

# Assured Maintenance Agreement

Customer Name **School Board of Palm Beach County**

Proposal No. **79-1854**

(Hereinafter referred to as "Customer")

Address **3326 Forest Hill Blvd**

Agreement No.

City **W. Palm Beach** State **FL**

Zip **33406**

Locations(s) **Fulton-Holland Educational Service Center  
West Palm Beach, Florida 33406**

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## Scope of Service

In consideration of their mutual agreement, McQuay, a division of McQuay International (hereinafter also referred to as "McQuay ") and Customer agree that the following services and type of coverage for the above location(s) for the equipment listed on the attached Equipment Schedule (hereinafter referred to as "Equipment") will be provided in accordance with the Terms and Conditions, Assured Maintenance Agreement Equipment Schedule and Assured Maintenance Agreement Plans and Service Programs included herein.

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### I. Type of Plan

- |   |   |
|---|---|
| <input type="checkbox"/> First Year Maintenance | <input type="checkbox"/> Labor Maintenance                    |
| <input type="checkbox"/> Inspection             | <input checked="" type="checkbox"/> Comprehensive Maintenance |

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### II. System Components Covered

- |  |  |   |
|--|--|---|
| <input checked="" type="checkbox"/> Predictive Maintenance | <input checked="" type="checkbox"/> Water Treatment      | <input type="checkbox"/> Electrical Equipment |
| <input checked="" type="checkbox"/> Air Conditioning       | <input type="checkbox"/> Air Filters (Customer Supplied) | <input type="checkbox"/> Facility Operation   |
| <input type="checkbox"/> Heating                           | <input type="checkbox"/> Refrigeration                   | <input type="checkbox"/> Other                |
| <input type="checkbox"/> Temperature Controls              | <input type="checkbox"/> Digital Systems                 |   |

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### Emergency Service Response

This Agreement includes emergency service response as checked below:

- 24 hours per day, 7 days per week including holidays. Three hour response time.
- 24 hours per day, 5 days per week (Monday - Friday).
- During normal working hours on McQuay scheduled business days.
- Not included in this Agreement but available on a time and material basis.

**Important: Additional terms and conditions are continued on the following pages.**

# Comprehensive Maintenance Plan

Customer Name **School Board of Palm Beach County**

Agreement No.

### Inspections

During normal working hours McQuay shall provide -12- equally spaced inspections per year, unless otherwise noted, for the Equipment.

**1. McQuay agrees to:**

- a) Furnish all labor, parts, oil, and material needed to maintain the Equipment in good operating condition, perform during normal working hours the maintenance service in accordance with the Assured Maintenance Agreement Service Program(s) at the price stated herein and subject to the terms and conditions set forth herein.
- b) Annually brush clean the water-side of water cooled condensers and air-side of air cooled condensers with procedures determined by McQuay .
- c) Maintain the following items related to the Equipment:
  - i) Electric wiring from the starter to its respective motor.
  - ii) Refrigerant piping between two or more pieces of Equipment.
  - iii) The pressure and temperature controls, thermometers, gauges, control devices, thermostats and manual valves located on the Equipment.
  - iv) Mechanical starters.
- d) Provide a written report to the Customer about the condition of the Equipment and any recommendations for enhancements to maintain capacity, reliability, and efficiency.

**2. Customer agrees to:**

- a) Designate a representative in its employ to receive instructions in the operation of the Equipment. Such representative shall have authority to carry out recommendations received from McQuay in conjunction with the performance of this Agreement.
- b) Allow McQuay to start and stop the Equipment in order to perform services specified in this Agreement, in coordination with owner or his representative.
- c) Operate the Equipment in accordance with McQuay instruction, and to notify McQuay promptly of any change in the usual operating conditions.
- d) Provide reasonable means of access to the Equipment, including any required removal, replacement and refinishing of the building structure.
- e) Permit the use by McQuay of the usual building maintenance materials and tools.
- f) For failures other than due to direct negligence of McQuay or its subcontractors, McQuay assumes customer maintains building boiler and machinery insurance on listed equipment. In the event of a claim on listed equipment, McQuay will be responsible only for the deductible on such policy. In no event will McQuay 's liability be greater then the yearly contract amount.
- g) Employ only McQuay personnel or persons authorized by McQuay to perform all work on the Equipment, except for operation of same.
- h) Provide proper condenser water treatment.

