WATER**

9.1 The Contractor hereby confirms that the Plant will be designed, constructed and equipped so as to be able to continuously produce at all times during the Desalinated Water Delivery Period, not less than Two Hundred and Ten Thousand cubic meters (210,000 m<sup>3</sup>) of Satisfactory Desalinated Water in any continuous period of 168 hours.

9.2 The Authority shall take delivery of, or make payment for, Desalinated Water from the Contractor during each calendar month of the Desalinated Water Delivery Period in an amount not less than 27,000 cubic meters multiplied by the number of days in such calendar month, provided however, that it is hereby agreed that prior to substantial completion, the

Authority may, at its sole discretion accept such quantities of Desalinated Water as the Contractor is able and willing to deliver.

9.3 Subject to the provisions of this Agreement the Contractor guarantees to deliver to the Authority, during each calendar month of the Desalinated Water Delivery Period, not less than 27,000 cubic meters of Desalinated Water, multiplied by the number of days in such calendar month.

9.4 In the event of an electricity supply failure which amounts to more than thirty hours in any calendar month, the amount of the guarantee will be reduced for that period pro-rated according to the period during which power was not available.

9.5 If a Force Majeure during the Desalinated Water Delivery Period prevents the Contractor from delivery, or the Authority from taking delivery of, the Guaranteed Quantity in any calendar month, any shortfall in the delivery of Desalinated Water resulting from such Force Majeure shall reduce the Guaranteed Quantity for such month by an equivalent amount; provided that the Water Delivery Period shall be extended by such number of days as is equal to the shortfall (in cubic meters) divided by 27,000.

## 10. ADJUSTMENTS IN PAYMENTS FOR DESALINATED WATER DELIVERED LIQUIDATED DAMAGES

### 10.1 Delay in Substantial Completion.

In the event that the Plant has not achieved Substantial Completion by the end of the Construction Period, unless due to Force Majeure, Change Orders or the acts or omissions of the Authority, Liquidated Damages compensating the Authority at the Contractor's expense, shall apply. The Liquidated Damages shall be at the rate of BDS\$15,000.00 per day up to a maximum of BD\$900,000.00. The Liquidated Damages shall not be paid by the Contractor to the Authority, but instead shall result in a reduction in the fixed capital cost of the Plant equal to the total amount

of the Liquidated Damages. This will represent a reduction in the Fixed Capital Cost component element of the price paid by the Authority for satisfactory desalinated water delivered during the Desalinated Water Delivery Period. The maximum allowable period of delay in substantial completion to which the above shall apply shall be sixty days. If the Contractor exceeds the maximum allowable period of delay in substantial completion, for reasons other than Force Majeure, Change Orders or the acts or omissions of the Authority, the Contractor shall be held in Default, in accordance with the Default and Termination clauses herein.

**10.2 Contractor Fails to Deliver Guaranteed Quantity.**

If, during the Desalinated Water Delivery Period, for reasons within the control and responsibility of the Contractor, the Contractor, during any calendar month, fails to make delivery of the Guaranteed Quantity of Desalinated Water, and the Authority is at the time willing and able to take delivery of such Guaranteed Quantity, the Contractor shall, at the time, be paid at the current rate only for Desalinated Water actually delivered; provided, however, that the Contractor shall have the opportunity to make up such shortfall during the following calendar month.

**10.3 Authority Fails to Accept Delivery of Guaranteed Quantity.**

If, during the Desalinated Water Delivery Period, for reasons within the control and/or responsibility of the Authority, the Authority fails to accept during any consecutive period of one calendar month, delivery of the guaranteed minimum quantity of water and the Contractor is willing and able at the time to make delivery of such guaranteed minimum quantity, the Authority shall, at the time, pay to the Contractor at the current price per cubic meter for the quantity of satisfactory desalinated water actually delivered during the period and shall compensate the Contractor in respect of the difference between the guaranteed minimum quantity and

the actual quantity delivered. This compensation to the Contractor shall be equal in amount to the difference in cubic meters between the Guaranteed Quantity and the actual quantity accepted by the Authority multiplied by the then current price per cubic meter for Desalinated Water less the then current cost per cubic meter of electricity and water treatment chemicals.

11. **RESTRICTION ON SALE OF DESALINATED WATER BY CONTRACTOR**

The contractor shall be obligated to deliver and sell desalinated water produced by the Plant to the Authority, and shall not be entitled to sell or deliver desalinated water to any other party without the written authorization of the Authority to do so.

12. **PAYMENTS**

12.1 All payments shall be made in Barbados Dollars. Each payment will be made up of two components: (a) the Barbados Component, which shall consist of the following elements of the price of Desalinated Water: Labor and Labour Allied Costs, and Electricity (Power) Costs; and (b) the U.S. Component, which shall consist of the following elements of the price of Desalinated Water: Capital Costs, Interest on Capital Costs, Water Treatment Chemical Costs, Consumables Costs, General and Administrative Costs, and Contractor's Profit. The Authority shall obtain all necessary approvals for the Contractor to expatriate from Barbados the U.S. Component of each payment for Desalinated Water throughout the Desalinated Water Delivery Period.

12.2 The Authority agrees to accept all currency exchange fluctuations between the Barbados Dollar and the U.S. Dollar from the initial exchange rate of U.S.\$1 = BDS\$2.03875, which is the rate that was published by the Barbados Central Bank thirty days prior to the final date fixed for Bid

submission, with respect to the U.S. Component of the price of Desalinated Water. Each of Contractor's invoices shall state the Barbados Component in Barbados Dollars and shall state the U.S. Component in U.S. Dollars, derived by converting Barbados Dollars to U.S. Dollars using the formula U.S.\$1 - BDS\$2.03875. The U.S. Component will be paid in Barbados Dollars in an amount equal to the amount of U.S. Dollars stated on Contractor's invoice, using the buying rate for U.S. Dollars quoted by commercial banks in Barbados for telegraphic transfers on the date of payment of the invoice.

- 12.3 The Contractor shall provide a monthly report to the Authority not later than seven (7) days following completion of the month (by the 7<sup>th</sup> day of the following month), in respect of Desalinated Water delivered to the Authority during the month, and for any other outstanding sums chargeable to the Authority by the Contractor.
- 12.4 All invoices shall be payable in Barbados Dollars. Invoices shall be stated in Barbados Dollars with respect to the Barbados Component and in U.S. Dollars with respect to the U.S. Component. The Authority will convert the U.S. Component from U.S. Dollars to Barbados Dollars at the buying rate for U.S. Dollars quoted by commercial banks in Barbados for telegraphic transfers on the date of payment of the invoice.
- 12.5 Payments due to the Contractor by the Authority as per the terms and conditions of the Agreement, shall be made by the Authority to the Contractor not later than fifteen (15) days following the date of receipt by the Authority of the corresponding billing.
- 12.6 Any payments due to the Authority from the Contractor as per the terms and conditions of the Agreement, shall be made by the Contractor to the Authority not later than fifteen (15) days following the date of receipt by the Contractor of the corresponding billing. Billings by the Authority to the Contractor shall not be made at intervals of less than one (1) month.

The Contractor shall be entitled to set off against such amounts any amounts then payable by the Authority to the Contractor.

12.7 Payments due to the Contractor from the Authority and vice versa, if not paid or offset by the due date, shall, until paid or offset, accrue interest at the rate of one and one half percent (1½%) per month.

12.8 i. The Contractor shall pay all sums owing to suppliers or sub-contractors within thirty (30) days of the Contractor's receipt of corresponding payment made by the Authority.

ii. Should the Contractor fail to make any payments due under "i" above, within seven (7) days after written notice from the Authority directing Contractor to do so, the Authority shall be entitled to pay such sums provided for in the sub-contract directly to the supplier or sub-contractor, provided that the monies to be paid do not exceed approved invoices submitted by the Contractor to the Authority. The Authority shall deduct such payments from any sums due or which may become due to the Contractor.

### 13. UNSATISFACTORY DESALINATED WATER

13.1 Incorporated within the design of the Plant shall be facilities to ensure that no unsatisfactory desalinated water (water not meeting the specifications outlined herein) is delivered to the Authority, as substantiated by an approved data logging device.

