



STATE OF DELAWARE  
EXECUTIVE DEPARTMENT  
OFFICE OF MANAGEMENT AND BUDGET

October 28, 2015

TO: ALL STATE AGENCIES, SCHOOL DISTRICTS, MUNICIPALITIES, VOLUNTEER  
FIRE COMPANIES AND POLITICAL SUBDIVISIONS

FROM: Walt Gorman  
STATE CONTRACT PROCUREMENT OFFICER  
302-857-4556

SUBJECT: **AWARD NOTICE ADDENDUM #7** effective November 1, 2019.  
**CONTRACT NO. GSS15079-CHILLER\_\_MAINT**  
**Preventative Maintenance and Service - Chillers**

---

TABLE OF CONTENTS  
OF  
KEY CONTRACT INFORMATION

1. MANDATORY USE CONTRACT .....	2
2. CONTRACT PERIOD .....	2
3. ADDENDUM HISTORY .....	2
4. VENDORS .....	3
5. SHIPPING TERMS.....	3
6. PRICING .....	3
ADDITIONAL TERMS AND CONDITIONS.....	3



**GOVERNMENT SUPPORT SERVICES – CONTRACTING**  
100 ENTERPRISE PLACE – SUITE 4 – DOVER, DE 19904-8202  
PHONE: (302) 857-4550 – FAX: (302) 739-3779 – GSS.OMB.DELAWARE.GOV

## KEY CONTRACT INFORMATION

### 1. MANDATORY USE CONTRACT

[\(Return to Table of Contents\)](#)

**REF: Title 29, Chapter 6911(d) Delaware Code.** Every state department and agency within the Executive Branch and Judicial Branch of the state government shall procure all material, equipment and nonprofessional services through the statewide contracts administered by Government Support Services, Office of Management and Budget. Delaware State University, Delaware Technical and Community College, the operations funded by Public School Districts, Delaware Transit Corporation, the Legislative Branch and the Board of Pension Trustees and their consultants are specifically exempted from the requirements of this subsection.

### 2. CONTRACT PERIOD

[\(Return to Table of Contents\)](#)

Each contractor's contract shall be valid for a **two (2) year** period from **November 1, 2015 through October 31, 2017**. Each contract may be renewed for **three (3) one (1) year** periods through negotiation between the contractor and Government Support Services. Negotiation may be initiated no later than ninety (90) days prior to the termination of the current agreement.

- This contract has been extended one (1) additional year through October 31, 2018, with price changes effective November 1, 2017. All other terms and conditions remain the same.
- This contract has been extended one (1) additional year through October 31, 2019 under the same pricing, terms and conditions.
- **This contract has been extended one (1) additional year through October 31, 2020 under the same pricing, terms and conditions.**

### 3. ADDENDUM HISTORY

[\(Return to Table of Contents\)](#)

- Addendum #1 updates Johnson Controls vendor information.
- Addendum # 2 extends this contract one (1) additional year through October 31, 2018, with price changes effective November 1, 2017. All other terms and conditions remain the same.
- Addendum #3 updates previous addendum's information
- Addendum #4 updates Johnson Controls, Inc. contact information, effective January 11, 2018.
- Addendum #5 updates Statewide Mechanical, Inc. contact information, effective April 4, 2018.
- Addendum #6 extends this contract one (1) additional year through October 31, 2019 under the same pricing, terms and conditions. Secondary contact for Statewide Mechanical, Inc. updated effective July 13, 2018.
- **Addendum #7 extends this contract one (1) additional year through October 31, 2020 under the same pricing, terms and conditions.**
- Pricing Spreadsheet Addendum #1 adds additional Department of State locations for service and pricing.
- Pricing Spreadsheet Addendum #2 adds additional Division of Facilities Management location for service and pricing.
- Pricing Spreadsheet Addendum #3 updates vendor pricing effective November 1, 2017.
- Pricing Spreadsheet Addendum #4 adds additional Department of Correction location for service and pricing.
- Pricing Spreadsheet Addendum #5 adds additional department of Health and Social Services locations for service and pricing, effective June 28, 2017.
- Pricing Spreadsheet Addendum #6 updates Johnson Controls, Inc. contact information, effective January 11, 2018.