**3. It is understood that,** except to the extent otherwise provided in the Assured Maintenance Agreement Equipment Schedule, the services and maintenance provided for herein includes only those items listed above. It does not, for example, include any of the following:

- a) Normal daily and weekend functions of stopping/starting the Equipment covered hereunder.
- b) The maintenance of space conditions or system performance unless improper conditions are directly due to the failure of the mechanical Equipment covered hereunder.
- c) The changing or cleaning of air filters.
- d) Piping and valves other than refrigerant.
- e) Ductwork.
- f) Crane service, special rigging or freight charges.

(over)

- g) Damage due to freezing weather.
- h) Water treatment.
- i) Corrosion or erosion damage to water and/or air side of Equipment (for example, but not limited to the following: tube bundles, heat exchangers, structural supports, and coils.)
- j) Disconnect switches, fuses and circuit breakers.
- k) Portable recorders
- l) Complementary equipment (for example, but not limited to the following: cabinets, fixtures, water boxes, water supply lines and drain lines).
- m) Boiler shell, tubes, and refractory material.
- n) Complete replacement of unit.
- o) Any items of equipment that are recommended or required by Insurance Companies, Government, State, Municipal or other authorities.

Exceptions and additions: Technician labor rates for work *not included* in this agreement will be \$85.00 per man per hour for regular hours. Premium time will be charged at one and one half the regular rate and Sundays and Holidays will be charged at double time. Parts outside the scope of this agreement will be supplied at a 10% discount off of list price.

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# Assured Maintenance Agreement Equipment Schedule

Customer Name **School Board of Palm Beach County**

Agreement No.

Equipment	Size	Qty	Manufacturer	Model/Serial No.	Program	Frequency
Centrifugal Chiller	276 Tons	1	McQuay	PEH079	1	Monthly
				5WG0101800		
Centrifugal Chiller	276 Tons	1	McQuay	PEH079	1	Monthly
				5WG0101400		
Centrifugal Chiller	276 Tons	1	McQuay	PEH079	1	Monthly
				5WG0101200		
Pump Chilled water	40HP	2	Paco	Secondary	7	Monthly
				Loop		
Pump Condenser H2O	20HP	4	Paco	Condenser	7	Monthly
				Water		
Pump Chilled water	5HP	4	Paco	Primary	7	Monthly
				Chilled		
Cooling Towers	300 Tons	3	BAC		6	Monthly
Cooling Tower Fan SoftStarts	20HP	3			18	Monthly
Secondary Chill Water Pump VFD	40HP	2	Westinghouse	Chiller Plant	18	Monthly
Air Compressor & Dryer		1			9	Monthly
H2O Treatment Feed Equip.					N/A	Monthly
Police Dispatch A/C Unit		1			12	Monthly

End of list



# Additional Terms

## FUNDING OUT, TERMINATION, CANCELLATION

The School Board may, during the contract period, terminate or discontinue the items covered in this agreement at the end of the School Board's then current fiscal year upon 90 days prior written notice to McQuay .

Such prior written notice will state:

- a. That the lack of appropriated funds is the reason for termination, and
- b. Agreement not to replace the equipment or service being terminated with equipment or service with functions similar to those performed by the equipment or service covered in this agreement from another vendor in the succeeding finding period.

"This written notification will thereafter release the School Board of all further obligations in any way related to such equipment or service covered herein."

## CANCELLATION OF AWARD / TERMINATION

- In the event any of the provisions of this proposal are violated by the proposer, the Superintendent or designee will give written notice to the proposer stating the deficiencies and unless the deficiencies are corrected within (10) days, recommendation will be made to the District for immediate cancellation. Upon cancellation hereunder, the District may pursue any and all legal remedies as provided herein and by law.
- The District, reserves the right to terminate this agreement at any time and for any reason, upon giving 30 days prior written notice to McQuay . If said contract should be terminated for convenience as provided herein, the District will be relieved of all obligations under said contract. The District will only be required to pay to McQuay , that amount of the contract actually performed to the date of termination.
- McQuay will have the option to terminate the contract upon written notice to the Director of Purchasing. Such notice must be received at least 90 days prior to the effective date of termination.
- Cancellation of contract by McQuay may result in removal from bidder/proposer list for a period of three years.

