Board of County Commissioners • Escambia County, Florida

Paul R. Nobles/Purchasing Manager
Office of Purchasing

September 11, 2018

To: All Known Prospective Bidders

Addendum Number 3:

RE: Central Energy Plant Control
Specification Number: PD 17-18.089

All:

The following information request has been received. The responses are included with this addendum as attachments.

This Addendum Number 3 is furnished to all known prospective Bidders. Please sign and return one copy of this Addendum, with original signature, with your proposal as an acknowledgement of you having received same. You may photo copy for your record.

Sincerely,

Buzz Roggenbuck
Sr. Purchasing Coordinator

Acknowledgement of Receipt of Addendum 3

SIGNED: _____

COMPANY: _____

PD 17-18.089 Central Energy Plant Control - Addendum #3:

Request for information:

1. Most recent Eddy Current reports for all listed chiller's heat exchangers.
2. Most recent comprehensive Annual shut down inspection reports for all listed equipment.
3. July/August 2018 operating inspection reports for all listed equipment.
4. Age of listed equipment.
5. Most recent refrigerant and oil analysis reports for all chillers listed.
6. Most recent contract, including the awarded price.
7. List of any major repairs done on all listed equipment in the last 3 years.

ATTACHMENTS

M.C. Blanchard Judicial Ctr.

January 2017
1.20.17 - Bi-Monthly Inspection

February 2017
2.6.17 - Bi-Monthly Inspection and Completed Annual Inspection on Chillers.
2.28.17 - Completed first Cooling Tower Annual Inspection
3.1.17 - Completed second Cooling Tower Annual Inspection and started on wooden Cooling Tower Annual Inspection.

March 2017
03.02.17 - 03.03.17 - Monthly Inspection-Continued cleaning first and second cooling towers
03.17.17 -Bi-Monthly Inspection
03.24.17 - Continued Bi-Monthly Inspection
03.27.17 - Cooling tower -Found the fill valve leaking, ordered new valve.
03.31.17 - Cooling tower- switched down chiller #4 and removed and replaced the valve and adjusted the other valve. Closed up tower and restarted chiller.

April 2017
4.14.17 - Bi-Monthly Inspection - Inspected Chiller and Towers for proper operation and cleanliness. Lubed cooling towers and pumps. Check motors and contactors.
4.21.17 - Chiller going off on surge - Did an annual log, could not find a problem with the unit but found cooling tower fan would not operate in the auto position, but would in hand. Cooling tower sump temp sensor is reading 250 degrees and this is the point that controller is reading to start and stop the fans.
4.21.17 - Bi-Monthly Inspection - Changed Oil Filter. Cleaned Starter Strainer and changed Starter Coolant on Chiller 2. Ran Chiller 2 and tested for proper operation.

May 2017
5.12.17 - Bi-Monthly Inspection - Inspected Towers, Chillers, Pumps, and Drives. Checked electrical and motors. Logged Chillers. PM Complete. No follow up recommended.
5.31.17 - Bi-Monthly Inspection - Logged Chillers. Inspected Pumps, Towers, Drives for proper operation and cleanliness. PM Complete.

9.27.17 - Cooling tower was drained. Cut the PVC out and the eight-inch steel pipe and remade the connection. Welded up the fitting. Bolted back up and filled back up. Checked for leaks, started up the pumps, and bled off all air. Started the chillers up.
9.28.17 - Returned and painted the piping and finished cleaning out the cooling tower spray nozzles.
9.28.17 - Bi-Monthly Inspection - Cleaned out the nozzles on wooden cooling towers.
9.29.17 - Bi-Monthly Inspection - Inspected chillers, towers, pumps, and drives. Logged chillers.

October 2017
10.12.17 - Bi-Monthly Inspection - Logged chillers and inspected all HVAC equipment for proper operation.
10.23.17 - Bi-Monthly Inspection - Inspected cooling towers and pumps for proper operation and cleanliness.
10.24.17 - Bi-Monthly Inspection - Inspected chillers, towers, pumps and drives for proper operation and cleanliness.

November 2017
11.13.17 - Bi-Monthly Inspection - Logged the two chillers. #4 is off line due to shaft seal being bad.
11.22.17 - Bi-Monthly Inspection
11.28.17 - Bi-Monthly Inspection - Greased all the pumps.
11.29.17 - Bi-Monthly Inspection - Logged the two chillers and finished the Cooling Tower inspection.
11.30.17 - Bi-Monthly Inspection - Logged chiller #4.

December 2017
12.4.17 - Bi-Monthly Inspection - Added oil to chiller #4
12.6.17 - Bi-Monthly Inspection - Logged chiller #4
1.3.18 - Bi-Monthly Inspection - Logged chiller #2 and started inspection on #1
1.4.18 - Bi-Monthly Inspection - Finished chiller logs and put #1 starter back together

January 2018
1.17.18 - Annual Inspection - Started Annuals on #1-2. Logged three.
1.26.18 - Annual Inspection - Started the Annuals on #1-4 megged motors and got oil samples from all logged #4.
2.5.18 - Annual Inspection - Pulled the heads off of #1-4 and brushed the tubes. Need to return and finish the tubes on the #4 machine and put the head back on and get ready to run to get #2 off line.

2.7.18 - Annual Inspection - Brushed tubes on chiller #4.
2.7.18 - Annual Inspection - Returned to put condenser head back on #4 and leak checked. Merger the motor and tighten all connection to compressor. Changed all oil and inductor filter and switch back into service.