- Pricing Spreadsheet Addendum #7 updates Statewide Mechanical, Inc. contact information, effective April 4, 2018.
- Pricing Spreadsheet Addendum #8 updates Johnson Controls, Inc. contact information on Other tab, effective July 13, 2018.

**4. VENDORS**

[\(Return to Table of Contents\)](#)

<p><b>Statewide Mechanical, Inc.</b> 3295 Harris Road Townsend, De 19734</p> <p><b><u>Primary Contact</u></b> POC: Robert Stewart Phone: (302) 376-6117 Fax: (302) 376-6117 Email: <a href="mailto:statewideinc8@aol.com">statewideinc8@aol.com</a></p> <p>FSF: 0000028458</p> <p><b><u>Secondary Contact</u></b> POC: Paige Stewart Phone: (302) 376-6117 Fax: (302) 376-6127 Email: <a href="mailto:statewideinc8@aol.com">statewideinc8@aol.com</a></p>	<p><b>Johnson Controls, Inc.</b> 812 First State BLVD Wilmington, DE 19804</p> <p><b><u>Primary Contact</u></b> POC: Franklin Yoder Phone: (443) 365-4968 Fax: (866) 635-1397 Email: <a href="mailto:franklin.e.yoder@jci.com">franklin.e.yoder@jci.com</a></p> <p>FSF: 0000022859</p> <p><b><u>Secondary Contact</u></b> POC: Eno Jackson Phone: (302) 943-0356 Fax: (302) 269-4216 Email: <a href="mailto:enoch.a.jackson@jci.com">enoch.a.jackson@jci.com</a></p>
--	--

**5. SHIPPING TERMS**

[\(Return to Table of Contents\)](#)

F.O.B. destination; freight pre-paid.

**6. PRICING**

[\(Return to Table of Contents\)](#)

Prices will remain firm for the term of the contract year. Please see attached spreadsheet for pricing.

**ADDITIONAL TERMS AND CONDITIONS**

[\(Return to Table of Contents\)](#)

**7. BILLING**

The successful vendor is required to **"Bill as Shipped" to the respective ordering agency(s).** Ordering agencies shall provide at a minimum the contract number, ship to and bill to address, contract name and phone number.

**8. PAYMENT**

The agencies or school districts involved will authorize and process for payment each invoice within thirty (30) days after the date of receipt. The contractor or vendor must accept full payment by procurement (credit) card and/or conventional check and/or other electronic means at the State's option, without imposing any additional fees, costs or conditions.

**9. PRODUCT SUBSTITUTION**

All items delivered during the life of the contract shall be of the same type and manufacture as specified unless specific approval is given by Government Support Services to do otherwise. Substitutions may require the submission of written specifications and product evaluation prior to any approvals being granted.

**10. ORDERING PROCEDURE**

Successful contractors are required to have either a local telephone number within the (302) area code, a toll free (800) number, or agree to accept collect calls. Each agency is responsible for placing their orders and may be accomplished by written purchase order, telephone, fax or computer on-line systems. The contractor or vendor must accept full payment by procurement (credit) card and/or conventional check and/or other electronic means at the State's option, without imposing any additional fees, costs or conditions.

**11. PURCHASE ORDERS**

Agencies that are part of the First State Financial (FSF) system are required to identify the contract number **GSS15079-CHILLER\_MAINT** on all Purchase Orders (P.O.) and shall complete the same when entering P.O. information in the state's financial reporting system.

**12. REQUIREMENTS**

This contract will be issued to cover the Preventative Maintenance and Service Chillers requirements for all State Agencies and shall be accessible to any School District, Political Subdivision, or Volunteer Fire Department.

For a complete list of contract specifications please refer to the original bid solicitation document(s). Any contract specific documentation will be accessible through the hyperlink(s) provided on this contract's details page.

**13. HOLD HARMLESS**

The contractor agrees that it shall indemnify and hold the State of Delaware and all its agencies harmless from and against any and all claims for injury, loss of life, or damage to or loss of use of property caused or alleged to be caused, by acts or omissions of the contractor, its employees, and invitees on or about

the premises and which arise out of the contractor's performance, or failure to perform as specified in the Agreement.

**14. NON-PERFORMANCE**

In the event the contractor does not fulfill its obligations under the terms and conditions of this contract, the ordering agency may purchase equivalent product on the open market. Any difference in cost between the contract prices herein and the price of open market product shall be the responsibility of the contractor. Under no circumstances shall monies be due the contractor in the event open market products can be obtained below contract cost. Any monies charged to the contractor may be deducted from an open invoice.