### 14. PLANT SERVICE WATER

14.1 Any potable water supplied to the Plant from the Authority's distribution system during the period of the Agreement will be metered and billed by the Authority to the Contractor at the current supply rates for that category of user.

**15. PLANT BUY OUT PRICE SCHEDULE**

15.1 The Authority reserves the right to purchase and take possession of the Plant as described in Article 36 "Default and Termination". In the event of Plant purchase, the Authority will pay the Plant BUY OUT Purchase Price which will be determined from the agreed Plant Buy Out Purchase Price Schedule which is attached as Appendix "C" to this Agreement. The Bidder's proposed Plant BUY OUT Purchase Price Schedule was required to be submitted with the Bid in accordance with Section "4" Clause "5" of the Bid Proposal Documents.

**16. SECURITIES**

The Contractor shall furnish at its own expense and acceptable to the Authority, a "Construction Performance Security" and a "Performance and Operation Security", all in favour of the Authority, as security for the due and faithful performance by the Contractor of all its obligations under this Agreement as follows:

**16.1 CONSTRUCTION PERFORMANCE SECURITY**

The Construction Performance Security shall be, either

- a. A Bank Guarantee in an amount equal to 10% of the Total Bid Capital Cost of the Plant, or
- b. A Performance Bond in an amount equal to 25% of the Total Bid Capital Cost of the Plant.

**16.2 Performance and Operations Securities**

The Performance and Operations Securities shall be in the form of either

- a. A Bank Guarantee, for each upcoming year of the Water Delivery Period, in an amount equal in value to 50% of 27,000 x 365 x the price per cubic meter of desalinated water for the ensuing year, or
- b. A Performance Bond, for each upcoming year of the Water Delivery Period, in an amount equal in value to 110% of 27,000

x 365 x the price per cubic meter of desalinated water for the ensuing year.

### 16.3 SECURITIES

If the Securities outlined above are provided by the Contractor in the form of Bank Guarantees, at the Contractor's option, they shall be issued either by a bank located in Barbados, or a reputable foreign bank through a corresponding bank located in Barbados. If the Securities outlined above are provided by the Contractor in the form of bonds, they should be issued by a reputable bonding/ insurance Company or bank through a corresponding insurance company or bank located in Barbados.

The Performance Security for Construction shall be executed within thirty (30) days of the date of this Agreement and shall remain in effect for not less than three (3) months after the date of substantial completion.

All bonds signed by an agent must be accompanied by a certified copy of the authority to act.

The format and wording of all Securities must be to the approval of the Authority as per the Authority's documents of this nature.

Performance and Operation Securities must be executed at least thirty (30) days before their validity commences. All securities must be in Barbados Dollars or in a negotiable currency equivalent in value thereto. The Performance and Operation Security shall be renewed annually on the anniversary date of the commencement of the Desalinated Water Delivery Period.



Evidence of renewal of the Performance and Operation Security shall be submitted with the invoice for the last month in the year preceding the effective renewal date. The value of the Performance and Operation Security shall be adjusted annually to reflect annual adjustments in the Water Price per cubic meter delivered. If the surety on any Bond furnished by the Contractor is declared bankrupt or becomes insolvent or its right to do business in Barbados is terminated, the Contractor shall, within fourteen (14) days thereafter, substitute another Bond and Surety, both of which must be acceptable to the Authority.

17. **INSURANCE**

17.1 The Contractor, without limiting its obligations, shall purchase and maintain, for the Construction and Desalinated Water Delivery Periods, comprehensive general liability and other insurance for the Works being performed and furnished, such as will provide protection from the claims set forth below, which may arise out of or resulting from the Contractor's performance and furnishing of the Works and the Contractor's other obligations under the Agreement. This shall apply whether the contracted obligations are to be performed or furnished by the Contractor, any sub-contractor to the Contractor or by anyone directly or indirectly employed by any of them to perform or furnish any of the Works, or by anyone for whose acts any of them may be liable.

- a. Claims under worker's or workmen's compensation, disability benefits and other similar employee benefit acts as per the Barbados statutory requirements or otherwise.
- b. Claims for damages or other bodily injury, occupational sickness or disease or death of Contractor's or sub-contractor's employees.
- c. Claims for damages because of bodily injury, sickness or disease, or death of any person other than the Contractor's employees.

- d. Claims for damages insured by personal injury liability coverage which are sustained:
  - i. by any person as a result of an offence directly or indirectly related to the employment of such person by the Contractor, or
  - ii. by any other person for any other reason.
- e. Claims for damages other than to the Works themselves because of injury to or destruction of tangible property wherever located, including loss of use resulting therefrom, and
- f. Claims arising out of the operation of Laws and Regulations for damages because of bodily injury or death of any person or for damage to property.

The insurance listed above shall be for Ten Million U.S. Dollars (US\$10,000,000).

The comprehensive and general liability insurance shall include completed operations insurance. All of the policies of insurance so required to be purchased or maintained (or the certificates or other evidence thereof) shall contain a provision or endorsement that the coverage afforded will not be canceled, materially changed or renewal refused until at least thirty (30) days prior written notice has been given to the Authority by certified mail. All such insurance shall remain in effect throughout the entire period of the Agreement. In addition, the Contractor shall maintain such completed operations insurance from Substantial Completion through the entire duration of the Agreement Period and furnish the Authority with evidence of continuation of such insurance within thirty (30) days after signing of the Agreement and on an annual basis.

## **17.2 CONTRACTUAL LIABILITY INSURANCE**

The comprehensive general liability insurance required as above, shall include contractor's liability insurance applicable to the Contractor's obligations as herein.

## **17.3 AUTHORITY'S LIABILITY INSURANCE**

The Authority shall be responsible for purchasing and maintaining the Authority's own liability insurance and, at the Authority's option, may purchase and maintain such insurance as will protect the Authority against claims which may arise from operations under the Agreement.

## **17.4 PROPERTY INSURANCE**

The Contractor shall purchase and maintain property insurance upon the Works at the site to the full insurable value thereof (subject to such deductible amounts as may be required by Laws and Regulations) within thirty (30) days after signing the Agreement and annually thereafter, for the duration of the entire Agreement. The value of such insurance shall be the complete current replacement value of the Plant. The insurance shall include and adequately provide for the interests of the services provided by the Authority, The Barbados Light & Power Company, the National Petroleum Corporation, the Contractor, sub-contractors and consultants in the Work all of whom shall be listed as loss payees as their interests may appear and shall insure against the perils of fire and extended coverage. Included shall be "all risk" insurance for physical loss and damage, including theft, vandalism and malicious mischief, collapse, water damage and other perils. Also covered shall be losses and expenses arising out of or resulting from any insured loss or incurred in the repair or replacement of any insured property (including but not limited to fees and charges of engineers, architects, attorneys and other professionals). If not covered under the "all risk" insurance or other covered in the Supplementary Conditions, the Contractor shall purchase

and maintain similar property insurance on portions of the Works stored on and off the site or in transit when such portions of the Works are to be included in the Capital Cost of the Plant. The Contractor shall purchase and maintain such machinery insurance or additional property insurance as may be required by Laws and Regulations which will include the interests of the Authority, The Barbados Light & Power Company, the National Petroleum Corporation, the Contractor, sub-contractors and consultants in the Work, all of whom shall be listed as loss payees as their interests may appear. All of the policies of insurance (or the certificates or other evidence thereof) required to be purchased and maintained by the Contractor shall contain a provision or endorsement that the coverage afforded will not be canceled, materially changed or renewal refused until at least thirty (30) days prior notice has been given to the Contractor by certified mail and shall contain waiver provisions as follows:

- i. The Contractor shall be responsible for purchasing and maintaining any property insurance to protect their interests and that of the sub-contractors or others in the Works to the extent of any deductible amounts. The risk of loss within the deductible amount will be borne by the Contractor or others suffering any such loss. If any of them wishes property insurance coverage within the limits of such amount, each may purchase and maintain it at the purchaser's expense.
- ii. Should the Authority request in writing that other special coverage be included in the property insurance policy, the Contractor shall, if possible, include such insurance. The cost thereof will be charged to the Authority by an adjustment in the Capital Cost by appropriate Change Order or Written Amendment. Prior to commencement of the Works at the site, the Contractor shall, in

writing, advise the Authority whether or not such other insurance has been procured by the Contractor.