February 2018
2.19.18 - Bi-Monthly Inspection - Drained and removed condenser head to brush tubes. Put back together and did running log on #4.
2.22.18 - Bi-Monthly Inspection - Finished Chiller Logs

March 2018
3.16.18 - Bi-Monthly Inspection - Found all chillers went down night before and that #1-4 would not start. Found #4 down on Lube Alarm and had a blown fuse on the 115-volt side. Replaced and checked operations. Logged the chillers and greased the pumps and the cooling towers.
3.28.18 - Bi-Monthly Inspection - Greased the pumps and started on logging the chillers.
3.29.18 - Logged the 3 chillers and greased the cooling towers for the #1-2 chillers.

April 2018
4.11.18 - Bi-Monthly Inspection - Started PM on cooling towers
4.12.18 - Bi-Monthly Inspection - Finished PM
4.25.18 - Bi-Monthly Inspection - Logged both chillers. #4 off due to the evap. Checked cooling towers and pumps.

May 2018
5.22.18 - Bi-Monthly Inspection - Started PM on the chillers
5.25.18 - Bi-Monthly Inspection - Finished checking the cooling towers and the pumps. Logged the running chillers.

June 2018
6.15.18 - Bi-Monthly Inspection - Greased the pumps.
6.21.18 - Bi-Monthly Inspection - Finished logging the 3 chillers and checked cooling towers.

July 2018
7.12.18 - Bi-Monthly Inspection - Started and ran the 3 chillers. Logged each, checked towers and pumps.
7.18.18 - Chiller Down - Fund the suction pressure transducer bad. Replaced. Also found problem with refrigerant float. Got the unit running, return to troubleshoot.

7.25.18 - Chiller #1 & #2 Issues - Chiller #1 has issues with dual oil filter block. Changed oil filter and switched to right filter. Brought chiller online. Chiller #2 removed plugs from starter board. Checked and cleaned pins. Reinstalled and started chiller. Chiller was left online.
7.25.18 - Bi-Monthly Inspection - Logged the chiller.

West Florida Regional Library

January 2017
1.4.17 - Bi-Monthly Inspection
1.20.17 - Bi-Monthly Inspection
1.31.17 - Found the boiler shut down and both loop and drive pumps shut down. Removed all the panels to the boiler and found a spare coupling in the back. Locked out the boiler and removed the motor from the pump. Found the motor drive worked loose and would not seat on the motor shaft. Cleaned up the drive sides of the motor and the pump and replaced the set screws. Reinstalled the motor back on the pump. Ordered two replacement couplings. Checked operation, all normal. Looked at the chiller and found that someone had moved the set point to 58. Moved back down to 44 and watched operation.

February 2017
2.1.17 - Bi-Monthly Inspection

March 2017
03.08.17 - Bi-Monthly Inspection
03.27.17 - Bi-Monthly Inspection

April 2017
4.7.17 - Chiller shutting off on No Flow. Chill water pump and the bypass valve was opening and closing very fast. Customer said that the dp on the #4 AHU was losing signal and that we needed to put the bypass into manual and the unit would be ok until they could get the dp switch replaced.
4.13.17 - Bi-Monthly Inspection - Logged Chiller. Inspected Pumps and Boiler
4.23.17 - Float Sensor Replacement - Bad Flow Sensor. Shut off the pump, valved out drained water, and removed the switch. Put in new switch, bled off, and valved back in. Checked Operation. Water got down to 42 degrees and new Flow Sensor was reading correctly.
4.24.17 - Flow Sensor Tripped - Found 8 pounds of drop, minimum is 3. Reset and checked operation. Flow went down under minimum set point and the chiller tripped the switch but did an auto-reset. Trane was there and found a d-p on the AHU 7 that was not reading the correct d-p and was working the bypass and the pump speed off this sensor. Issue with the controls, not the chiller.
4.27.17 - Bi-Monthly Inspection - Logged Chiller. Inspected Boiler and Pumps.

May 2018
5.22.18 - Bi-Monthly Inspection - Inspected Boiler, Chiller, Pumps, and Drives
6.5.18 - Bi-Monthly Inspection - Inspected Chiller, Boiler, Pumps, and Drives

June 2018
6.15.18 - Bi-Monthly Inspection - Inspection of boiler, pump drives. Grease motor, inspect chiller and log.
6.27.18 - Bi-Monthly Inspection - Inspect chiller, boiler, pumps and drives.

July 2018
7.16.18 - Bi-Monthly Inspection - Inspect chiller and boiler. The chiller is making setpoint. The boiler is working properly also.
8.2.18 - Bi-Monthly Inspection - Log and inspect chiller. Inspected pumps and drives. Bypassed relay to start boiler after putting hot water pump in hand. Ran to 150° before turning back to auto. Boiler relay start/stop intermittent as is the pump. Talked with ECBCC tech and he said he was waiting on a controls tech.

Central Office Complex

January 2017
1.18.17 - Bi-Monthly Inspection of Trane Chiller. Attempted Bi-Monthly Inspection of Smardt Chiller but could not switch over.
1.26.17 - Bi-Monthly Inspection of Trane Chiller. Attempted Bi-Monthly Inspection of Smardt Chiller but could not run.

February 2017
2.8.17 - Bi-Monthly Inspection of Trane Chiller and Smardt Chiller
2.20.17 - Bi-Monthly Inspection of Trane Chiller. Attempted Bo-Monthly Inspection of Smardt Chiller but could not get switched over.

March 2017
03.20.17 - Bi-Monthly Inspection of Trane Chiller and Smardt Chiller
03.31.17 - Bi-Monthly Inspection of Trane Chiller. Was unable to switch over the Smardt to run log sheet.