**15. FORCE MAJEURE**

Neither the contractor nor the ordering agency shall be held liable for non-performance under the terms and conditions of this contract due, but not limited to, government restriction, strike, flood, fire, or unforeseen catastrophe beyond either party's control. Each party shall notify the other in writing of any situation that may prevent performance under the terms and conditions of this contract.

## **16. AGENCY'S RESPONSIBILITIES**

The Agency shall:

- a. Examine and review in detail all letters, reports, drawings and other documents presented by the Contractor to the Agency and render to the Contractor in writing, findings and decisions pertaining thereto within a reasonable time so as not to delay the services of Contractor.
- b. Give prompt written notice to the Contractor whenever the Agency observes or otherwise becomes aware of any development that affects the scope or timing of the Contractor's services.
- c. When an ordering agency first experiences a relatively minor problem or difficulty with a vendor, the agency will contact the vendor directly and attempt to informally resolve the problem. This includes failure to perform by the date specified and any unacceptable difference(s) between the purchase order and the merchandise received. Ordering agencies should stress to vendors that they should expedite correction of the differences because failure to reply may result in an unfavorable rating in the execution of the awarded contract.
- d. The state has several remedies available to resolve non-performance issues with the contractor. The Agency should refer to the Contract Terms and Conditions to view these remedies. When a default occurs, the Agency should first review the contract to confirm that the issue is a part of the contract. If the issue is not covered by the contract, the state cannot expect the contractor to perform outside the agreement. If the issue is a part of the contract, the Agency or GSS - Contracting must then contact the contractor, discuss the reasons surrounding the default and establish a date when the contractor will resolve the non-performance issue.
- e. If there is a performance deficiency, a Corrective Action Report (CAR) may be used. Complete this form to report concerns with vendors or commodities. Be sure to furnish as much detail as possible. <http://gss.omb.delaware.gov/divisionwide/forms.shtml>.

## **17. PREVENTATIVE MAINTENANCE**

Providing all necessary labor, parts, materials, supplies, supervision, and subcontracted services that will allow for the successful bidder(s) to perform regular, scheduled preventative and predictive maintenance tasks, utilizing equipment history, operating hours, and OEM requirements and procedures on a day to day basis. Travel time/expenses are the responsibility of the successful bidder(s) and will not be reimbursed. Minimum guidelines are provided herein.

## **18. REPAIR SERVICE**

The successful bidder(s) will not subcontract liabilities for equipment failures. Comprehensive routine maintenance should protect against most mechanical failures. Any failures that are covered within the scope of this agreement must be repaired without any delays. The covered equipment must be returned to operational duty as quickly as good repair maintenance dictates. If so directed, around the clock service must be provided to return a failed piece of equipment to operating condition if it is of a critical nature. The terms of this specification are for repair service of the listed equipment. Travel time/expenses are the responsibility of the successful bidder(s) and will not be reimbursed.

## **19. EMERGENCY SERVICE**

The successful bidder(s) shall provide emergency service on an “as required basis.” All labor, travel costs, parts and supplies will be the responsibility of the bidder(s). Compensation shall be limited to payment of the appropriate labor rate for time actually spent on the repairs and parts. Travel time/expenses are the responsibility of the successful bidder(s) and will not be reimbursed.

Emergency service shall be provided, as needed on a twenty-four (24) hour, seven (7) days a week basis. From the time of the call, the successful bidder(s) has a maximum of four (4) hours to respond and be on site to this call.

If the successful bidder(s) is unable to respond within four (4) hours and/or the malfunction or emergency is such that immediate action is required, then the State’s employees, may take such action as may be necessary under the circumstances.

## **20. CONTRACT MEETINGS**

The successful bidder(s) will be responsible for the completion of a variety of administrative and reporting requirements, and the cost of it shall be included in the base bid price.

Upon award of the contract and prior to the start of any work, the successful bidder(s) shall be available for an initial job meeting with representatives from the various agencies. This meeting shall include:

- a. The successful bidder(s) submission of a schedule of work to be reviewed and approved by the agencies.
- b. An introduction for each respective agency, chain of command, etc.