## INDEMNIFICATION

Awarded bidder shall, in addition to any other obligation to indemnify the Palm Beach County School District and to the fullest extent permitted by law, protect, defend, indemnify and hold harmless the School District, their agents, elected officials and employees from and against all claims, actions, liabilities, losses and costs directly resulting from:

1. bodily injury, sickness, disease or death, or injury to or destruction of tangible property or any other damage or loss directly caused by an act or omission of the contractor, subcontractor, anyone directly or indirectly employed any of them, or anyone for whose acts may be liable in the performance of the work; or
2. violation of law, statute, ordinance, governmental administration order, rule, regulation or infringement of patent rights by contractor in the performance of the work; or
3. liens, claims or actions made by the contractor or any of its subcontractors.

Any costs or expenses, including attorney's fees, incurred by the District to enforce this agreement shall be borne by the contractor.

Notwithstanding the foregoing, in no event shall contractor be liable for consequential, indirect, incidental or special damages of any kind or nature.

This article will survive the termination of this contract.

## Hold Harmless

The School Board recognizes its respective liability for certain tortious acts of their agents, officers, employees and invitees to the extent and limits provided in Section 768.28, Florida Statutes, the State of Florida's partial waiver of Sovereign Immunity; provided, however, that this provision shall not be construed as a waiver of any right or defense that the School District has under said statute.

# Assured Maintenance Agreement

Customer Name **School Board of Palm Beach County**

Agreement No.

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## Special Conditions

- McQuay will supply software upgrades as necessary and as they become available for McQuay chiller plant equipment.
- McQuay will supply remote monitoring capability of Chiller Plant.

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## Duration

This Agreement shall remain in effect for an initial term of -1- year (s) beginning September 1, 2006  
Customer has option to renew for (2) additional one-year terms

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## Price and Payment Terms

1. McQuay will provide services pursuant to this Assured Maintenance Agreement for the sum of **\$36,960.00** per annum.
2. Payment will be in advance as follows: on the first day of each month beginning on the Effective Date of this Agreement, McQuay will provide Customer with an invoice in the amount of **\$3,080.00** and payment will be due upon receipt.

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**NOTE: This Agreement is subject to final approval by McQuay .**

## Assured Maintenance Agreement Terms and Conditions

1. This Agreement, upon acceptance by Customer, is made solely on the terms and conditions hereof, notwithstanding any additional or conflicting terms and conditions that may be contained in any purchase order or other form of Customer, all of which additional or conflicting terms and conditions are hereby rejected by McQuay . Further, you acknowledge, and agree that any purchase order issued by you in accordance with this agreement will only establish payment authority for your internal accounting purposes. Any such purchase order will not be considered by us to be a counteroffer, amendment, modification, or other revision to the terms of this agreement. No waiver, alteration or modification of the terms and conditions herein shall be valid unless made in writing and signed by an authorized representative of McQuay .
2. McQuay will provide the above-described services for that sum and in accordance with the payment terms herein and those set forth on page 4 hereof, McQuay reserves the right to add to any account outstanding more than 30 days interest at 1 1/2% per month or the highest rate allowed by law. Additional services may be performed upon request at a price to be determined, subject to these Terms and Conditions.
3. In the event that McQuay determines, during the first thirty (30) days of this Agreement or upon seasonal start-up that any equipment covered under this Agreement is in need of repair and/or replacement, McQuay shall inform Customer of the equipment condition and remedy. McQuay shall not be responsible for the present or future repair and/or replacement or operability of any specific equipment, until such time as the equipment is brought up to an acceptable condition or the Customer removes the unacceptable system(s), component(s), or part(s) from this contract.
4. The contract price is subject to adjustment once each calendar year, effective on the anniversary date, based on increases in the U.S. Consumer Price Index, and not to exceed 6%. The customer shall receive thirty (30) days prior written notice of any such adjustment.
5. Customer shall promptly pay invoices within 30 days of receipt. Should payment become more than 30 days delinquent, McQuay may stop all work under this Agreement or terminate this Agreement as provided in the next paragraph.
6. This Agreement may be terminated by conditions set forth in Additional Terms on page 3 -"Cancellation of Award/Termination"
7. Any and all costs, fees and expenses arising from or incurred in anticipation of any federal, state, county, local or administrative statute, law, rule, regulation or ordinance (collectively "Governmental Regulations") directly or indirectly requiring that refrigerant other than the type of refrigerant currently being utilized in connection with the equipment subject to this Agreement be used, shall be borne solely by Customer. In this regard, McQuay shall not be required to bear any expense in connection with the modification, removal, replacement or disposal of any refrigerant in response to any Governmental Regulation designed to reduce or eliminate the alleged environmental hazards associated with the refrigerant.
8. The contract price stated herein is predicated on the fact that all work will be done during regular working hours of regular working days unless otherwise specified. If for any reason Customer requests that work be performed other than during regular working hours or outside the scope of services specified hereunder, Customer agrees to pay McQuay any additional charges arising from such additional services, including but not limited to premium pay, special freight or other fees or costs associated therewith.
9. Jurisdiction and Venue-This agreement shall be governed by the laws of the State of Florida, and if any dispute arises, then venue shall be in Palm Beach County.