April 2017
4.11.17 - Bi-Monthly Inspection of Trane Chiller and Smardt Chiller. Could not get the Smardt Chiller changed over.
4.20.17 - Bi-Monthly Inspection. Logged Trane Chiller and greased the pumps. Called and had the Chiller switched over.

May 2017
5.15.17 - Bi-Monthly Inspection of Trane Chiller and Smardt Chiller. Logged the Trane Chiller and called FMD to switch over to the Smardt and could not get switched.
5.18.17 - Smardt Chiller in Fault. Smardt Chiller Compressors have tripped out on High Inverter Temp (156*) alarm on 4/21/17. Chiller has not been run since then. Reset all alarms. Had George start chiller and monitored all compressor electronics temperatures. All temps are running well below safety limits. Unknown at this time why compressors ran warm in April. Possible cool weather refrigerant stacking in condenser coils. George will advise on any further trouble.
5.23.17 - Smardt Chiller has locked out fault on Inverter Temp. Reset Chiller, compressor 2 is off due to high inverter temperature. Started to rain which prevented opening up unit. Will return.
5.24.17 - Return on Smardt Chiller lock out fault on Inverter Temp. Found Chiller Compressor #2 tripped off on Inverter Temp.

November 2017
11.9.17 - Bi-Monthly Inspection - Logged the Trane chiller. The Smardt chiller was offline.
11.22.17 - Bi-Monthly Inspection - Logged the Trane chiler and called FMD to switch over, but there was no one there.

December 2017
12.11.17 - Bi-Monthly Inspection - Logged the two chillers
12.28.17 - Bi-Monthly Inspection - Logged the Trane chiller

January 2018
1.23.18 - Bi-Monthly Inspection - Logged the two chillers
2.1.18 - Bi-Monthly Inspection - Got the Smardt Chiller switched over so that it could be logged.

February 2018
2.21.18 - Bi-Monthly Inspection - Started and ran both chillers
3.2.18 - Bi-Monthly Inspection - Inspected chiller and logged

March 2018
3.9.18 - Bi-Monthly Inspection - Logged Trane Chiller
3.27.18 - Bi-Monthly Inspection - Logged Trane Chiller and Smardt Chiller

April 2018
4.12.18 - Bi-Monthly Inspection - Checked in with customer over the phone. Logged the Trane chiller and had the Smardt chiller switched over and logged it.
4.27.18 - Bi-Monthly Inspection - Logged the Smardt chiller. At this time the Trane chiller was off line.

May 2018
5.25.18 - Bi-Monthly Inspection - Logged both of the Chillers
6.7.18 - Bi-Monthly Inspection - Logged the Trane Chiller, it was the only one running at the time.

June 2018
6.12.18 - Bi-Monthly Inspection - Logged both of the Chillers on site.
6.27.18 - Bi-Monthly Inspection - Logged the Trane Chiller. Could not get the Smardt Chiller switched over.

July 2018
7.17.18 - Bi-Monthly Inspection - Logged the Trane chiller. Could not get the Smardt switched over.
7.25.18 - Bi-Monthly Inspection - Checked in with the customer. Logged the Trane chiller. Smardt chiller offline at the time.

January 2017
1.27.17 - Bi-Monthly inspection

February 2017
2.3.17 - Bi-Monthly Inspection
2.20.17 - Bi-Monthly Inspection

March 2017
03.20.17 - Bi-Monthly Inspection

April 2017
4.12.17 - Bi-Monthly Inspection
4.25-4.26.17 - Bi-Monthly Inspection

May 2017
5.17.17 - Bi-Monthly Inspection
5.31.17 - Bi-Monthly Inspection
June 2017
6.12.17 - Bi-Monthly Inspection
6.28.17 - Bi-Monthly Inspection

July 2017
7.20.17 - Bi-Monthly Inspection

August 2017
8.9.17 - Bi-Monthly Inspection
8.14.17 - Bi-Monthly Inspection - Greased all motors and pumps, inspected and logged chillers, checked electrical.
8.30.17 - Bi-Monthly Inspection - Inspect pumps, chillers, drives, controls, and log chillers.

September 2017
9.11.17 - Bi-Monthly Inspection
9.20.17 - Bi-Monthly Inspection - Cleaned coils on chiller 2 & 3 condensers

October 2017
10.3.17 - Bi-Monthly Inspection - Inspect chillers and pumps. Clean coil on chillers 1 and 3.
10.27.17 - Bi-Monthly Inspection - Inspect chillers, pumps, and valves. Log chillers.

November 2017

June 2018
6.15.18 - Bi-Monthly Inspection - Inspect chillers, grease pump motors, valves and drives
6.19.18 - Central Plant Chiller #3 - Chiller 3 offline due to Compressor 2A Starter Module issue. Will need to replace bearings on Chill Water Pump #2 after module is replaced.
6.27.18 - Central Plant Chiller #3 - Installed Starter Module for compressor. Unlocked compressor, restarted chiller.
6.27.18 - Bi-Monthly Inspection - Inspect chillers, pumps, have issues with Pump #2.

July 2018
7.17.18 - Bi-Monthly Inspection - Logged the #1-#3 chillers. Checked all fan motors and fans.
8.2.18 - Bi-Monthly Inspection - Log chillers, inspect pumps. Drives pump 2 still needs repairs and chiller #3 CH530 controller needs to be replaced.