Unless otherwise directed, there shall be a periodic job meeting for the following purposes:

- a. Review job progress and quality of work.
- b. Identify and resolve problems, which impede planned progress.
- c. Coordinate the efforts of all concerned so that the contract progresses on schedule to on-time completion.
- d. Maintain a sound working relationship between the successful bidder(s) and the agencies, and a mutual understanding of the contract.
- e. Maintain sound working procedures.

## **21. GENERAL SPECIFICATIONS**

### **a. HOURS OF SERVICE**

DOC locations: All service is to be performed from 7:00 AM to 3:30 PM, Monday thru Friday, including emergency (call in) service.

All other locations: All service is to be performed from 8:00 AM to 4:30 PM, Monday thru Friday, including emergency (call in) service.

Service and repairs performed due to Emergency calls outside the regular business hours above will be performed at hourly rates listed in the Pricing Spreadsheet.

Emergency call response time will be less than four (4) hours. Non-emergency call response time shall be less than twenty-four (24) hours.

**b. TECHNICAL SERVICES ENGINEERING BACKUP**

The service company shall have in his direct employ personnel who will be available, without additional charge, for analysis, diagnostics, and predictive analysis of complex or unusual electrical/mechanical maintenance problems associated with the successful service contractor's administration of bid specification. The names and locations of such personnel fulfilling this assignment shall be included with the service contractor's bid proposal.

**c. AGREEMENT EXTRAS**

Should inspection(s) indicate that repairs are necessary that are outside the scope of this agreement, the service contractor shall provide the agency in writing a composite price including labor, parts, material, and related expenses for these repairs. However, the agency may elect to procure prices from others if deemed necessary. Should alterations, additions, adjustments or repairs be made by others to any part of the system(s) covered by this service agreement, the service contractor has the right to inspect such work as to having been performed in an acceptable manner to the service contractor prior to continuing the service agreement coverage. The service contractor will notify the agency in writing of such conditions which must be corrected prior to the service contractor's acceptance.

Before making any repairs, outside the Preventative Maintenance Scope, the successful bidder(s) must receive prior approval from the ordering agency. All repair service and parts charged against this contract must be verified and approved by the ordering agency. Invoices for repairs must include a breakdown of time (how many hours worked) and parts.

**d. PARTS AVAILABILITY**

The parts stock for all equipment covered herein shall be based on the equipment manufacturer's recommendations for: routine expendable parts, normal yearly replacement parts and multi-year replacement parts. The service contractor has the option of stocking locally or having access to immediate delivery parts for the purpose of providing unscheduled service parts on an emergency basis. In either case, the service contractor is expected to have emergency parts availability at no additional cost to the customer in a reasonable length of time (24 hours) to minimize equipment down time.

**e. COMBUSTIBLE MATERIAL**

All combustible materials shall be handled and stored in compliance with all NFPA, state and local safety codes and regulations. Thinners, fluid and loose dry products being used by the service contractor on site shall be kept covered at all time.

**f. WASTE OIL**

Disposal of all "waste oil" will be the responsibility of the successful bidder(s). Waste oil will constitute any oil removed from any piece of equipment that is a part of this specification. Since the State is concerned with protecting our environment, all oil removed from serviced equipment will be classified as "waste oil" and is to be disposed of within the guidelines of DNREC (Department of Natural Resources and Environmental Control) and EPA regulations. This includes all reports and manifests associated with tracking the waste oil to its final deposition. Include, as a part of your response to this solicitation, your method of waste oil disposal.

**g. SPECIAL REPORTS**

The successful bidder(s) shall maintain a record of all maintenance service and repairs relating to the equipment included in this agreement. Written reports are to be turned in to the agency's designated person upon completion of each inspection as long as all equipment checks out satisfactorily. If a problem is found that has the potential to be a major problem, or if it may be the cause for shutdown repairs, then this problem must be directly brought to the attention of the designated person so that a plan of action can be formulated for the timeliest repair to the equipment. As a condition of this bid, a plan of action report as to how the equipment is to be serviced and/or repaired is to be included.

DOC LOCATIONS: A COPY OF THE SERVICE REPORT IS TO BE GIVEN TO THE FACILITY SUPERINTENDENT AND A COPY SENT TO FACILITIES MAINTENANCE MANAGER PRIOR TO PAYMENT.