- iii. The Contractor shall, at all times, furnish certified proof to the Authority that all insurances are kept updated and renewed and that insurance premiums have been paid prior to their due dates.

#### 17.5 WAIVER OF RIGHTS

- i. The Authority and the Contractor waive all rights against each other for all losses and damages caused by any of the perils covered by the policies of insurance provided in response to the above and any other property insurance applicable to the Works, and also waive all such rights against sub-contractors, consultants (if any) and all other parties named as insurers in such policies for losses and damages so caused. It is required that each sub-contract between the Contractor and the Sub-contractor will contain similar waiver provisions by the Sub-contractor in favour of the Authority, the Contractor, Consultants and all other parties, named as insured. None of the above waivers shall be extended to the rights that any of the insured parties may have to the proceeds of insurance held by the Contractor as trustee or otherwise payable under any policy so insured.
- ii. The Authority and the Contractor intend that any policies provided shall protect all of the parties insured and provide primary coverage for all losses and damages caused by the perils covered thereby. Accordingly, all such policies shall contain provisions to the effect that in the event of payment of any loss or damage the insurer will have no rights of recovering against any of the parties named as insured or additional insured, and if the insurers require separate waiver forms to be signed by consultants, the Authority will obtain the same, if such waiver forms are required of any Sub-contractor the Contractor will obtain the same.

#### 17.6 RECEIPT AND APPLICATION OF PROCEEDS

- i. Any insured loss under the policies of insurance required will be adjusted with the Contractor and made payable to the Contractor as trustee for the insured, as their interests may appear, subject to the requirements of any applicable mortgage clause. The Contractor shall deposit in a separate account any money so received and shall distribute it in accordance with such agreement as the parties in interest may reach. If no other special agreement is reached the damaged Works shall be repaired or replaced, the monies so received applied on account thereof and the Work and the cost thereof covered by an appropriate Change Order or Written Amendment.
- ii. The Contractor as trustee shall have the powers to adjust and settle any loss with the insurers unless one of the parties of interest shall object in writing to the Contractor's exercise of this power within fifteen (15) days after the occurrence of the loss. If such objection is made, the Contractor as trustee shall make settlement with the insurers in accordance with such agreement as the parties in interest may reach. If required in writing by any party in interest, the Contractor as trustee shall, upon the occurrence of any insured loss give a bond for the proper performance of such duties.

#### 17.7 ACCEPTANCE OF INSURANCE.

- i. If the Authority has any objections to the coverage afforded by, or other provisions, the insurance required to be purchased and maintained by the Contractor, the Authority shall notify the Contractor in writing thereof within thirty (30) days of the date of delivery of such certificate to the Authority. The Authority and the Contractor shall each provide to the other such additional

information, in respect of insurance, provided by each as the other may reasonably request. Failure by the Authority or the Contractor to file any notice of objection within the time provided shall constitute acceptance of such insurance purchased by the other.

- ii. All insurance shall be effected at least thirty (30) days before their period of validity commences, with copies of the policies and premium paid lodged with the Authority at the time of their execution.

18. **DAMAGES TO THE AUTHORITY'S AND OTHER'S PROPERTY**

18.1 The contractor shall assume full responsibility for any damage inflicted by the Contractor or its agents on property owned by the Authority and others, due to and arising from, but not limited to the Contractor's construction, operation and maintenance of the Plant, except to the extent caused by the negligent or willful acts or omissions of the Authority or its agents or employees.

19. **THE CONTRACTOR'S RESPONSIBILITY FOR DESALINATED WATER AFTER DELIVERY TO THE AUTHORITY**

19.1 Provided that Desalinated Water produced by the Plant conforms with the definition of Desalinated Water, as herein, the Contractor will assume no responsibility for the Desalinated Water, its storage, its ultimate use and its disposal after it has passed through the water Tariff Meter.

20. **LAND FOR PLANT CONSTRUCTION PURPOSES**

20.1 The Authority shall, at no cost to the Contractor, temporarily allocate for the Contractor's Plant construction purposes the area of land shown bordered green on a copy of a plan of land situate at Spring Garden in the parish of Saint Michael containing 30553.9 square metres certified the

3rd of July 1998 by M. W. Clarke Land Surveyor, a copy of which is an attachment to Appendix G hereof. On the completion of construction of the Plant, this area shall be left neat and clean, free of all garbage, junk, trash, surplus soil and miscellaneous garbage by the Contractor and shall not thereafter be available for use by the Contractor. The Contractor shall be responsible at its own expense for rectifying any environmental damage it may cause during the Construction Period and Desalinated Water Delivery Period. The Authority and the Contractor agree that the disposal of brine as contemplated by this Agreement shall be deemed not to cause environmental harm, and the Authority hereby indemnifies the Contractor against any claims or liability arising out of such disposal.

20.2 The Authority accepts no responsibility for the Contractor's labour, construction materials, equipment, plant or other belongings whilst in the above mentioned construction area or any area allocated for the Contractor during construction, except to the extent any damages or loss with respect thereto is caused by the negligent or wilful acts or omissions of the Authority or its agents or employees.

21. **RESPONSIBILITY FOR THE PHYSICAL CONDITION AND SECURITY OF THE PLANT DURING THE PERIOD OF AGREEMENT.**

21.1 Responsibility for the physical condition and security of the Plant shall rest entirely with the Contractor during the Period of this Agreement. All and any environmental damage caused by the Contractor during the Desalinated Water Delivery Period shall be immediately rectified by the Contractor to the satisfaction of the Authority and in accordance with any laws and regulations applicable in Barbados. At all times during the Desalinated Water Delivery Period the Contractor shall keep the Plant site neat, clean, tidy and free of garbage.



22. **THE CONTRACTOR'S REGULAR REPORTS TO THE AUTHORITY**

22.1 During the Desalinated Water Delivery Period the Contractor shall make monthly reports to the Authority regarding maintenance, operation, replacement of parts and equipment consumables, operating periods, staff employed, incidents, if any, and any other inputs deemed to be necessary to the operation of the Plant in general. The format of the above mentioned reports, their contents, matter covered etc., shall be to the approval of the Authority.

23. **PERSONNEL ENGAGED BY THE CONTRACTOR**

23.1 Persons engaged by the contractor to construct, operate and maintain the Plant during the Desalinated Water Delivery Period shall be:

- a. Citizens of Barbados, or
- b. Permanent Residents of Barbados with the right to be gainfully employed in Barbados, or
- c. Expatriates in possession of valid Work Permits.

24. **WORK PERMITS**

24.1 Procurement of Work Permits for expatriate personnel shall be the responsibility of the Contractor, including payment for same, but the Authority may offer such assistance as it can in the procurement of work permits where qualified Barbadians are not available.

25. **AUTHORITY'S RIGHTS TO VISIT AND INSPECT THE PLANT**

25.1 During the construction period the Authority shall have the right to enter upon the Plant Site at any reasonable time upon reasonable notice to ensure that the Plant is being constructed, installed, equipped, outfitted and otherwise, in accordance with Specifications, approved design and requirements of the Agreement. During the Construction Period the

Authority shall have the right if it so desires to have its accredited inspectors at the Site. Any deficiencies, defects and/or shortcomings noted by the Authority in regard to the foregoing shall be notified to the Contractor in writing by the Authority. Within five (5) days of receipt of such notification, the Contractor shall advise the Authority, in writing, of what corrective action it intends to take.

25.2 During the Desalinated Water Delivery Period the Authority shall have the right to:

- a. Enter upon the Plant Site at any reasonable time upon reasonable notice to check the condition, operation, maintenance and efficiency of the Plant, and to
- b. Visit the Plant Site with the Authority's personnel or other accredited representatives at any reasonable time upon reasonable notice.

The Contractor shall, when requested by the Authority in writing, familiarize the Authority's personnel or accredited representatives in the on-going operations and maintenance of the Plant.