Engineered Cooling Services
Building Efficiency and Sustainability

A Service Logic Company

February 9, 2018

Escambia County Board of County Commissioners
PO Box 1591
Pensacola, FL 32591-1591

Attn: George Puel

SUBJECT: OIL ANALYSIS REPORT

Dear Mr. Puel:

Please find attached copies of the laboratory oil analysis taken during the preventive maintenance service for the following:

Model #	Serial #	Location	See Note
YSDCCD53-CLC	SDGM960510	Blanchard – Chiller 1	
YKK	SBXM852570	Blanchard – Chiller 2	Moisture Level
YKFB 800	SBNM245900	Blanchard – Chiller 4	Moisture Level

All wear metals, moisture, and acid were in satisfactory ranges, unless otherwise indicated above. If noted above, please see detailed Oil Analysis Report for further information.

If there are any questions please don't hesitate to call.

Best Personal Regards,

Ray Rodriguez
Executive Vice President

TRANE

Trane Chemical Laboratory

Oil Analysis

ENGINEERED COOLING SERVICES
2801 N DAVIS HWY
PENSACOLA, FL 32503

Phone Number:

Lab Number: 021803720
Serviced By: ENGINEERED COOLING SERVICES
Purchase Order: 20202
Serial Number: SDGM960510
Equipment Owner: ESCAMBIA COUNTY
Location: BLANCHARD/CH-1
Model: YSDCCD53-CLC

* O = Oil Changed, B = Bearing, R = R'Newal

Sample Data				Physical Data			Wear Metal Data (in parts per million)						
Sample Number	Date Analyzed	Service Period	*	Oil Type	Moisture PPM	Total Acid	Aluminum	Chromium	Copper	Iron (Fe)	Lead	Tin	Zinc
050714353	5/29/07			YORK S	170	0.0559	2	1	4	159	1	12	4
100729073	10/1/07			YORK S	142	0.0864	0	0	3	120	0	7	3
040811024	4/11/08			YORK S	83	0.0719	0	0	2	125	0	8	3
090830968	9/24/08			YORK S	166	0.0825	0	0	3	123	0	10	3
020904445	2/13/09			YORK S	75	0.0816	0	0	2	135	0	9	6
021004241	2/15/10	17567 Hours		YORK	66	0.0396	0	0	2	127	0	8	4
041313210	4/19/13			YORK	132	0.0423	0	0	24	77	1	6	4
081325712	8/12/13				323	0.0706	1	0	16	67	0	6	3
041412059	4/9/14	18154 Hours		YORK P	168	0.0235	0	0	38	80	0	6	5
031508422	3/5/15			YORK	74	0.0435	0	0	35	78	1	6	5
021603598	2/2/16	0 Hours	O		155	0.0482	1	0	48	74	0	6	4
021803720	2/8/18	0 Hours		YORK C	77	0.0264	0	0	3	5	0	1	1

ENGINEERED COOLING SERVICES
2801 N DAVIS HWY
PENSACOLA, FL 32503

Phone Number:

Lab Number:	Serviced By:		Purchase Order:
021803720	ENGINEERED COOLING SERVICES		20202
Serial Number:	**Equipment Owner:**	**Location:**	**Model:**
SDGM960510	ESCAMBIA COUNTY	BLANCHARD/CH-1	YSDCCD53-CLC

090627929 **9/23/06**

The iron level is high.

Acid number, moisture, and other wear metals are satisfactory ranges.

Resample in 3-4 months or 2500 hours.

050714353 **5/29/07**

The iron level is high.

Acid number, moisture, and other wear metals are satisfactory ranges.

Resample in 3-4 months or 2500 hours.

100729073 **10/1/07**

The iron level is high.

Acid number, moisture, and other wear metals are satisfactory ranges.

Resample in 3-4 months or 2500 hours.

040811024 **4/11/08**

The iron level is high.

Acid number, moisture, and other wear metals are satisfactory ranges.

Resample in 3-4 months or 2500 hours.

090830968 **9/24/08**

The iron level is high.

Acid number, moisture, and other wear metals are satisfactory ranges.

Resample in 3-4 months or 2500 hours.

020904445 **2/13/09**

The iron level is high.

Acid number, moisture, and other wear metals are satisfactory ranges.

ENGINEERED COOLING SERVICES
2801 N DAVIS HWY
PENSACOLA, FL 32503

Phone Number:

Lab Number:	Serviced By:		Purchase Order:
021803720	ENGINEERED COOLING SERVICES		20202
Serial Number:	**Equipment Owner:**	**Location:**	**Model:**
SDGM960510	ESCAMBIA COUNTY	BLANCHARD/CH-1	YSDCCD53-CLC

Resample in 3-4 months or 2500 hours.

021004241 **2/15/10**

The iron level is high.

Acid number, moisture, and other wear metals are satisfactory ranges.

Resample in 3-4 months or 2500 hours.

041313210 **4/19/13**

The iron level is high.

Acid number, moisture, and other wear metals are satisfactory ranges.

Resample in 3-4 months or 2500 hours.

081325712 **8/12/13**

Moisture level is high which may be due to contamination in transit or the hygroscopic nature of this oil type (if using POE).

The iron level is high.

Acid number and other wear metals are satisfactory.

Resample in 3-4 months or 2500 hours.

041412059 **4/9/14**

The iron level is high.

Acid number, moisture, and other wear metals are satisfactory ranges.

Resample in 3-4 months or 2500 hours.

031508422 **3/5/15**

The iron level is high.

Acid number, moisture, and other wear metals are satisfactory ranges.

Resample in 3-4 months or 2500 hours.