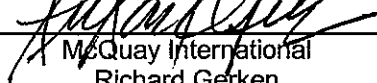
# Assured Maintenance Agreement Amendments

This Agreement contains two (2) or more Plans as checked on page 1 hereof. The second and third Plan (if applicable) are attached as Exhibit A and incorporated herein.

McQuay will not be responsible for ductwork, air distribution, normal daily operation,  
temperature controls or space conditions (unless otherwise covered in this agreement).

This proposal expires on: August 31, 2006

The Terms and Conditions set forth on the reverse side of this signature page from an integral part of this Agreement and are expressly incorporated herein.

Submitted by   
McQuay International  
Richard Gerken  
Service Sales Representative

Date 7.17.06

Accepted:  
  
(Full legal name of Customer)

Approved:  
McQuay International

Signature

Signature

Title

Title

Date \_\_\_\_\_

Date \_\_\_\_\_

Service location: McQuay -Florida

Address: 3540 W. Prospect Road, Suite 201  
Fort Lauderdale, FL 33309

Location code: FL-MIAM

Salesman code: FL50212

Phone: 800-487-4808

 7/18/06  
**Reviewed and Approved  
as to Legal Sufficiency**





## Assured Maintenance Agreement Terms and Conditions

11. McQuay reserves the right to engage others in a subcontractor status to perform the work hereunder.
12. Customer agrees to provide McQuay personnel with required utilities (water, electricity, compressed air, etc.) and special tools and equipment normally used for such services unless restricted specifically in the quote. Customer agrees to ensure that sufficient service access space is provided. McQuay shall not be held liable for failure or damage to any equipment caused by power interruptions, single phasing, phase reversal, low voltage, or other deficiencies beyond the control of McQuay .
13. This agreement does not include responsibility for design of the system, obsolescence, electrical power failures, low voltage, burned-out main or branch fuses, low water pressure, vandalism, misuse or abuse of the system(s) by others (including the Customer), negligence of the system by others (including the Customer), failure of the Customer to properly operate the system(s), or other causes beyond the control of McQuay .
14. McQuay shall not be responsible for crane service or special or unusual rigging to facilitate normal repairs.
15. In the event that McQuay is required to make any repairs and/or replacements or emergency calls occasioned by the improper operation of the equipment covered hereby, or any cause beyond McQuay 's control, Customer shall pay McQuay for the charges incurred in making such repairs and/or replacements or emergency calls in accordance with the current established McQuay rates for performing such services.
16. McQuay shall not in any event be liable for failure to perform or for delay in performance due to fire, flood, strike or other labor difficulty, act of God, act of any Governmental Authority or of Customer, riot, war, embargo, fuel or energy shortage, wrecks or delay in transportation, inability to obtain necessary labor, materials, or equipment from usual sources, or due to any cause beyond its reasonable control. In the event of delay in performance due to any such cause, the date of delivery or time of completion will be extended by a period of time reasonably necessary to overcome the effect of such delay. If the materials or equipment included in this Proposal become temporarily or permanently unavailable for reasons beyond the control of McQuay , McQuay shall be excused from furnishing said materials or equipment and be reimbursed for the difference between cost of materials or equipment unavailable and the cost of an available reasonable substitute.
17. McQuay extends the manufacturer's warranties on all parts and materials and warrants labor to meet industry standards for a period of thirty (30) days from the date performed. McQuay expressly limits its warranty on Customer's Equipment to cover only that portion of Equipment which had specific service work done by McQuay . These warranties do not extend to any Equipment or service which has been repaired by others, abused, altered, or misused, or which has not been properly maintained. THESE WARRANTIES ARE IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THOSE OF MERCHANTABILITY AND FITNESS FOR SPECIFIC PURPOSE, WHICH ARE HEREBY SPECIFICALLY DISCLAIMED.
18. This Agreement shall be binding upon and inure to the benefit of each party's respective successors, assigns and affiliates. This Agreement is governed by and construed in accordance with the laws of the State of Florida.