**h. REFRIGERANT STATUS REPORT**

A Refrigerant Status Report shall be executed every time refrigerant is added to or removed from any air conditioning or refrigeration machine. This form shall comply with EPA guidelines in form and content. One copy of each form shall be given to the agency contact, one copy left on the jobsite in close proximity to the machine, and copies retained at the Successful Bidder's office.

**i. TRAINING**

Upon request the successful bidder(s) will provide, free of charge, formal/informal training to the agency so that they understand the operation and diagnostic procedures necessary to keep the equipment operating in the most beneficial manner.

**j. EQUIPMENT INFORMATION/IMPROVEMENTS**

The successful bidder(s) shall keep abreast of all equipment changes and product improvements and he will continually explore new and better methods of higher technology that will enhance the agency's preventative maintenance service agreement capabilities, and enhancements to plant operations. It shall be the successful bidder's duty to notify the agency of these changes, improvements, methods, as they occur, so that the agency may enhance their operations and maintenance programs.

**k. WARRANTY**

The successful bidder(s) guarantee that all service and repairs provided under this agreement shall be performed in a workmanlike manner. Any claim of defective workmanship must be provided to the successful bidder(s) by written notice prior to the termination date of this contract upon which the successful bidder(s) agrees to remedy and redo any such service(s) in a timely manner without cost to the agency.

The successful bidder(s) also warrants against defects in materials, and workmanship of all the successful bidder(s) part(s) or component(s) supplied hereunder for a period of one year from date of installation or until the termination date of this agreement, whichever is earlier. If any part(s) or component(s) should prove defective during the aforementioned warranty period, the successful bidder(s) will at its option repair or replace any such items provided they were not damaged, abused, or affected by chemical properties.

THIS WARRANTY IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESS, IMPLIED OR STATUTORY INCLUDING THE IMPLIED WARRANTIES OR MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.

The successful bidder's obligation to repair, replace, or perform a service, on any defective part(s), component(s) or service shall be the agency's exclusive remedy under this agreement.

Part(s), component(s) or services furnished by others to the successful bidder(s) carry the same guarantee to the agency as the successful bidder(s) receives. If the agency requests parts or services not included in this agreement, it is agreed that all requested part(s), component(s) or services supplied by the successful bidder(s) will be accepted subject to the successful bidder's Condition of Sale issued with each order.

**I. DIVISION OF FACILITIES MANAGEMENT**

To allow the successful bidder(s) to properly perform the service plus repairs included in this agreement, Division of Facilities Management shall:

1. Permit access to Division of Facilities Management's site and use of building services including, but not limited to: water, elevators, receiving dock facilities, electrical service and local telephone service.
2. Keep areas adjacent to equipment free of extraneous material, move any stock, fixtures, walls or partitions that may be necessary to perform the specified service.
3. Promptly notify the successful bidder(s) of any unusual operating conditions.
4. Upon agreement of a timely mutual schedule, the Division of Facilities Management shall allow the successful bidder(s) to stop and start equipment necessary to perform service.
5. Provide adequate water treatment (if not included herein) to protect the tubes, tube sheets, water boxes and equipment water side from scale and fouling.
6. Provide the daily routine equipment operation (if not part of this contract) including availability of routine equipment log readings.
7. Where the successful bidder's remote monitoring service is provided, the Division of Facilities Management is to provide and maintain a telephone line with long distance direct dial and answer capability.

**m. DEPARTMENT OF CORRECTION**

To allow the successful bidder(s) to properly perform the service plus repairs included in this agreement, Department of Correction shall:

1. Permit access to Department of Correction sites and use of building services including, but not limited to: water, elevators, receiving dock facilities, electrical service and local telephone service.
2. Keep areas adjacent to equipment free of extraneous material, move any stock, fixtures, walls or partitions that may be necessary to perform the specified service.
3. Promptly notify the successful bidder(s) of any unusual operating conditions.
4. Upon agreement of a timely mutual schedule, the Department of Correction shall allow the successful bidder(s) to stop and start equipment necessary to perform service.
5. Provide adequate water treatment (if not included herein) to protect the tubes, tube sheets, water boxes and equipment water side from scale and fouling.