25.3 During the Desalinated Water Delivery Period, the Authority reserves the right to station an Engineer at the Plant to observe operations, review maintenance logs, and monitor water quantity, quality and the usage of consumables. An office shall be provided in the Plant building for the use of the Authority's personnel.

## 26 RECTIFICATION OF DEFECTS AND DEFICIENCIES

26.1 The Plant shall be kept at all times in satisfactory operating condition and satisfactorily repaired by the Contractor.

26.2 The Contractor shall submit his proposed maintenance programme to the Authority for approval. During the Desalinated Water Delivery Period, the Authority reserves the right to inspect the Plant logs at any reasonable

time upon reasonable notice to ensure that the Contractor is consciously adhering to the maintenance programme.

26.3 Defects and Deficiencies in the Plant and its operation, maintenance and repair shall be fully rectified by the Contractor.

27. **NOTICE OF REDUCTION IN PRODUCTION**

27.1 Any unintentional reduction in output of desalinated water by the Plant in excess of 25% of the total rated capacity of the Plant which exceeds or is expected to exceed twenty-four (24) hours total duration, shall be notified to the Authority by facsimile as soon as the condition becomes evident, together with the time and reason for the reduction in output and the total estimated time that such reduction shall continue. Upon resumption of full capacity production, the Contractor shall notify the Authority by facsimile of the date and time of such resumption.

27.2 The Authority shall notify the Contractor by facsimile of any foreseen requirement by the Authority that would require that desalinated water production should cease or be temporarily curtailed.

28. **AUTHORITY'S TESTING OF DESALINATED WATER QUALITY AND CHECKS OF THE PLANT PERFORMANCE GUARANTEES**

28.1 During the Desalinated Water Delivery Period, and prior to such as is appropriate, the Authority shall have the right to enter upon the Plant Site at any reasonable time upon reasonable notice and test the Desalinated Water for its compliance with the above mentioned Desalinated Water quality requirements listed herein. Contractor will make available to the Authority for its use in conducting such tests the water testing equipment used by Contractor at the Plant.

28.2 As and when requested by the Authority During the Desalinated Water Delivery Period, the contractor shall, to the satisfaction of the Authority

and as witnessed by authorized Authority personnel, check the Plant performance Guarantees stated in this Agreement.

29. **OWNERSHIP OF THE PLANT**

29.1 During the period of the Contract, ownership of the Plant shall be vested one hundred percent (100%) in the Contractor.

29.2 At the end of the Desalinated Water Delivery Period, the Authority reserves the right to extend the contract for an additional five (5) year period. The Price of Desalinated Water per cubic meter will be re-negotiated based on the deletion of Fixed Capital Cost and Interest elements of the Desalinated Water Price other than Fixed Capital Cost and Interest elements related to Capital Costs incurred during the Desalinated Water Delivery Period or the period of extension of the Agreement. All other provisions of the Contract would remain in force unless amended in writing by mutual agreement of the Authority and the Contractor. Ownership of the Plant during the extended Contract Period would continue to be vested in the Contractor.

29.3 At the end of the Desalinated Water Delivery Period, if the Authority elects not to purchase the Plant, or at the end of the extended Contract Period if the Contract is extended:

- i. The Contractor shall have a two (2) month period in which to demobilize. The Contractor shall leave the Plant Site in a neat, clean and tidy condition, with all junk, garbage and other miscellaneous rubbish removed to the satisfaction of the Authority. All materials to be removed from the site for disposal shall be disposed of in an environmentally sound manner in full compliance with the Laws of Barbados and to the satisfaction of the Authority.

- ii. The Contractor shall submit to the Authority, a comprehensive list of materials, equipment, parts, chemicals, consumables and facilities that he intends to remove from the site for review and approval. The Authority shall have thirty (30) days in which to review the list for completeness and to indicate in writing any items which the Authority would like to purchase. The Authority shall be given the first right of refusal to purchase any equipment and/or facilities on the Contractor's list. The purchase price for all items of equipment and facilities which the Authority intends to purchase shall be negotiated between the Authority and the Contractor.

30. **CONSTRUCTION PROGRESS REPORTS**

30.1 During the Construction Period the Contractor shall furnish to the Authority at fortnightly intervals, a Plant Procurement and Construction Progress Report, illustrated with colour photographs as appropriate to the satisfaction of the Authority.

31. **CAPITAL COST (VALUE) OF THE PLANT**

31.1 The Contractor advises the Authority that the Capital Cost (Value) of the Plant completely constructed, equipped, outfitted and tested for Reliability and Performance is Eighteen Million Eight Hundred Eighty-two Thousand Four Hundred Twelve Barbados Dollars (BDS\$18,882,412) pursuant to the Basis of Design in Appendix F. This Capital Cost shall be in respect of the price of Desalinated Water per cubic meter delivered to the Authority, regarded as a fixed sum and not subject to escalation. This Capital Cost represents the financing, detail design, detail engineering, manufacture, delivery, construction, erection, bonding, insurance, commissioning, testing and labour through completion of the

Reliability and Performance Tests, interest during construction and all other items relevant to the capital cost of the complete Plant through its completion.

**32. CHANGE ORDERS**

32.1 If at any time during the term of this Agreement or any extension thereof, whether before or after Substantial Completion, the Authority seeks any modifications or alterations to the Plant, or if there are any deviations in any of the elements of the Basis of Design set forth in Appendix F, an equitable adjustment shall be made to the price payable by the Authority to the Contractor for Desalinated Water, including the Capital Cost and the other elements that make up such price, to the Buy Out Purchase Price schedule set forth in Appendix C, to all schedules, deadlines and periods of performance, and to any other provisions of this Agreement affected by such modifications, alterations or deviations. Such changes to the Agreement shall be agreed in writing between the Authority and the Contractor before they are implemented by the Contractor.

**33. UPKEEP, LOSS AND DAMAGE**

- 33.1 The contractor shall be fully responsible for the upkeep and maintenance of the Plant's appearance and aesthetics and for compliance with all safety requirements. The upkeep and maintenance shall include corrosion protection and repainting of painted areas and items on which the original painting has deteriorated.
- 33.2 If any loss or damage happens to the Plant, or any part thereof, or materials or equipment for incorporation therein during the Construction Period and during the Desalinated Water Delivery Period for which the Contractor is responsible for the care thereof, the Contractor shall, at its own cost rectify such loss or damage such that the Plant conforms in every respect with that to be built or as built.

34. **CONTRACTOR'S RESPONSIBILITY TO ITS SUPPLIERS AND SUB-CONTRACTORS.**

34.1 In no way shall the Authority be responsible for any acts and omissions of the Contractor's sub-contractors, suppliers or other persons and organizations performing or furnishing any of the Work under direct or indirect contracts, arrangements or agreements with the Contractor. Nothing in this Agreement shall constitute or create any contractual relationship between the Authority and the Contractor's sub-contractors, suppliers and other persons and organizations performing any of the Works, nor shall it create any obligation on the part of the Authority to pay, or to attend to the payment of any monies due such sub-contractor, supplier, or other person or organization.

35. **STANDBY FEE**

35.1 In the event that, due to circumstances outside the control of the Authority it becomes necessary for the Authority to request cessation of the operation of the Plant for an indefinite period, the Contractor shall, whilst the period of cessation of operation is valid, place the Plant on Standby. Any request by the Authority to place the Plant on Standby shall be in writing and shall include the Authority's best estimate of the duration of the Standby, which estimate shall be updated promptly in the event of any change. For such period the Authority shall pay the Contractor for each day of standby an amount equal to 27,000 times the then current price per cubic meter for Desalinated Water less the then current cost per cubic meter of electricity and water treatment chemicals. The Authority shall afford the Contractor at least ten (10) days written notice of such request for cessation of operation. If the period of cessation is less than thirty (30) days, operation shall resume within seventy-two (72) hours of the Authority's written notice to resume

operating. If the period of cessation is more than thirty (30) days and less than ninety (90) days, operation shall resume within seven (7) days of the Authority's written notice to resume operation. If the period of cessation exceeds ninety (90) days, operation shall resume within fourteen days (14) of the Authority's written notice to resume operation. Any such periods of cessation shall be summated and added on to the total contract period.