# Assured Maintenance Agreement

## Centrifugal Chillers

### Service Program 1

Customer Name **School Board of Palm Beach County**

Agreement No.

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**McQuay will perform the following procedures, as applicable:**

#### **Annual Inspection**

1. Test for refrigerant leaks including relief valve piping outlets.
2. Check main starter and control panel.
3. Inspect and tighten electrical connections.
4. Check relays, operating, and safety controls
5. Check flow switch operation.
6. Lubricate inlet vane linkage, if applicable.
7. Check vane control setting and operation
8. Take and record water side pressure drops across vessels.
9. Perform MicroTech check, log, and last fault analysis, analyze performance.
10. Perform operating log if not MicroTech and analyze.
11. Meg compressor and oil pump motors.
12. Clean oil cooler strainer, water cooled only.
13. Check oil sump heater operation.
14. Perform oil analysis for wear metals, moisture, acid.
15. Inspect vibration eliminators and inspect water piping for leaks.
16. Blow down condenser water strainer(s).
17. Check head pressure control operation for tower fans or bypass valve.
18. Check minimum condenser water temperature operation.
19. Clean purge drum and oil separator where applicable.
20. Check oil in purge pump and oil separator where applicable.
21. Lubricate purge pump motor where applicable.
22. Manually clean water side of condenser.

#### **Semi-Annual Inspection**

1. Review manufacturer's recommendations for operation.
2. Check auxiliary equipment operation.
3. Check oil levels.
4. Check oil sump heater, gear case heater, and purge pump oil heaters where applicable.
5. Check relays, operating, and safety controls.
6. Check chilled water pump(s).
7. Check condenser water pump(s) and cooling tower.
8. Check water chiller.
9. Check purge unit operation where applicable.
10. Log all operating conditions.
11. Review operating procedures with chiller operator.

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**Operational Inspection**

1. Review owner's log for trends.
2. Inspect chiller for leaks.
3. Inspect starter contacts for burns and discoloration.
4. Run chiller and log readings, analyze performance.
5. Record unusual noises and vibrations.
6. Record refrigerant level in sightglass.
7. Record oil level in sightglass.
8. Verify operation of the oil heater and cooler.
9. Check purge operation. Check sight glass and drain non-condensable from purge drum where applicable.
10. Review chiller operation with chiller operator.

**First Year Maintenance**

1. One Operational Inspection during the cooling season plus one inspection as detailed in items 2-24.
2. Test for refrigerant leaks including relief valve piping outlets.
3. Check main starter and control panel.
4. Inspect and tighten electrical connections.
5. Check relays, operating, and safety controls.
6. Check flow switch operation.
7. Lubricate inlet vane linkage, if applicable.
8. Check vane control setting and operation.
9. Take and record water side pressure drops across vessels.
10. Perform MicroTech check, log, and last fault analysis, analyze performance.
11. Perform operating log if not MicroTech and analyze.
12. Meg compressor and oil pump motors.
13. Clean oil cooler strainer, water cooled only.
14. Check oil sump heater operation.
15. Perform oil analysis for wear metals, moisture, acid.
16. Inspect vibration eliminators and inspect water piping for leaks.
17. Check condenser water strainer(s).
18. Check head pressure control operation for tower fans or bypass valve.
19. Check minimum condenser water temperature operation.
20. Clean purge drum and oil separator where applicable.
21. Check oil in purge and oil separator where applicable.
22. Lubricate purge pump motor where applicable.
23. Manually clean water side of condenser.

Head removal by:    McQuay        Customer   

Exceptions and additions: Includes Motor Starters

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# Assured Maintenance Agreement

## Fan and Central Fan Systems

### Service Program 5

Customer Name **School Board of Palm Beach County**

Agreement No.