021603598 **2/2/16**

TRANE

Trane Chemical Laboratory

Oil Analysis

ENGINEERED COOLING SERVICES
2801 N DAVIS HWY
PENSACOLA, FL 32503

Phone Number:

Lab Number:	Serviced By:		Purchase Order:
021803720	ENGINEERED COOLING SERVICES		20202
Serial Number:	**Equipment Owner:**	**Location:**	**Model:**
SDGM960510	ESCAMBIA COUNTY	BLANCHARD/CH-1	YSDCCD53-CLC

The copper and iron levels are high.

Acid number, moisture, and other wear metals are satisfactory ranges.

Resample in 3-4 months or 2500 hours.

021803720 **2/8/18**

All wear metals, moisture and oil acid number are in satisfactory ranges for this model unit and the running time reported.

Resample in 3-4 months or 2500 hours.

TRANE

Trane Chemical Laboratory

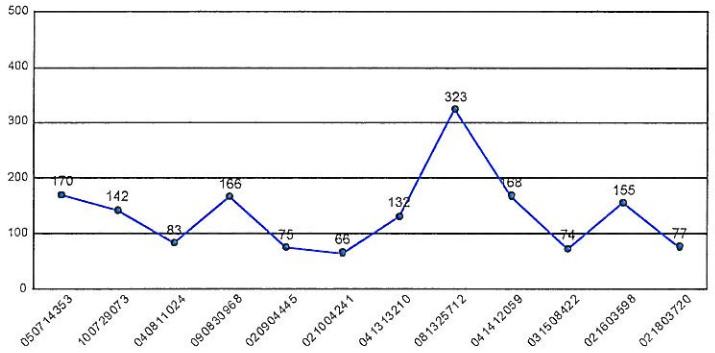
Oil Analysis

ENGINEERED COOLING SERVICES
2801 N DAVIS HWY
PENSACOLA, FL 32503

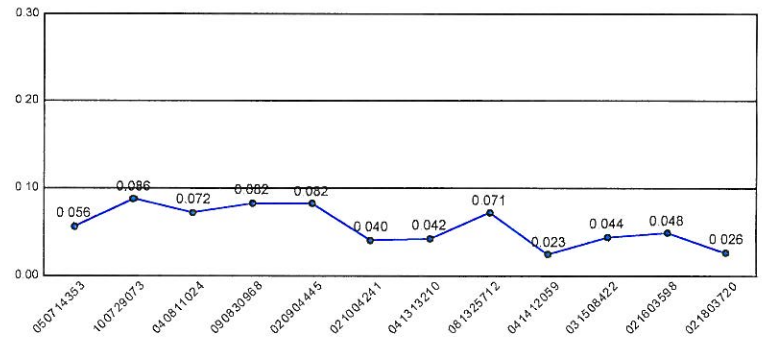
Phone Number:

Lab Number:	Serviced By:		Purchase Order:
021803720	ENGINEERED COOLING SERVICES		20202
Serial Number:	**Equipment Owner:**	**Location:**	**Model:**
SDGM960510	ESCAMBIA COUNTY	BLANCHARD/CH-1	YSDCCD53-CLC

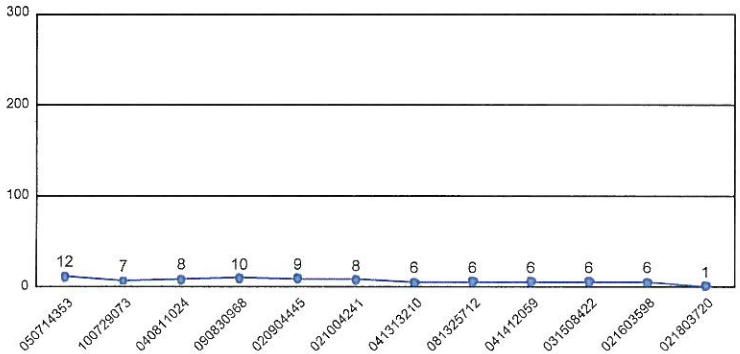
Moisture



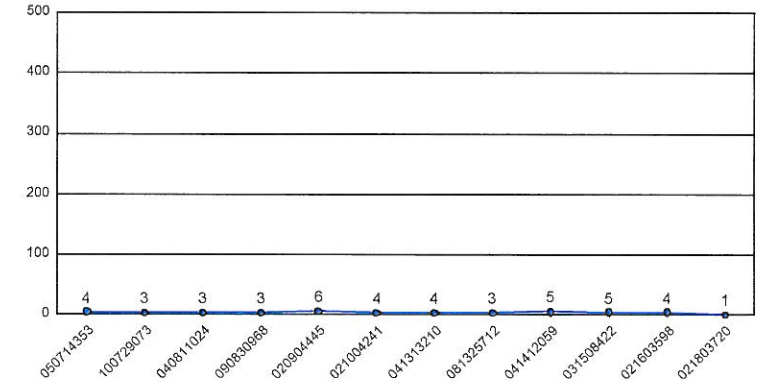
Acid



Tin



Zinc



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Building Efficiency and Sustainability

A Service Logic Company

February 9, 2018

Escambia County Board of County Commissioners
PO Box 1591
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Attn: George Puel

SUBJECT: OIL ANALYSIS REPORT

Dear Mr. Puel:

Please find attached copies of the laboratory oil analysis taken during the preventive maintenance service for the following:

Model #	Serial #	Location	See Note
YSDCCD53-CLC	SDGM960510	Blanchard – Chiller 1	
YKK	SBXM852570	Blanchard – Chiller 2	Moisture Level
YKFB 800	SBNM245900	Blanchard – Chiller 4	Moisture Level

All wear metals, moisture, and acid were in satisfactory ranges, unless otherwise indicated above. If noted above, please see detailed Oil Analysis Report for further information.