6. Provide the daily routine equipment operation (if not part of this contract) including availability of routine equipment log readings.

n. **EQUIPMENT**

A list of all chillers, associated air conditioning equipment and boilers to be covered under this contract can be found in the Pricing Spreadsheet. The State reserves the right to add or delete locations as needed.

o. **MAINTENANCE PROGRAM – RECIROCATING EQUIPMENT**

1. Autumn System Check – Once a year, in the fall, a thorough preventative maintenance schedule will be performed, including the following:
  - a. Check the unit thoroughly for refrigerant leaks – customer witness.
  - b. Meg test compressor motor, record temperature – customer witness.
  - c. Check and tighten all electrical terminals and check contacts for wear. Clean with approved contact cleaner – customer witness.
  - d. Check oil level in compressor and add as required.
  - e. Tighten motor terminals and control panel terminals.
  - f. Check crankcase heater for proper operation.
  - g. Check oil sample for acid prior to oil change – customer witness.
  - h. Report any uncorrected deficiencies noted.
  - i. Brush and visually inspect all condenser tubes, using a nylon brush after removing heads.
2. Seasonal Start-up (to be completed by April 15<sup>th</sup>)-
  - a. Functionality test and calibrate safety and operating controls per manufacturer’s specifications – customer witness.
  - b. Start unit. Check control and calibrate.
  - c. Check refrigerant and oil levels and add as required. Provide materials, including Freon.
  - d. Check operation and refrigerant pressures.
  - e. Make complete operating log and record readings.
  - f. Check starter operation, voltage, and current.
  - g. Check external interlocks, flow switch, and pumps.
  - h. Set up operating log with operator, instruct and advise troubleshooting techniques.

3. Scheduled Preventative Maintenance – Three (3) other inspections within seven (7) days of June 30, July 30, and August 30 during the operating season will be made to include the following, at least:
  - a. Make complete operating log and record proper operating temperatures, pressures, voltages and amperages.
  - b. Check and adjust operating and safety controls.
  - c. Check operation of crankcase heater.
  - d. Check compressor oil level and add as required.
  - e. Check operation of control circuit.
  - f. Check operating log with operator, discuss operation of the machine generally.
  - g. Check water/air flow of evaporator and condenser.
  - h. Check super heat – customer witness.
  - i. Check operation of all motors, starters and cooling tower fans.
  - j. Report to operator any uncorrected deficiencies noted.
4. Written Reports – Provided to customer representative following each regular inspection or emergency call.
5. Note – Adequate water treatment by a qualified water treatment firm will be furnished for the equipment covered under this contract. (Chilled water loops)

**16. MAINTENANCE PROGRAM – CENTRIFUGAL CHILLERS**

- a. Annual Winter Maintenance – Once a year a thorough preventative maintenance schedule will be performed, including the following, at least:
  1. Replace all oil filters and all disassembled gaskets.
  2. Detailed inspection of purge system and thorough cleaning of purge compressor, purge oil separator, purge drum, and purge condensing coil. Change purge oil as required. Disassemble purge drum.
  3. Check condition of contacts for wear, pitting, etc.
  4. Meg compressor motor. Record temperature readings – customer witness.
  5. Check dash-pot oil in main starter and change when necessary. Manually trip over-loads, tighten all starter terminals and inspect contacts for wear. Clean with approved contact cleaner – customer witness.
  6. Tighten motor terminals and control panel terminal.
  7. Clean oil strainer; replace filter and gasket.

8. Tighten oil heater leads.
  9. Check operation of vane positioner.
  10. Change oil on an annual schedule.
  11. Check and clean starter cooling systems.
  12. Brush and visually inspect all condenser tubes, using a nylon brush, after removing heads.  
(Customer witness – prior to cleaning.)
  13. Check oil sample for acid – customer witness.
  14. Leak Testing (written report to agency)
- b. Seasonal Start-up (to be completed by April 15<sup>th</sup>)–**
1. Start machine. Check controls and calibrate to ensure minimum chilled water set point stays above 40F.
  2. Complete operating log and record settings.
  3. Check refrigerant and oil levels, adjust as necessary, provide materials, including refrigerant.
  4. Check purge unit for proper operation.
  5. Check starter operation, voltage and current.
  6. Set up operating log with operator, instruct and advise troubleshooting techniques.
- c. Scheduled Preventative Maintenance – Three (3) other inspections during the operating season within seven (7) days of June 30, July 30, and August 30 will be made and will include the following:**
1. Complete operating log of temperatures, pressures, voltages and amperages (sample log sheet attached).
  2. Change oil in purge vacuum pumps when required.
  3. Check operation of purge system.
  4. Check operation of control circuit.
  5. Check operation of lubrication system including oil pump and oil pressure regulator.
  6. Check operation of motor and starter.
  7. Check customer's log with operator, discuss operation of the machine generally.
  8. Report to operator any uncorrected deficiencies noted.
  9. Check and adjust operating and safety controls.
  10. Check operation of oil heater.

