

EVOQUA WATER TECHNOLOGIES

Maintenance Report

EVSS Scrubber

Customer Name: Lexington, KY.
 Date: 6/4/20
 Project #: _____

Location Name: West Hickman Plant #12 *CHLORINE*
 Location Address: 645 W. Hickman Plant Rd.
 Location City, ST, Zip: Nickolasville, KY. 40356
 TEL: _____
 FAX: _____

Maintenance By: Lynn R. Decker
 Test Time ---Start: 10:30a
 Test Time ---End: 11:30a
 Net Run Time: 1 hours

Contact: Tiffany Rank
 Cell: 859-327-9993
 E-Mail: _____
 Contact: _____
 Cell: _____

SYSTEM INSPECTION	OK/Not Ok	COMMENTS
Cl2 Detector Operation	OK	
Fan Operation	OK	
Recirculation Pump #1 Operation	OK	
Recirculation Pump #2 Operation		N/A
Caustic Recirculation Pressure	ok	30 psi / needs new gauge
Caustic concentration (%)	NOT/OK	12% (weak)
Elapsed Time Meter (Pump #1 motor)	OK	308 hours
Elapsed Time Meter (Pump #2 motor)	n/a	
Elapsed Time Meter (fan motor)	OK	270 hours
System Appearance	OK	
Inches of Solids in Sump	NOT/OK	9 inches of fall out in bottom

RECIRCULATION PUMPS #1	OK/Not Ok	COMMENTS
Check coupling and set screws	NOT/OK	needs new coupler
Grease shaft support bearing	OK	
Seal Water		psig gpm
Grease motor bearings	OK	
Check amp draw - Stage 1	OK	24.0 26.0 25.0 Motor FLA: _____

RECIRCULATION PUMPS #2	OK/Not Ok	COMMENTS
Check coupling and set screws		
Grease shaft support bearing		
Seal Water		psig gpm
Grease motor bearings		
Check amp draw - Stage 1		Motor FLA: _____

FAN	OK/Not Ok	COMMENTS
Check belt tension (adjust if needed)	OK	
Check belt wear		needs new belt
Check shaft bearing set screws	OK	
Grease shaft bearings	OK	
Grease motor bearings	OK	
Check amp draw	OK	5.2 5.2 5.3 Motor FLA: _____

OTHER COMMENTS:
 the side port cap is starting to go bad needs to be replace/ needs new pump coupler

BUILT DATE

EVOQUA WATER TECHNOLOGIES

Maintenance Report

EVSS Scrubber

Customer Name: Lexington, KY.
 Date: 6/4/20
 Project #: _____

Location Name: West Hickman Plant #13 502
 Location Address: 645 W. Hickman Plant Rd.
 Location City, ST, Zip: Nickolasville, KY. 40356
 TEL: _____
 FAX: _____

Maintenance By: Lynn R. Decker
 Test Time ---Start: 8:30am
 Test Time ---End: 10:30a
 Net Run Time: 2 hours

Contact: Tiffany Rank
 Cell: 859-327-9993
 E-Mail: _____
 Contact: _____
 Cell: _____

SYSTEM INSPECTION	OK/Not Ok	COMMENTS
Cl2 Detector Operation	OK	
Fan Operation	OK	
Recirculation Pump #1 Operation	OK	
Recirculation Pump #2 Operation		N/A
Caustic Recirculation Pressure		broken gauge, no reading
Caustic concentration (%)	NOT/OK	15% (weak)
Elapsed Time Meter (Pump #1 motor)	OK	153 hours
Elapsed Time Meter (Pump #2 motor)	n/a	
Elapsed Time Meter (fan motor)	OK	119 hours
System Appearance	NOT/OK	small crack - hole in bottom of unit
Inches of Solids in Sump	NOT/OK	10 inches of fall out in bottom

RECIRCULATION PUMPS #1	OK/Not Ok	COMMENTS
Check coupling and set screws	OK	
Grease shaft support bearing	OK	
Seal Water		psig gpm
Grease motor bearings	OK	
Check amp draw - Stage 1	OK	28.5 26.0 29.0 Motor FLA: _____

RECIRCULATION PUMPS #2	OK/Not Ok	COMMENTS
Check coupling and set screws		
Grease shaft support bearing		
Seal Water		psig gpm
Grease motor bearings		
Check amp draw - Stage 1		Motor FLA: _____

FAN	OK/Not Ok	COMMENTS
Check belt tension (adjust if needed)	OK	
Check belt wear	OK	could use a new belt
Check shaft bearing set screws	OK	
Grease shaft bearings	OK	
Grease motor bearings	OK	
Check amp draw	OK	5.5 4.5 5.5 Motor FLA: _____

OTHER COMMENTS:

The hole in the bottom of this unit needs to be address before there is an acid wash done to the unit. / The unit was leaki until the caustic got solid in the bottom of the unit and that stop the leak, an acid wash I think will reopen the leak.

BUILT DATE

September 14, 2020

Tiffany Rank, P.E.
Plant Engineering Manager
Lexington-Fayette Urban County Government
Division of Water Quality
West Hickman #12 plant
West Hickman WWTP
301 Jimmie Campbell Drive
Lexington, KY 40504
Office: (859) 425-2406
Cell: (859) 327-9993
Email: tiffanyr@lexingtonky.gov

**RE: ACID WASH CHLORINE EMERGENCY VAPOR SCRUBBER SERVICE
WEST HICKMAN #12 WWTP
LEXINGTON-FAYETTE URBAN COUNTY GOVERNMENT (LFUCG)
Evoqua AM Quote No. 2020-410519**

Dear Tiffany,

Evoqua Water Technologies would like to provide the following quotation to acid wash the Emergency Vapor Scrubber System (EVSS) at West Hickman #12 WWTP. The following is a proposal for caustic disposal and cleaning services for your chlorine scrubber system, as well as equipment repair.