If there are any questions please don't hesitate to call.

Best Personal Regards,

Ray Rodriguez
Executive Vice President

2801 North Davis Highway - Pensacola, Florida 32503 – Tel. 850.432.7656 – Fax 850.432.7657

TRANE

Trane Chemical Laboratory

Oil Analysis

ENGINEERED COOLING SERVICES
2801 N DAVIS HWY
PENSACOLA, FL 32503

Phone Number:

Lab Number:	Serviced By:		Purchase Order:
021803721	ENGINEERED COOLING SERVICES		20202
Serial Number:	**Equipment Owner:**	**Location:**	**Model:**
SBXM852570	ESCAMBIA COUNTY	BLANCHARD/#2	YKK

* O = Oil Changed, B = Bearing, R = R'Newal

	Sample Data			Physical Data			Wear Metal Data (in parts per million)						
Sample Number	Date Analyzed	Service Period	*	Oil Type	Moisture PPM	Total Acid	Aluminum	Chromium	Copper	Iron (Fe)	Lead	Tin	Zinc
041313209	4/19/13	5119 Hours		YORK K	146	0.0430	0	0	0	0	0	0	0
041412060	4/9/14	8994 Hours		YORK K	33	0.0450	0	0	0	1	1	0	1
031508423	3/5/15			YORK	19	0.0366	0	0	0	1	0	0	0
021603596	2/2/16	0 Hours		YORK K	152	0.0322	1	0	0	1	0	1	0
021803721	2/8/18	0 Hours		YORK K	897	0.0472	0	0	0	0	0	0	0

TRANE

Trane Chemical Laboratory

Oil Analysis

ENGINEERED COOLING SERVICES
2801 N DAVIS HWY
PENSACOLA, FL 32503

Phone Number:

Lab Number:	Serviced By:		Purchase Order:
021803721	ENGINEERED COOLING SERVICES		20202
Serial Number:	**Equipment Owner:**	**Location:**	**Model:**
SBXM852570	ESCAMBIA COUNTY	BLANCHARD/#2	YKK

041313209 **4/19/13**

All wear metals, moisture and oil acid number are in satisfactory ranges for this model unit and the running time reported.

Resample in 3-4 months or 2500 hours.

041412060 **4/9/14**

All wear metals, moisture and oil acid number are in satisfactory ranges for this model unit and the running time reported.

Resample in 3-4 months or 2500 hours.

031508423 **3/5/15**

All wear metals, moisture and oil acid number are in satisfactory ranges for this model unit and the running time reported.

Resample in 3-4 months or 2500 hours.

021603596 **2/2/16**

All wear metals, moisture and oil acid number are in satisfactory ranges for this model unit and the running time reported.

Resample in 3-4 months or 2500 hours.

021803721 **2/8/18**

Moisture level is high which may be due to contamination in transit or the hygroscopic nature of this oil type (if using POE).

All wear metals and acid number are in satisfactory ranges for the model unit and the running time reported.

Resample in 3-4 months or 2500 hours.

TRANE

Trane Chemical Laboratory

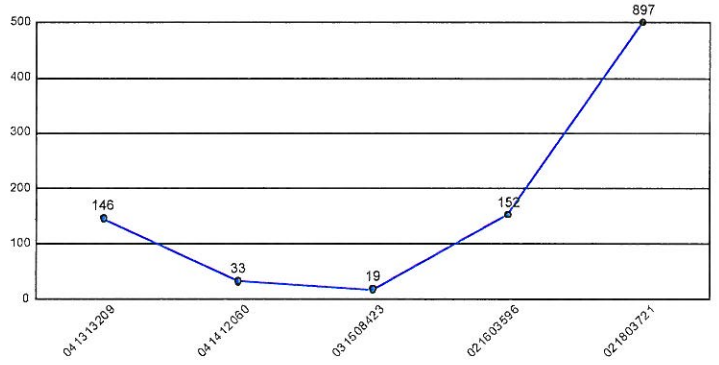
Oil Analysis

ENGINEERED COOLING SERVICES
2801 N DAVIS HWY
PENSACOLA, FL 32503

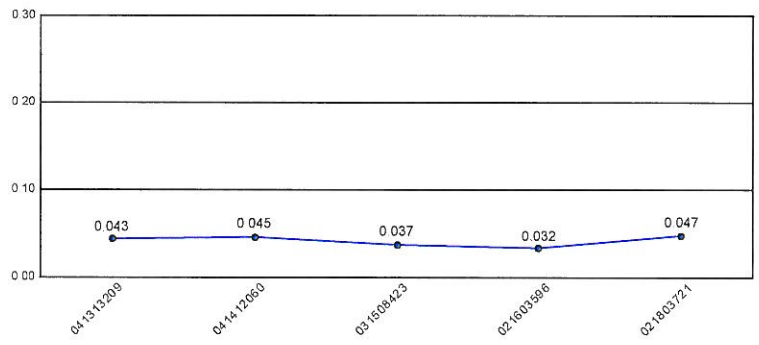
Phone Number:

Lab Number:	Serviced By:		Purchase Order:
021803721	ENGINEERED COOLING SERVICES		20202
Serial Number:	**Equipment Owner:**	**Location:**	**Model:**
SBXM852570	ESCAMBIA COUNTY	BLANCHARD/#2	YKK