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**McQuay will perform the following procedures:**

**Fans - Inspection**

1. Check and clean fan assembly.
2. Lubricate fan bearings per manufacturer's recommendations.
3. Lubricate motor bearings per manufacturer's recommendations.
4. Check belts and sheaves.
5. Tighten all nuts and bolts.
6. Check motor mounts and vibration pads.
7. Check motor operating conditions.
8. Inspect electrical connections and contactors.
9. Lubricate and adjust associated dampers and linkage.
10. Check fan operation.

**Central Fan Systems - Inspection**

1. Lubricate fan bearings per manufacturer's recommendations.
2. Lubricate motor bearings per manufacturer's recommendations.
3. Check belts and sheaves.
4. Tighten all nuts and bolts.
5. Check motor mounts and vibration pads.
6. Check motor operating conditions.
7. Inspect electrical connections and contactors.
8. Lubricate and adjust associated dampers and linkage.
9. Check fan operation.
10. Check strainers, check steam traps and hand valves.
11. Check filter advancing mechanism. Lubricate and adjust as required.
12. Inspect filters.
13. Check heating and cooling coils.
14. Inspect humidifier.

Exceptions and additions: Clean pan and drain line up to trap, clean coils as needed up to one time per year, method to be determined by McQuay .

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# Cooling Tower and Evaporative Condenser Service Program 6

Customer Name **School Board of Palm Beach County**

Agreement No.

**McQuay will perform the following procedures:**

**Annual Inspection**

1. Remove all debris from within and around unit and flush as required.
2. Check and blow down strainers, bleed, overflow and drain.
3. Lubricate fan and motor bearings per manufacturer's recommendation.
4. Check oil in gear reducer assembly as per manufacturer's recommendation.
5. Check belts, motor pulley and motor mounts. Adjust as required.
6. Inspect electrical connections, contactors, relays and operating/safety controls.
7. Check motor operating conditions.
8. Clean float valve assembly and check for proper operation.
9. Structural components and fill are not included in Agreement.

**Operational Inspection**

1. Inspect fan, motor and belts.
2. Check oil level in gear reducer. Add oil as required.
3. Check intake strainer, bleed and overflow.
4. Check operating conditions. Adjust as required.

Exceptions and additions: Mechanical moving parts coverage only.

Included: Condenser water treatment: provide all required chemicals with monthly inspections, using existing water treatment equipment. Chilled water loop: sample water annually and add inhibitors as necessary.

# Pumps

## Service Program 7

Customer Name **School Board of Palm Beach County**

Agreement No.

**McQuay will perform the following procedures:**

**Inspection**

1. Lubricate pump bearings per manufacturer's recommendations.
2. Lubricate motor bearings per manufacturer's recommendations.
3. Tighten all nuts and bolts. Check motor mounts and vibration pads.
4. Visually check pump alignment and coupling.
5. Check motor operating conditions.
6. Inspect electrical connections and contactors.
7. Check and blow down condenser pump strainers and check hand valves.
8. Inspect mechanical seals or inspect pump packing.
9. Verify gauges for accuracy.

Exceptions and additions: Mechanical moving parts coverage only.

# Assured Maintenance Agreement

## Predictive Maintenance

### Service Program 16

Customer Name **School Board of Palm Beach County**

Agreement No.

**McQuay will perform the following procedures:**

#### **Spectrochemical Oil Analysis**

Parameters tested	Results
Metals	Diagnosis
Moisture	Trends
Acid Number	Recommendations

1 Oil analysis(es) will be performed annually

#### **Refrigerant Analysis**

Parameters tested	Results
High boiling residue	Diagnosis
Acid number	Trends
Moisture content	Recommendations

0 Refrigerant analysis(es) will be performed annually

#### **Eddy Current Tube Analysis**

Parameters tested	Results
Corrosion	Verbal report
Support wear	Written report
Freeze bulges	Charts/Diagrams
Split fins	Recommendations
Leakers	
Pitting	

0 Eddy current analysis(es) will be performed annually. (Or is available on a quoted basis.)

#### **Vibration Analysis**

Parameters tested	Results
Measure horizontal deflections	Report
Measure vertical deflections	Trends
Measure axial deflections	Recommendations
Establish baseline	