EVSS SERVICE AND INSPECTION:

Regular service, pro-active maintenance, and adjustments of critical operating parameters increase equipment efficiency, reduce chemical usage, and result in better odor control. Fouled packing and equipment wear can impede an EVSS scrubber in performing as designed. If packing within scrubbers becomes fouled, and spent Caustic builds up on the sump floor, the EVSS scrubber becomes inefficient and unable to clear and breakdown the Chlorine Gas. The abrasive and corrosive nature of the scrubbing chemistry requires replacement of parts prone to damage, as well as gaskets replaced due to dry rot. The Caustic breaks down and also becomes diminished in its capacity to scrub. Parts and services to bring the system to a fully functioning tool for Lexington are listed below.

SCOPE OF SERVICES:

A description of the proposed Acid Wash service is described below:

- 1) The scrubber is drained of its liquid contents (Caustic). Disposed of by the customer.
- 2) The interior is rinsed with water.
- 3) The sump is filled with water and muriatic acid.
- 4) Recirculation pumps are turned on to allow the acidic solution to clean the internal components for 5-8 hours.
- 5) A complete visual inspection of the scrubber system will be performed.
- 6) Acidic solution is drained. Disposed of by the customer.
- 7) A rinse with water is performed.
- 8) The scrubber is returned to original operating conditions with fresh 20% Caustic.



A description of the proposed equipment repairs is described below:

- 1) Caustic recirculation gauge replacement
- 2) Recirculation pump coupler replacement
- 3) Flange and lid gasket replacements
- 4) Replacement seals as needed

West Hickman Requirements

Evoqua requests the following items be handled by the Lexington personnel:

- Disposal of spent acidic solution if solution cannot be returned to gravity wastewater.
- Dispose of spent Caustic solution – pH adjustment may be needed.
- Access to water supply for cleaning.

Notes:

1. Evoqua shall supply the acid required to complete the acid wash.
2. Additional costs may be incurred if circulation pumps are not operating correctly upon Evoqua's arrival.

PRICING:

Evoqua Water Technologies shall deliver this service to West Hickman #12 WWTP for **\$ 27,171.79**.

The existing Terms and Conditions are considered part of this proposal and shall prevail. This quote will remain in effect for ninety (90) days from the date of this proposal. These prices do not include any applicable taxes.

Thank you for choosing Evoqua Water Technologies for your odor and disinfection control needs. It is of utmost importance to assure your emergency scrubber systems are working properly and ready to provide reliable protection against chlorine gas leaks.

If you have any questions or need additional information, please contact me at (502) 480-6704 or Kenneth.Lowery@evoqua.com

Sincerely,

Evoqua Water Technologies LLC

Kenneth Lowery

Kenneth Lowery
Technical Sales Representative



**RE: ACID WASH CHLORINE EMERGENCY SCRUBBER SERVICE
WEST HICKMAN #12 WWTP
LEXINGTON-FAYETTE URBAN COUNTY GOVERNMENT (LFUCG)
Evoqua AM Quote No. 2020-410519**

Evoqua will process your order when we receive acceptance of this proposal, by signing below and returning to MSAftermarket@evoqua.com or fax to: (941) 359-7985.

Company Name: _____

This ____ day of _____ Month _____ Year

By: _____

Title: _____

P.O.Number _____

September 14, 2020

Tiffany Rank, P.E.
Plant Engineering Manager
Lexington-Fayette Urban County Government
Division of Water Quality
West Hickman #13 Plant
West Hickman WWTP
301 Jimmie Campbell Drive
Lexington, KY 40504
Office: (859) 425-2406
Cell: (859) 327-9993
Email: tiffanyr@lexingtonky.gov

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SCOPE OF SERVICES:

A visual inspection of the vessel revealed a crack or hole in the bottom of the sump. Caustic crystal will have to be chipped out to inspect the condition of the sump prior to any work being completed.

A description of the proposed Acid Wash service is described below:

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- Dispose of spent Caustic solution – pH adjustment may be needed.
- Access to water supply for cleaning.

Notes:

1. Evoqua shall supply the acid required to complete the acid wash.
2. Additional costs may be incurred if circulation pumps are not operating correctly upon Evoqua's arrival.

PRICING:

Evoqua Water Technologies shall deliver this service to West Hickman #13 WWTP for **\$ 29,146.83**

The existing Terms and Conditions are considered part of this proposal and shall prevail. This quote will remain in effect for ninety (90) days from the date of this proposal. These prices do not include any applicable taxes.

Thank you for choosing Evoqua Water Technologies for your odor and disinfection control needs. It is of utmost importance to assure your emergency scrubber systems are working properly and ready to provide reliable protection against chlorine gas leaks.

If you have any questions or need additional information, please contact me at (502) 480-6704 or Kenneth.Lowery@evoqua.com

Sincerely,

Evoqua Water Technologies LLC

Kenneth Lowery

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Evoqua AM Quote No. 2020-410520**

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Company Name: _____

This ____ day of _____ Month _____ Year

By: _____

Title: _____

P.O.Number _____