36. **DEFAULT AND TERMINATION**

- 36.1 If either the Contractor or the Authority is placed in provisional or final liquidation or under judicial management other than for purposes of a scheme of reconstruction or amalgamation, the other party shall be entitled without prejudice to any rights or remedies available at law or in equity to terminate this Agreement, whereupon the parties shall have the rights upon termination set forth in this Agreement. This shall be achieved by giving notices in writing that this Agreement will be canceled unless such situation is remedied within sixty (60) days.
- 36.2 If either party is in material default under this agreement, then the non-defaulting party shall give the defaulting party written notice describing such default. For all defaults the defaulting party shall be given forty five (45) days from the receipt of such notice to cure the default. However, if the default cannot be cured within forty five (45) days, with the exercise of reasonable diligence, the non-defaulting party shall grant a reasonable additional period of time in which to cure such default. If the defaulting party fails to cure such default within the prescribed period, then, in addition to any other rights or remedies available at law or in equity, the non-defaulting party may consider the defaulting party in material breach of its obligations under this Agreement and immediately terminate the Agreement. The parties acknowledge that the failure to



make any payment when due shall be considered a material default under this Agreement.

36.3 In the event that the Contractor is unable for reasons within its responsibilities under this Agreement, other than due to Force Majeure, a change order or the acts or omissions of the Authority, or is unwilling, to deliver satisfactory Desalinated Water to the Authority for a period exceeding thirty (30) consecutive days, then the Contractor shall be considered in default of this Agreement. In addition, if the Contractor fails to provide at least two million four hundred thirty thousand (2,430,000) cubic meters of Desalinated Water during any period of one hundred eighty (180) consecutive days, the Contractor shall be considered in default of this Agreement. In addition, if the Contractor fails to meet the Guaranteed Quantity for a total of ninety (90) days in any period of one hundred eighty (180) consecutive days, the Contractor shall be considered in default of this Agreement.

36.4 In the event that the Authority terminates this Agreement as a result of the Contractor defaulting prior to Substantial Completion of the construction of the Plant, the Authority may purchase the Plant from the Contractor upon payment to the Contractor of an amount equal to the Contractor's costs incurred or committed to as of the date of termination in connection with the construction of the Plant, less any damages incurred by the Authority as a result of the Contractor's default. The Authority may retain or draw upon the Construction Performance Security, referenced herein, in an amount up to the damages which the Authority has incurred or reasonably expects to incur as a result of the Contractor's default and which have not been set off against payments to the Contractor.

36.5 In the event that the Authority terminates this Agreement after Substantial Completion of the construction of the Plant, i.e. during the

Desalinated Water Delivery Period, as a result of the Contractor defaulting, the Authority may purchase the Plant from the Contractor upon payment to the Contractor of the Buy Out Purchase Price set forth in Appendix C corresponding to the date of termination, less any damages incurred by the Authority as a result of the Contractor's default. The Authority may retain or draw upon the Performance and Operations Security, referenced herein, in an amount up to the damages which the Authority has incurred or reasonably expects to incur as a result of the Contractor's default and which have not been set off against payments to the Contractor.

- 36.6 In the event that this Agreement is terminated by the Contractor before Substantial Completion of the construction of the Plant due to the Authority's default, or due to any order of the Government of Barbados, the Contractor will be entitled to all costs and expenses for the construction of the Plant arising before the date of termination and for all actual costs and expenses incurred before and after the date of termination, together with an additional ten percent (10%) of such amount as profit. The said costs and expenses shall be duly proved and supported by appropriate documentation. After payment of the above costs and expenses by the Authority to the Contractor, the Plant as it is constructed, materials and all interest in the site shall be transferred to the Authority upon payment by the Authority to the Contractor of One Barbados Dollar (BDS\$1.00).
- 36.7 In the event that this Agreement is terminated by the Contractor after Substantial Completion of the construction of the Plant i.e. during the Desalinated Water Delivery Period, due to default by the Authority, or due to any order of the Government of Barbados, then the Contractor will be entitled to payment of the current Plant BUY OUT Purchase Price at the time of termination along with any outstanding amounts due to the

Contractor with regard to the desalinated water produced and delivered to the Authority, less any amounts owed by the Contractor to the Authority. After payment of the above amount by the Authority, the Plant as it is constructed and equipped and all other beneficial interests of the Contractor in the Plant and its site, including moveable and immovable property, shall be transferred to and become the sole property of the Authority.

36.8 The Contractor shall co-operate with the Authority, in regard to the foregoing, as the Authority exercises its rights under this Article of Agreement, by:

- i. providing to the Authority all documentation necessary, relevant and appropriate;
- ii. executing all documents necessary, relevant and appropriate to the transfer of title in the Plant to the Authority;
- iii. providing the Authority with good and marketable title to the Plant free of all liens and encumbrances; and
- iv. leaving the Plant in good operating order on condition that the Authority has paid the Contractor the Buy Out Purchase Price and any other amounts then owed by the Authority to the Contractor.

### 37. **CONTRACTOR'S REPRESENTATIONS**

37.1 In the context of this Agreement, the Contractor makes the following representations:

- i. The Contractor has familiarized himself with the full nature and extent of the documents pertaining to this Agreement, the work, the site and all local conditions, Laws and Regulations that in any manner affects the cost, progress, performance and furnishing of the works, provided however, that the Contractor has relied on the Authority's representations regarding the characteristics of the feed water.

- ii. The Contractor has given the Authority notice of all conflicts, errors or discrepancies that it has discovered in the bid documents, and the written resolution thereof by the Authority is acceptable to the Contractor.

### 38. CONTRACT DOCUMENTS

38.1 The Contract Documents which comprise the entire Agreement between the Authority and the Contractor concerning the work consist of the following:

1. This Agreement for Desalinated Water Supply, including:
  - Appendix "A" - Contract Water Sale Price of Desalinated Water
  - Appendix "B" - Annual Price Adjustment
  - Appendix "C" - Buy Out Purchase Price
  - Appendix "D" - Securities
  - Appendix "E" - Submittals During Construction
  - Appendix "F" - Basis of Design
  - Appendix "G" - Amendments And Supplements
2. Contractor's Bid to the Authority, as amended and supplemented prior to the date of this Agreement.
3. The Bidding Documents, as amended and supplemented prior to the date of Contractor's initial bid.

In the event of any inconsistency among such documents, the documents shall take precedence in the order set forth above (i.e., this Agreement shall take precedence over the Contractor's Bid and the Contractor's bid shall take precedence over the Bidding Documents). In the event of any inconsistency between Appendix G and the terms of the body of the Agreement, Appendix G shall take precedence.

**39. ENTIRE AGREEMENT, BINDING EFFECT AND MODIFICATION**

39.1 This agreement shall be binding upon the parties and their respective successors and assigns and may be amended or modified only by further writing signed by both parties. This Agreement sets forth the entire Agreement of the parties with respect to the subject matter hereof and supersedes any prior agreements and understandings whether oral or written, relating to the subject matter hereof.

**40. GOVERNING LAWS AND ARBITRATION**

40.1 This Agreement and its implementation shall be construed under and governed by the Laws of Barbados.

40.2 If any question, difference or dispute shall at any time arise between the Authority and the Contractor in respect of the construction of this Agreement or concerning anything therein contained or arising therefrom or as to the rights, liabilities or duties of the parties thereunder which shall not be determined by agreement between the parties the same shall be referred to arbitration before a panel of three Arbitrators, or such lesser number as may be mutually agreed by the parties as hereinafter provided.

40.3 Each party shall appoint one Arbitrator, and the Arbitrators so appointed shall appoint a third Arbitrator. If the two Arbitrators appointed by the respective parties fail to agree on who shall be the third Arbitrator, the third Arbitrator shall be appointed at the request of either party by the High Court of Barbados. If any Arbitrator is unwilling or unable to act in such capacity, his successor shall be appointed in the same manner as for the original appointment. The successor shall perform the same functions and shall have the same powers as his predecessor.