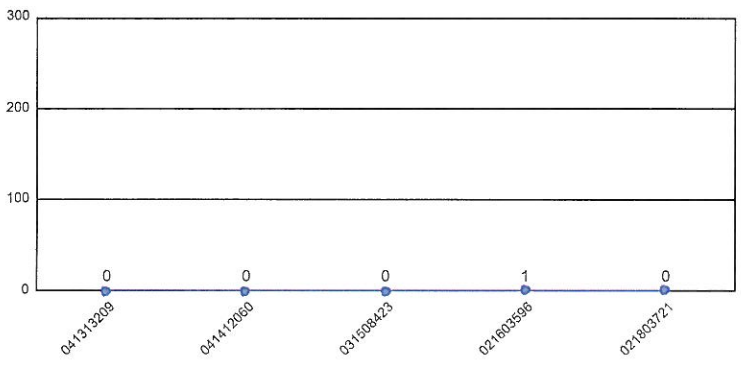
Moisture



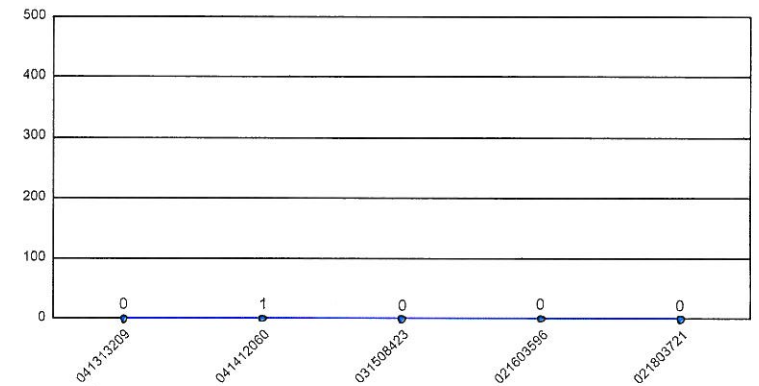
Acid



Tin



Zinc



Engineered Cooling Services
Building Efficiency and Sustainability

A Service Logic Company

February 9, 2018

Escambia County Board of County Commissioners
PO Box 1591
Pensacola, FL 32591-1591

Attn: George Puel

SUBJECT: OIL ANALYSIS REPORT

Dear Mr. Puel:

Please find attached copies of the laboratory oil analysis taken during the preventive maintenance service for the following:

Model #	Serial #	Location	See Note
YSDCCD53-CLC	SDGM960510	Blanchard – Chiller 1	
YKK	SBXM852570	Blanchard – Chiller 2	Moisture Level
YKFB 800	SBNM245900	Blanchard – Chiller 4	Moisture Level

All wear metals, moisture, and acid were in satisfactory ranges, unless otherwise indicated above. If noted above, please see detailed Oil Analysis Report for further information.

If there are any questions please don't hesitate to call.

Best Personal Regards,

Ray Rodriguez
Executive Vice President

2801 North Davis Highway - Pensacola, Florida 32503 – Tel. 850.432.7656 – Fax 850.432.7657

TRANE

Trane Chemical Laboratory

Oil Analysis

ENGINEERED COOLING SERVICES
2801 N DAVIS HWY
PENSACOLA, FL 32503

Phone Number:

Lab Number: 021803722
Serviced By: ENGINEERED COOLING SERVICES
Purchase Order: 20202
Serial Number: SBNM245900
Equipment Owner: ESCAMBIA COUNTY
Location: BLANCHARD/CH-4
Model: YKFB 800

* O = Oil Changed, B = Bearing, R = R'Newal

Sample Data				Physical Data			Wear Metal Data (in parts per million)						
Sample Number	Date Analyzed	Service Period	*	Oil Type	Moisture PPM	Total Acid	Aluminum	Chromium	Copper	Iron (Fe)	Lead	Tin	Zinc
090629338	10/4/06			YORK K	94	0.0225	0	0	0	0	0	0	0
050714359	5/29/07			YORK K	162	0.0194	1	0	1	2	0	2	1
100729071	10/1/07			YORK K	81	0.0226	0	0	0	1	0	0	0
040811022	4/11/08		B	YORK K	76	0.0167	0	0	0	0	0	0	0
090830962	9/24/08			YORK K	82	0.0142	0	0	0	1	0	0	0
020904448	2/13/09			YORK K	26	0.0166	0	0	0	1	0	0	1
021004239	2/15/10	35845 Hours		YORK	47	0.0186	0	0	0	1	0	0	0
041313208	4/19/13	54799 Hours		YORK K	95	0.0171	1	0	0	1	0	0	0
041412061	4/9/14	60471 Hours		YORK K	49	0.0209	1	0	0	1	1	0	1
031508424	3/5/15			YORK	32	0.0253	0	0	0	2	0	0	0
021603597	2/2/16	0 Hours		YORK K	201	0.0299	0	0	1	0	0	0	0
021803722	2/8/18	0 Hours			578	0.0278	0	0	0	0	0	1	0

TRANE

Trane Chemical Laboratory

Oil Analysis

ENGINEERED COOLING SERVICES
2801 N DAVIS HWY
PENSACOLA, FL 32503

Phone Number:

Lab Number:	Serviced By:		Purchase Order:
021803722	ENGINEERED COOLING SERVICES		20202
Serial Number:	**Equipment Owner:**	**Location:**	**Model:**
SBNM245900	ESCAMBIA COUNTY	BLANCHARD/CH-4	YKFB 800

090629338 **10/4/06**

All wear metals, moisture and oil acid number are in satisfactory ranges for this model unit and the running time reported.