0 Vibration analysis(es) will be performed annually

#### **Lithium Bromide Analysis**

Parameters tested	Results
Metals	Diagnosis
Lithium Bromide %	Trends
Lithium Hydroxide	Recommendations
Inhibitor	Chemical additions
Ammonia %	
Alcohol additive	
Foaming test	
Foreign contamination	

0 Lithium Bromide analysis(es) will be performed annually

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**Refrigerant Water Analysis**

Parameters tested	Results
Lithium bromide content	Diagnosis
Alkalinity	Trends
Inhibitor by-product	Recommendations
N factor	

0 Refrigerant water analysis(es) will be performed annually

**Glycol Analysis**

Parameters tested	Results
Color	Diagnosis
Glycol content	Trends
Freezing point	Recommendations
Suspended solids	
Reserve alkalinity	
Acid number	

0 Glycol analysis(es) will be performed annually

**Flue Gas Analysis**

Parameters tested	Results
CO <sub>2</sub> content	Diagnosis
O <sub>2</sub> content	Trends
Stack temperature	Recommendations

0 Flue gas analysis(es) will be performed annually

Exceptions and additions:

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# Assured Maintenance Agreement

## Variable Frequency Drives

### Service Program 18

Customer Name **School Board of Palm Beach County**

Agreement No.

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**McQuay will perform the following procedures:**

#### Annual Inspection

1. Vacuum dust from P.C. boards and internal cabinet parts.
2. Visually inspect all power connections for discoloration.
3. Tighten all electrical connections on line/load side of circuit breaker, output contactors, by-pass switches, SCR's, and power modules.
4. Verify cabinet fan operation, clean and lubricate (if applicable).
5. Verify all interlocks are connected correctly, i.e., by-pass switches, motor and temperature switches, overloads, and supply/return fans.
6. Verify all remote stop/start contacts. Run, enable contacts.
7. Megger output leads, record reading.
8. Verify supply voltage and phase sequence are correct.
9. Verify speed command for auto operation is correct. Adjust as needed.
10. Verify speed shaping is correct for application. Adjust as needed.
11. Start and run VFD in manual at full speed. Verify output voltages and clamp voltages. Adjust if necessary.
12. If applicable, run out set points and faults, etc. on thermal tape printer for customer file.
13. Verify with customer whether auto restart and other special options are enabled per their request.

#### Operational Inspection

1. Vacuum dust from P.C. boards and internal cabinet parts.
2. Visually inspect all power connections for discoloration.
3. Tighten all electrical connections on line/load side of circuit breaker, output contactors, by-pass switches, SCR's, and power modules.
4. Verify cabinet fan operation, clean and lubricate (if applicable).
5. Verify supply voltage and phase sequence is correct.
6. Verify speed command for auto operation is correct. Adjust as needed.
7. Verify speed shaping is correct for application. Adjust as needed.
8. Start and run VFD in manual at full speed. Verify output voltages and clamp voltages. Adjust if necessary.
9. If applicable, run out set points and faults, etc. on thermal tape printer for customer file.
10. Verify with customer auto restart operation and other special options.

Exceptions and additions: Includes air handlers and chilled water pumps.

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# Assured Maintenance Agreement Inspection and Conservation Service Program 19

Customer Name **School Board of Palm Beach County**

Agreement No.

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**McQuay will perform the following procedures:**

**Leak Testing/Repair**

1. Test chiller and related equipment for refrigerant leakage.
2. Identify and locate leaks.
3. Recommend corrective procedures.
4. Repair leaks if equipment covered under a Comprehensive Agreement.

**Recover/Retain/Recycle**

1. Recover and recycle refrigerant from chiller as necessary.
2. Identify type(s) of refrigerant and amount(s) recycled.
3. Replenish refrigerant in chiller as needed, if inspected and leaks repaired.
4. Identify type(s) of refrigerant and amount(s) required.
5. Reclaim refrigerant from equipment.
6. Identify type(s) and amount(s) of refrigerant reclaimed.
7. Verify date(s) tested, distillation vendor and date(s) shipped and returned.

**Disposal**

1. Dispose of refrigerant.
2. Identify type(s) and amount(s) of disposed refrigerant.
3. Verify date(s) tested, disposal vendor and date(s) shipped.
4. Obtain necessary federal, state and local authorization for transport and disposal of refrigerant.

Exceptions and additions:

Refrigerant coverage - R134a - 100%

R-11, R-12, R-500 - not covered under this agreement

R-22 - 100%

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