40.4 An arbitration proceeding may be instituted under these provisions upon notice by the party instituting such proceeding to the other party. Such notice shall contain a statement setting forth the nature of the controversy or claim to be submitted to arbitration, the nature of the

remedy sought and the name of the Arbitrator suggested by the party instituting such proceeding. Within thirty (30) days after the giving of such notice the other party shall notify the party instituting the proceeding of the name of the Arbitrator suggested by such other party. If within thirty (30) days after giving notice instituting the arbitration proceeding the parties shall not have agreed upon the third Arbitrator either party may request the appointment of the third Arbitrator by the High Court of Barbados as provided in paragraph 40.3 hereof. If within forty-five (45) days after becoming entitled to do so, neither party requests the appointment of the third Arbitrator as provided in paragraph 40.3 hereof, the arbitration proceeding shall be deemed to have been abandoned.

- 40.5 The Arbitrators shall meet in Barbados at such time and place as shall be fixed by the Arbitrators.
- 40.6 The Arbitrators shall afford to both sides a fair hearing and shall tender their award in writing. Such award may be rendered by default. A signed counter-part of the award shall be transmitted to each party. Any such award shall be final and binding upon the parties. Each party shall abide by and comply with any such award in accordance with these provisions.
- 40.7 The parties shall fix the amount of remuneration of the Arbitrators and such other persons as shall be required for the conduct of the arbitration proceedings.
- 40.8 If within thirty (30) days after the counterparts of the award shall be delivered to the parties the award shall not be complied with, any party may enter judgement upon or institute a proceeding to enforce the award in any court of competent jurisdiction against any other party, may enforce such judgement by execution or may pursue any other appropriate remedies against such other party for the enforcement of the award and the provisions of this Agreement.

- 40.9 Service of any notice or process in connection with any proceeding under these provisions or in connection with any proceeding to enforce any award rendered pursuant to these provisions may be made in the manner provided in paragraph 43 hereof. The parties to this Agreement waive any and all other requirements for the service of any such notice or process.
- 40.10 Subject to these provisions and except as the parties shall otherwise agree, the Arbitration shall in all respects (including procedure) be governed by the laws of Barbados.
- 40.11 Nothing herein shall prevent the parties agreeing to settle any difference or dispute arising out of the Agreement without recourse to arbitration or by means of an action instituted in the courts of Barbados.

41. **TRANSFER AND ASSIGNMENT**

- 41.1 This Agreement may only be transferred or assigned if and when the present parties agree to the same in writing except that the Contractor shall be entitled to assign this Agreement and all rights and obligations thereunder to a joint venture corporation to be established by the Contractor and Williams Industries Incorporated, a Barbados corporation.

42. **ADDITIONAL PROVISIONS**

- 42.1 The design of the Plant, the price payable by the Authority for Desalinated Water (including the basic elements which make up such price), the schedules, and all other terms of this Agreement are based on the assumptions set forth in Appendix F - Basis of Design. In the event that actual conditions deviate from such assumptions, such deviations shall be considered a change, subject to the provisions of Section 32 - Change Orders.

- 42.2 Whenever terms in the contract call for the Authority to approve, direct, require, authorize, accept, or otherwise exercise its discretion, such terms shall be interpreted as requiring the Authority to exercise such discretion in a reasonable manner, consistent with the other provisions of the contract and with industry practice.
- 42.3 Neither party shall be responsible for or have any liability arising out of any delays or failures to perform (other than failure to make payments when due) as the result of a Force Majeure or any other circumstances beyond its reasonable control and due to no fault of its own.
- 42.4 The aggregate liability of the Contractor and its affiliates and subcontractors and their employees, officers, directors and agents in connection with this Agreement and the Plant and the provision of all goods and services under this Agreement shall be limited to Two Million Barbados Dollars (BDS\$2,000,000). The Contractor shall not be liable for any special, indirect, incidental, consequential or punitive damages, including lost profits, loss of use, or claims by third parties.

43. **NOTICE**

- 43.1 Any written notice required or permitted under the terms of this Agreement shall be sent by certified or registered mail, or by Facsimile, to the following addresses:

**THE AUTHORITY**

The General Manager,  
Barbados Water Authority,  
The Pine,  
St. Michael,  
**BARBADOS**

Facsimile: 246-426-4507  
Telephone: 246-427-3990



**THE CONTRACTOR**

The Contracts Manager,  
Ionics Incorporated,  
65, Grove Street,  
Watertown,  
Massachusetts 02172  
**U.S.A.**

Facsimile: 617-926-4304

Telephone: 617-926-2500

Or such other party's address or facsimile number as the parties may designate from time to time by written notice to each other. Notice shall be deemed received ten (10) business days following the date post-marked in the event of mailing or upon the first business day following transmission by facsimile.

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44. **SIGNATURES AND SEALS**

In witness whereof the parties hereto have hereunto set their hands and seals this day and year first hereinbefore written.

THE COMMON SEAL OF IONICS  
INCORPORATED was hereto set and  
affixed by JOHN W. ARNOLD  
the VICE PRESIDENT  
in the presence of:



*R.S. [Signature]*      *John W. Arnold*

Witness: DENNIS H. L. CHANDLER  
Name: \_\_\_\_\_  
Abode: "CHUCKA" HOLDERS PLIN. ST. JAMES  
Calling or Description: ATTORNEY-AT-LAW

THE SEAL OF THE BARBADOS  
WATER AUTHORITY was hereto set  
and affixed by Gillian Forbes Secretary  
thereof by Order of Board of Directors  
in the presence of:



Countersigned

*[Signature]* ) Chairman  
*[Signature]* ) General Manager

Secretary

*G. Forbes*

Witness: DENNIS H. L. CHANDLER  
Name: \_\_\_\_\_  
Abode: "CHUCKA" HOLDERS PLIN. ST. JAMES  
Calling or Description: ATTORNEY-AT-LAW

**BARBADOS WATER AUTHORITY**

**BRIDGETOWN, BARBADOS**

**PROVISION OF 30,000 m<sup>3</sup>/DAY OF  
POTABLE WATER BY DESALINATION.**

**APPENDIX "A"**

**CONTRACT WATER SALE PRICE OF DESALINATION WATER**

1. At the commencement of the Water Delivery Period and for the first month of the Agreement, the Contract Water Sale Price of Desalinated Water to the Authority shall be zero point eight Barbadian Dollars per cubic meter (BDS\$0.80/m<sup>3</sup>).
2. At the commencement of the Water Delivery Period and for any month of the Agreement, the Contract Water Sale Price of Desalinated Water to the Authority, for quantities delivered in excess of an average of Twenty-Seven Thousand cubic meters per day (27,000 m<sup>3</sup>/day) over any billing period of one month, shall be zero point five nine Barbados Dollars per cubic meter (BDS\$0.59/m<sup>3</sup>).

The above prices are based upon the following formula:

$$\text{Price} = (C \times 1.252012 \times 10^{-8}) + 0.1982 + 0.09979 + (E \times PC)$$

Where: C = Total Capital Costs in Barbados Dollars  
(presently \$18,882,412)

E = Average Cost of Electricity for the Billing Month  
(presented in the bid at 26.1 cents BBD per kWhr)

PC = The Stated Power Consumption, expressed in kWhr/Cubic  
meter of delivered product  
(presently 1.018 kWhr/M<sup>3</sup>)

No escalation in price factors shall be allowed in the first year of operation with the exception of the power E which shall be adjusted on a monthly basis, or without the approval of the Authority in response to a change in the Basis of Design Appendix F.

The above prices for water sales to the Water Authority have been calculated on a zero rated VAT basis. Changes to the definition of VAT or application of VAT will result in corresponding changes in the water price.

**BARBADOS WATER AUTHORITY  
BRIDGETOWN, BARBADOS**

**PROVISION OF 30,000 m<sup>3</sup>/DAY OF  
POTABLE WATER BY DESALINATION.**

**APPENDIX "B"**

**ANNUAL PRICE ADJUSTMENT**

1. Overhead and Profit on Labour will remain at the same percentage on Operation and Maintenance as contained in the original Bid price.
2. Chemical prices shall be adjusted on an annual basis based on the Industrial Chemical Index (ICI) from the US Department of Commerce Producer Price Index. The original Bid price for chemicals will be adjusted by the ratio of the current ICI to the ICI at the time of Bid submission.
3. The price charged for Spare Parts & Equipment Consumables shall be adjusted on an annual basis based on the Construction Cost Index for Plant (CCI) published by the US Department of Commerce. The original Bid price for Spare Parts & Equipment Consumables will be adjusted by the ratio of the current CCI to the CCI at the time of Bid submission.
4. Overhead and Profit on consumables will remain at the same percentage as contained in the original Bid price.