Resample in 3-4 months or 2500 hours.

050714359 **5/29/07**

All wear metals, moisture and oil acid number are in satisfactory ranges for this model unit and the running time reported.

Resample in 3-4 months or 2500 hours.

100729071 **10/1/07**

All wear metals, moisture and oil acid number are in satisfactory ranges for this model unit and the running time reported.

Resample in 3-4 months or 2500 hours.

040811022 **4/11/08**

All wear metals, moisture and oil acid number are in satisfactory ranges for this model unit and the running time reported.

Resample in 3-4 months or 2500 hours.

090830962 **9/24/08**

All wear metals, moisture and oil acid number are in satisfactory ranges for this model unit and the running time reported.

Resample in 3-4 months or 2500 hours.

020904448 **2/13/09**

All wear metals, moisture and oil acid number are in satisfactory ranges for this model unit and the running time reported.

Resample in 3-4 months or 2500 hours.

021004239 **2/15/10**

All wear metals, moisture and oil acid number are in satisfactory ranges for this model unit and the running time reported.

Resample in 3-4 months or 2500 hours.

041313208 **4/19/13**

TRANE

Trane Chemical Laboratory

Oil Analysis

ENGINEERED COOLING SERVICES
2801 N DAVIS HWY
PENSACOLA, FL 32503

Phone Number:

Lab Number:	Serviced By:		Purchase Order:
021803722	ENGINEERED COOLING SERVICES		20202
Serial Number:	**Equipment Owner:**	**Location:**	**Model:**
SBNM245900	ESCAMBIA COUNTY	BLANCHARD/CH-4	YKFB 800

All wear metals, moisture and oil acid number are in satisfactory ranges for this model unit and the running time reported.

Resample in 3-4 months or 2500 hours.

041412061 **4/9/14**

All wear metals, moisture and oil acid number are in satisfactory ranges for this model unit and the running time reported.

Resample in 3-4 months or 2500 hours.

031508424 **3/5/15**

All wear metals, moisture and oil acid number are in satisfactory ranges for this model unit and the running time reported.

Resample in 3-4 months or 2500 hours.

021603597 **2/2/16**

All wear metals, moisture and oil acid number are in satisfactory ranges for this model unit and the running time reported.

Resample in 3-4 months or 2500 hours.

021803722 **2/8/18**

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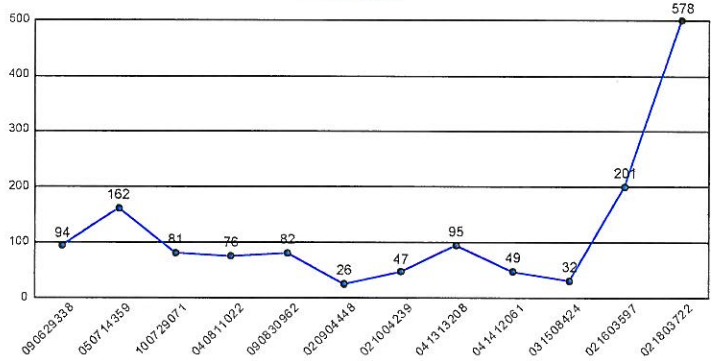
Oil Analysis

ENGINEERED COOLING SERVICES
2801 N DAVIS HWY
PENSACOLA, FL 32503

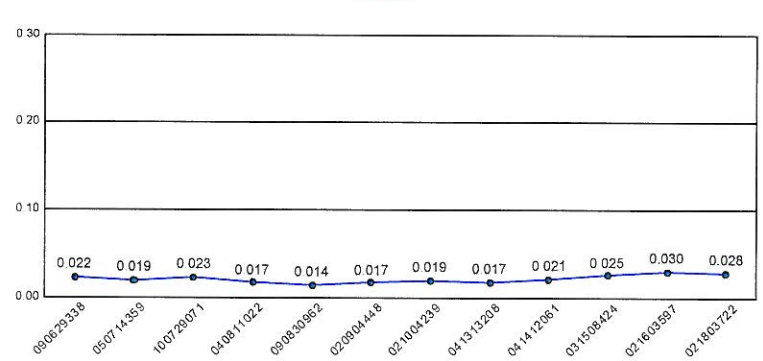
Phone Number:

Lab Number:	Serviced By:		Purchase Order:
021803722	ENGINEERED COOLING SERVICES		20202
Serial Number:	**Equipment Owner:**	**Location:**	**Model:**
SBNM245900	ESCAMBIA COUNTY	BLANCHARD/CH-4	YKFB 800

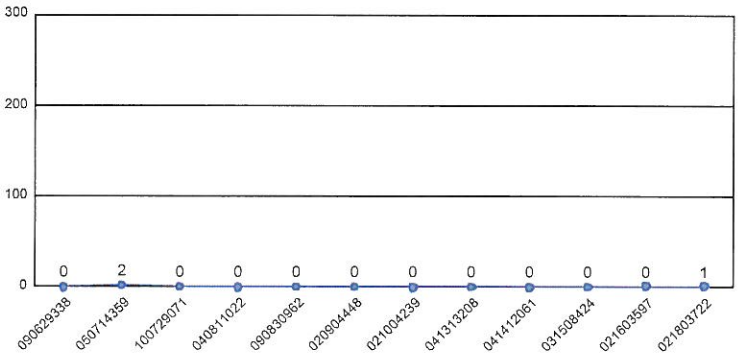
Moisture



Acid



Tin



Zinc