11. Check compressor oil level and add as required.
  12. Check water flow of evaporator and condenser.
  13. Check super heat.
  14. Check operation of all motors, starters, and cooling tower fans.
- d. Analysis Services – Various diagnostic tests are to be performed depending on equipment duty and type as state below. Reports with interpretation and recommendation to be included:
1. Oil sample and analysis for wear, metals, acid content and moisture. Samples to be taken one (1) time per year. Copies of analysis will be submitted to agency contact.
- e. Written Reports – Provided to customer representative following each regular inspection or emergency call.
- f. Note – Adequate water treatment by a qualified water treatment firm will be furnished by the Agency for the equipment covered under this contract for the condenser and chilled water loops.

#### **17. MAINTENANCE PROGRAM – SCREW CHILLERS**

- a. Annual Winter Maintenance – Once a year a thorough preventative maintenance schedule will be performed, including the following, at least:
1. Replace all oil filters and all disassembled gaskets.
  2. Check condition of contacts for wear, pitting, etc.
  3. Meg compressor motor. Record temperature readings – customer witness.
  4. Manually trip over-loads, tighten all starter terminals and inspect contacts for wear. Clean with approved contract cleaner – customer witness.
  5. Tighten motor terminals and control panel terminal.
  6. Clean oil strainer; replace filter and gasket.
  7. Tighten oil heater leads.
  8. Check operation of load capacity devices.
  9. Change oil on an annual schedule.
  10. Check and clean starter cooling systems.
  11. Brush and visually inspect all condenser tubes, using a nylon brush, after removing heads. (Customer witness prior to cleaning.)
  12. Check oil sample for acid – customer witness.
  13. Leak testing (written report to agency).

- b. Seasonal Start-up (to be completed by April 15<sup>th</sup>)–**
  - 1. Start machine. Check controls and calibrate to ensure minimum chilled water set point stays above 40F.
  - 2. Complete operating log and record settings.
  - 3. Check refrigerant and oil levels, adjust as necessary, provide materials, including refrigerant.
  - 4. Check starter operation, voltage and current.
  - 5. Set up operating log with operator, instruct and advise troubleshooting techniques.
  
- c. Scheduled Preventative Maintenance – Three (3) other inspections during the operating season within seven (7) days of June 30, July 30, and August 30 will be made and will include the following:**
  - 1. Complete operating log of temperatures, pressures, voltages and amperages (sample log sheet attached).
  - 2. Check operation of control circuit.
  - 3. Check operation of lubrication system including oil pump and oil pressure regulator.
  - 4. Check operation of motor and starter.
  - 5. Check customer's log with operator, discuss operation of the machine generally.
  - 6. Report to operator any uncorrected deficiencies noted.
  - 7. Check and adjust operating and safety controls.
  - 8. Check operation of crankcase heater.
  - 9. Check compressor oil level and add as required.
  - 10. Check water/air flow of evaporator and condenser.
  - 11. Check super heat.
  - 12. Check operation of all motors, starters, and cooling tower fans.
  
- d. Analysis Services – Various diagnostic tests are to be performed depending on equipment duty and type as stated below. Reports with interpretation and recommendation to be included:**
  - 1. Oil sample and analysis for wear, metals, acid content and moisture. Samples to be taken one (1) time per year.
  - 2. Refrigerant sensors are to be tested annually at the following locations:
    - a. Kent County – State Highway Administration Building
    - b. Kent County – Richardson and Robbins Building
    - c. Kent County – State Archives
    - d. Kent County John Townsend Building

- e. Sussex County – Sussex County Court House
- e. Written Reports – Provide to customer representative following each regular inspection or emergency call.
- f. Note – Adequate water treatment by a qualified water treatment firm will be furnished by the agency for the equipment covered under this agreement for the condenser and chilled water loops.