## APPENDIX "B"

### CALCULATION OF ANNUAL PRICE ADJUSTMENT (PRICE ESCALATION)

PRODUCTION COSTS (ANNUAL)	ADJUSTMENT FACTOR	ADJUSTED CONTRACT PRICE
<b>FIXED COSTS</b>		
Fixed Charges - Capital Repayment	No Annual Adjustment	
Operation & Maintenance Labour	$(CPI_n/PIC_o) = CPI_f$	$(CPI_f) \times (O\&ML)$
Overhead & Profit on Labour	Same Percentage as for Base Contract	
<b>SUB-TOTAL FIXED COSTS</b>		
<b>CONSUMABLES</b>		
Electricity	No adjustment	
Chemicals	$(ICI_n/ICIo) = ICIf$	$(ICIf \times Cc)$
Spare Parts & Equipment Consumables	$(CCIn/CCIo) = CCIf$	$(CCIf \times SPACE)$
Overhead & Profit on Consumables	Same Percentage as for Base Contract	
<b>SUB-TOTAL CONSUMABLES</b>		
<b>TOTAL PRICE FOR THE NEW CONTRACT YEAR</b>		

**WHERE:**

CPI = International Monetary Fund Consume  
Price Index for Barbados

SPACE = Spare Parts & Equipment  
Consumables Cost/m<sup>3</sup>

O&ML = Operations & Maintenance Labour cost per m<sup>3</sup>

ICI = Industrial Chemical Index (U.S. Dept of Commerce)

c = most current index prior to start  
of the new operating year

C = Chemical Cost/m<sup>3</sup>

n = Average Price over inclusive of Demand and  
Fuel Adjustment charges. Previous Twelve  
Months.

EP = Total Average Price of Electricity per kWh.  
Inclusive of Demand and Fuel Adjustment charges.

o = Original Contract Price

CCI = Construction Cost Index for Plant  
(U.S. Dept of Commerce)

f = Price Adjustment Factor

**APPENDIX "C"**

**BUY OUT PURCHASE PRICE**

END OF WATER DELIVERY PERIOD	BUY OUT PURCHASE PRICE
YEAR "1"	BDS\$20,770,653
YEAR "2"	BDS\$19,401,324
YEAR "3"	BDS\$18,031,996
YEAR "4"	BDS\$16,662,668
YEAR "5"	BDS\$15,293,339
YEAR "6"	BDS\$13,924,011
YEAR "7"	BDS\$12,554,683
YEAR "8"	BDS\$11,185,354
YEAR "9"	BDS\$9,816,026
YEAR "10"	BDS\$8,446,698
YEAR "11"	BDS\$7,077,369
YEAR "12"	BDS\$5,708,041
YEAR "13"	BDS\$4,338,713
YEAR "14"	BDS\$2,969,384
YEAR "15"	BDS\$1,600,056
AT NORMAL END OF AGREEMENT	BDS\$- - - 0 - - -

## APPENDIX "E"

### SUBMITTALS DURING CONSTRUCTION

The intent of submittals during the Construction Period is for the Contractor to keep the Authority advised of progress, allowing comparison with the Contractor's construction programme. In particular, the Contractor should advise on a monthly basis on progress with regard to procurement, delivery, on site materials and equipment, construction, installation, proving and/or testing, commissioning and setting into operation of the following items or pieces of equipment:

1. Site Clearance.
2. Well Construction.
3. Feed water Pump Installation.
4. Feed water Delivery System.
5. Building Foundation(s) or Base(s).
6. Product Water Holding Tank.
7. Feed water Pretreatment System.
8. R.O. Pumps.
9. Membrane Vessels (Trains).
10. Feed water Manifold.
11. High Pressure Manifold.
12. Product Water Manifold.
13. Post Treatment Equipment.
14. Instrumentation (Monitoring, Control and Metering).
15. Product to Distribution System Pumping Station.



## APPENDIX "F"

### BASIS OF DESIGN

#### DESIGN CRITERIA

#### FEED WATER ANALYSIS

The feed water analysis was established by taking the mineral salts of the existing well water as provided in the Bid documents, Addendum No.1 and increasing the TDS to 5000 mg/l by the addition of a sodium Chloride. This analysis was used in our computer generated projections of the Reverse Osmosis system performance and included in our bid. Consequently, the feed water is assumed to be:

<u>Component</u>	<u>Concentration</u> (mg/l as the ion)
Sodium	1748.2
Calcium	128.0
Magnesium	11.1
Potassium	6.1
Chlorides	2743.6
Sulfates	36.8
Bicarbonate	319.0
Nitrates	10.1
Silica	1.6
Temperature	27 °C
H <sub>2</sub> S	non detectable
pH	7.2

In addition, the water was assumed to have no significant levels of Oil & Grease of TOC, or precipitable mineral (barium, strontium etc.) that would interfere with the performance of the RO system.

### **SILT DENSITY INDEX**

The quality of the well water is assumed to meet SDI<sub>15</sub> (Silt Density Index - 15) of less than 3.0. This quality would allow for the pretreatment to the system to be limited to five micron cartridge filtration, as provided for in the Bid. SDI<sub>15</sub> of more than 3.0 is not generally found in limestone wells and should not be an issue.

### **TURBIDITY**

The turbidity of the water is assumed to be less than 1.0 ntu.

### **WELL FIELD DEVELOPMENT**

The development of the well field is the responsibility of the Authority. However, certain assumptions based upon discussions with local experts and observations of the site and the existing well were required in order to determine the design of the well pumps and collection system. Ionics based its design on a single, self priming above ground centrifugal pump with a single 100% pipe-in-place spare pump. The expected distance from the water level in the well to pump inlet was 10 feet, including drawdown, during pumping operations.

Provisions for connecting three feed water wells with an above ground piping collection system were accounted for. The collection pipe was sized to transmit 54,548 cubic metres per day to the Desalination facility.

## **PRODUCT WATER QUALITY**

See definition of Desalinated Water, Section 2.C of this Agreement.

### **Scope of Supply**

- Well Pumps -** Two (2) 100% centrifugal, single stage above ground pumps. Design for 45 psi of dynamic head and an operating pump efficiency of 82%.
- Cartridge Filters -** Eighteen (18) FRP horizontal housings with 22 replaceable 5 micron polypropylene wound cartridge filters per unit. Built to ASME code to 150 psi design pressure.
- High Pressure Feed Pumps -** Two (2) 100% centrifugal single stage pumps with a suction pressure of 20 psi and an output pressure of 180 psi. Rated flow is 54,548 cubic metres per day. Each High Pressure Pump shall have a dedicated Energy Recovery Turbine.
- RO Desalination System -** 15 Trains of single stage RO units having sixteen (16) 6M filament wound FRP pressure vessels rated for 600 psi with end entry ports. Membranes shall be Thin Film Composite brackish 8X40 elements.
- Brine Discharge Pumps -** Two (2) 100% centrifugal single stage transfer pumps with a dynamic head of 15 psi and a rated efficiency of 82 percent.

- Brine Discharge Wells -** The Design of the Discharge Wells shall be the responsibility of the Authority. Execution of the design shall be the responsibility of the Contractor.
- Product Transfer Pumps -** Two (2) centrifugal single stage transfer pumps with a dynamic head of 77 psi and an efficiency of 89 percent.
- Product Transfer Tank -** 28.2 Meter diameter by 8 meter high, concrete covered storage tank.
- Chemical Feed Systems -** Scale inhibitor - 500 gallon HDPE tank with two (2) LMI metering pumps, with mixer and level switch.  
Lime - 2000 gallon HDPE tank with two (2) Goulds 3196 centrifugal metering pumps, with mixer and level switch.  
Sodium Hypochlorite - 500 gallon HDPE tank with two (2) LMI metering pumps, with mixer and level switch.
- Building -** Approximately 45 metres by 20 metres. Building to be metal framed and sided building with concrete block to a six foot level on the side visible to the road. With agreed upon improvements and upgrades.

**APPENDIX "G"**

**AMENDMENTS AND SUPPLEMENTS**

See attached documents.

Barbados Underground blog  
<https://barbadosunderground.wordpress.com/>

# BARBADOS WATER AUTHORITY

GOVERNMENT OF BARBADOS

PINE EAST WEST BOULEVARD,  
ST. MICHAEL, BARBADOS, W.I.



Our Ref:

Your Ref:

Tel: (246) 427-3990

Fax: (246) 426-4507

Date: November 10, 1998

Ionics Incorporated,  
65, Grove Street,  
Watertown,  
Massachusetts, 02172-2882  
USA.

Attn: Mr. John Kiernan.

Dear Sir,

**"RE: 30,000 m<sup>3</sup>/DAY DESALINATION FACILITY - BARBADOS WATER AUTHORITY"**

Further to our discussion with regard to the anticipated charging of VAT, Environmental, Customs and Excise or any other duties in connection with the project under reference, please be advised as follows:-

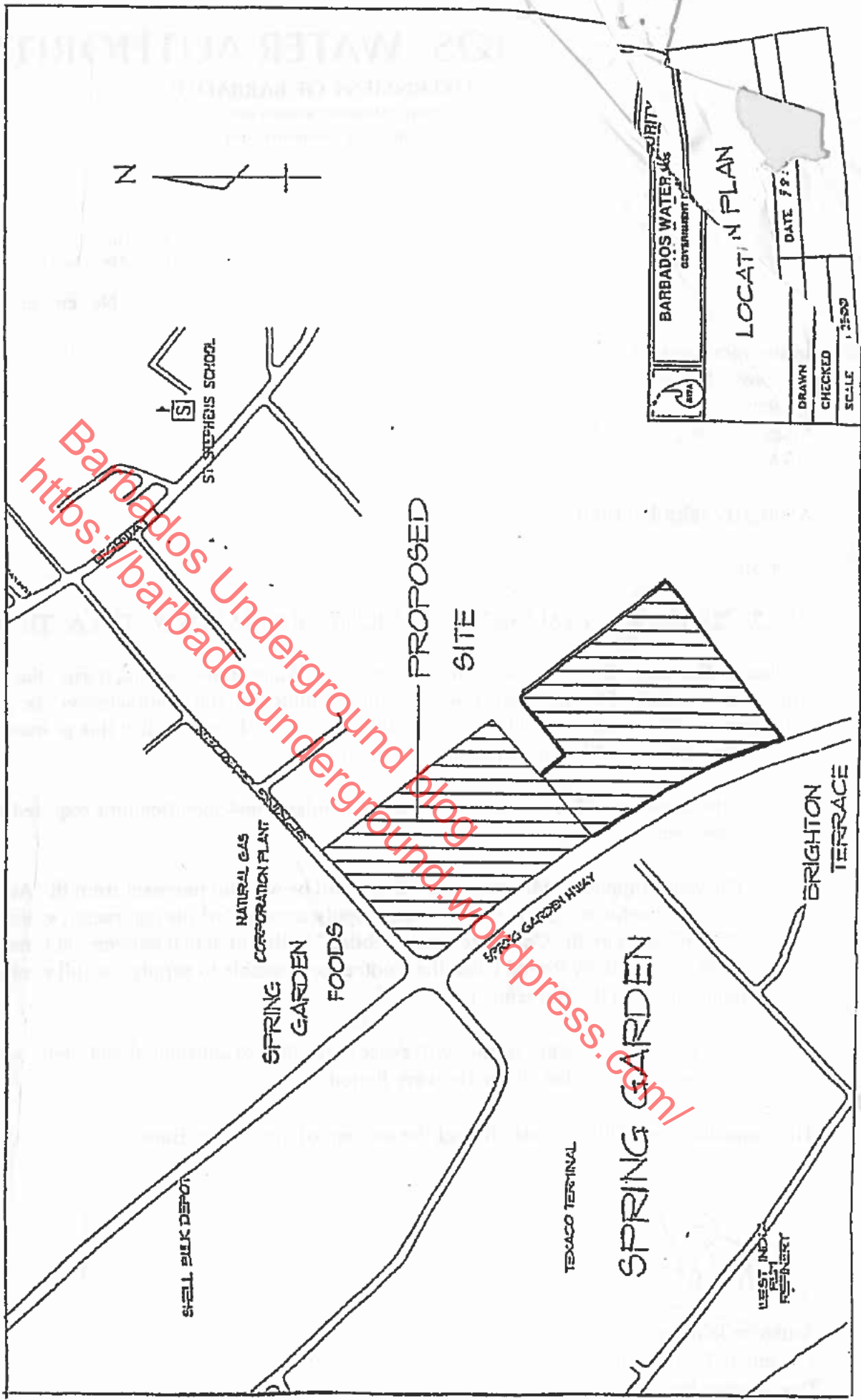
The Authority shall be responsible for all Customs Duties, VAT and Environmental Levy on all plant and equipment on any and all plant and equipment, materials, tools, Office equipment and supplies, computers and any other goods relevant to the execution of the Agreement for Sale of Water to the Authority.

The Authority shall be responsible for all VAT payments incurred by the Contractor during the construction and operation of the Plant. This will include all VAT paid during the construction of the Plant to all subcontractors, on materials specifically imported for the project, professional fees and other expenses of the Plant development which is part of the Plant construction. Any VAT expenses incurred during the operation of the Plant shall be reimbursed to the Contractor by the Authority. These expenses, if any, shall be paid on the same basis as delivery of Desalinated Water as described in Sections 12.1 to 12.8 of the Agreement.

This should clarify the entire matter of tax liability to your complete satisfaction.

Yours very truly,

Ambrose Johnson,  
Consultant/Project Manager,  
Desalination Project.



Barbados Underground Blog  
<https://barbadosunderground.wordpress.com/>



BARBADOS WATER SUPPLY AUTHORITY  
 GOVERNMENT OF BARBADOS

LOCATION PLAN

DRAWN	DATE	1992
CHECKED		
SCALE	1:2500	

ST. STEPHEN'S SCHOOL

NATURAL GAS CORPORATION PLANT

SPRING GARDEN FOODS

PROPOSED SITE

SPRING GARDEN HWAY

BRIGHTON TERRACE

SHELL MILK DEPOT

TEXACO TERMINAL

SPRING GARDEN

WEST INDIES PLANT

# BARBADOS WATER AUTHORITY

GOVERNMENT OF BARBADOS

PINE EAST WEST BOULEVARD,  
ST. MICHAEL, BARBADOS, W.I.



Doc Ref:

Your Ref:

Tel: (246) 427 3990

Fax: (246) 426 4507

Date: November 10, 1998

Ionics Incorporated,  
65, Grove Street,  
Watertown,  
Massachusetts, 02172-2882  
USA.

Attn: Mr. John Kieran

Dear Sir,

"RE: 30,000 m<sup>3</sup>/DAY DESALINATION FACILITY - BARBADOS WATER AUTHORITY"

Further to discussions between us on the concept of a "Water Bank" where, during the testing and commissioning of the plant prior to substantial completion, the Contractor will be permitted to put product water into the Authority's distribution system, I confirm that this proposal is acceptable under the following terms and conditions:-

1. All water supplied will meet or exceed all standards and specifications required in the Agreement.
2. The water supplied under these conditions will be without payment from the Authority, but will constitute a credit to the "water supply account" of the contractor, which may be "drawn" upon by the Contractor and "debited" in lieu of actual delivery, at times during the Water Delivery Period when the Contractor is unable to supply the full contract requirement of the Agreement.
3. The "deposit for credit" facility will cease at the date of substantial completion and commencement of the Water Delivery Period.

This constitutes our full understanding of the concept of the "Water Bank".

Yours very truly,

Ambrose Johnson,  
Consultant/Project Manager,  
Desalination Project.