

MAY 29 2018

PUBLIC SERVICE  
COMMISSION

Case No. 2018-00166

# Hardin County Water District No. 1

*Serving Radcliff and Hardin County for Over 60 Years*

1400 Rogersville Road  
Radcliff, KY. 40160

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May 21, 2018

Hon. Gwen Pinson  
Executive Director  
Public Service Commission  
211 Sower Blvd.  
Frankfort, KY 40602

**SUBJECT: Request for Administrative Regulation Deviation**

Ms. Pinson,

We respectfully request deviation from 807 KAR 5:071, Section 7(4) that requires the utility to conduct inspections of all mechanical equipment on a daily basis. 807 KAR 5:071, Section 7(4) does provide that the Commission may authorize a different inspection schedule than the one set out in the regulation. Based on the quantity of mechanical equipment in the District's systems along with the current staff and vehicles available we request an alternative inspection schedule of at least monthly inspection of all mechanical equipment.

The following information serves to provide background on the District's sewer systems, the financial implications of achieving compliance with daily inspection of all mechanical equipment, and how safe and adequate operation is being achieved and can continue to be achieved with at least monthly inspection of all mechanical equipment.

I. Background

Hardin County Water District No. 1's wastewater system consists of two independent treatment plants ("WWTPs") and collection systems; the Fort Knox system and the Radcliff system. For PSC annual reporting purposes, statistical data from these two systems is combined into a single Annual Sewer Report. The two WWTPs are about four miles apart and discharge into the same receiving stream.

The Fort Knox system consists of one 6-MGD wastewater treatment plant and a collection system with 78 miles (411,840 feet) of gravity mains, 11 miles (58,080 feet) of force mains, 2,015 manholes and 38 lift stations.

The Radcliff system consists of one 4-MGD wastewater treatment plant and a collection system with 129 miles (681,120 feet) of gravity mains, 18 miles (95,040 feet) of force mains, 2,952 manholes and 49 lift stations. Combined the two systems have 236 miles (1,246,080 feet) of underground pipe, 87 lift stations and two WWTPs.

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2. Financial Implications

To achieve compliance with the requirement of daily inspection of all mechanical equipment would require a substantial increase in costs. Those costs would include additional staff, vehicles, fuel, maintenance and insurance.

A continuous route through each collection system to visit each lift station daily was mapped in our geographic information system (GIS), see Exhibit A & B. To complete a minimal inspection of all mechanical equipment at each lift station and to drive the continuous route equated to 7.65 hours for the Fort Knox system and 9.95 hours in the Radcliff system. This time assumes one individual, 10 minutes at each location, no rest breaks and driving at posted speed limits.

Inspection of all mechanical equipment in the collection systems daily is infeasible with the current staffing levels. Four additional employees, two for each system, working a rotating schedule that would require them to cover every other weekend, working 40 hour weeks and 10 hour days, along with overtime for working holidays and covering all labor overhead equated to \$277,460 per year.

Using data from the purchase of a single cab 4X4 ½ ton truck in 2017, from a dealer who has a Master Agreement with the Commonwealth of Kentucky's Office of Procurement Services, gives an estimated cost of two new trucks to be \$46,000. The cost of fuel (\$8,929), maintenance (\$500), and insurance (\$2,078) for the two additional trucks is estimated to be an annual total cost of \$11,507.

The overall financial implications (Exhibit C) to complete the daily inspection of all mechanical equipment in both systems is estimated to be \$334,967 for the first year and approximately \$288,967 each year thereafter with no adjustment for inflation.

3. Proposed Inspection Schedule

Our treatment plants are staffed seven days per week so inspecting all mechanical equipment at the wastewater treatment plants is conducted daily. Currently three of the lift stations in the Fort Knox system and six in the Radcliff system are checked daily with the weekend inspections being completed by a plant operator.

The Fort Knox system serves an unspecified number of residents within the cantonment area. Of the 38 lift stations in the Fort Knox system 13, or 34%, of them are equipped with Supervisory Control and Data Acquisition (SCADA). The SCADA system allows the plant operator to monitor the lift stations continually.

The Radcliff system has 9,031 customers. Of the 49 lift stations 14, or 28%, of them are equipped with a cellular based monitoring system capable of making alarm notifications automatically. The Radcliff system has a board approved and fully funded BRAC grant

Request for Administrative Regulation Deviation  
Hon. Gwen Pinson

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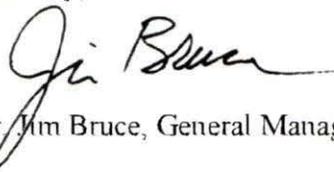
project to equip 34, or 69%, of the lift stations with a SCADA system. The SCADA system project is expected to be awarded to a contractor for development and installation in mid-2018.

The District utilizes the computerized maintenance management system, Job Plus®, to schedule and track all work done on system equipment. Work order records show that District personnel completed 11,728 work orders between both collection systems in 2017. Our customer service records database shows that in 2017 there were 62 customer work orders that required our collection system staff to investigate and/or address an issue. Additionally, in the past 5 years, the District has only had 2 sewer complaints go to the Public Service Commission. Both complaints were billing related.

Under our current inspection regimen no customers have been adversely affected. The District keeps all sewage treatment facilities safe and operating adequately. Most all facilities are fenced around the perimeter with locked gates and all lift station equipment is secured with padlocks. All lift stations are equipped with an exterior alarm light and have a posted sign with the District's contact information. The District is meeting the safety requirements as required in 807 KAR 5:006, Section 26(8).

Pursuant to 807 KAR 5:071, Section 7(4) the District is filing a request for deviation from inspecting all mechanical equipment on a daily basis and request that it be granted an order for an alternative inspection schedule of monthly.

Sincerely,



Mr. Jim Bruce, General Manager, HCWD1

Cf: Mr. Stephen Hogan, Incoming General Manager, HCWD1  
Mr. Brett Pyles, Fort Knox System Director, HCWD1  
Mr. Justin Metz, County Systems Manager, HCWD1

# Financial Impact

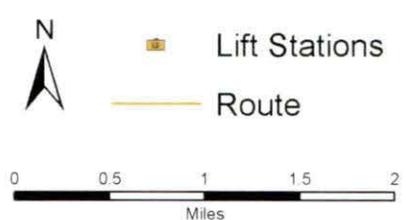


Annual Labor							
Number of employees	Avg Pay Rate	Labor overhead	Hours / year	Overtime rate	Holiday hours		Annual Labor Cost
4	\$ 21.79	1.498	2080	\$ 32.69	180		\$ 277,460
Annual Truck Usage							
Miles / day	Mile / year	Avg. MPG	Fuel Cost / Gallon	Fuel Cost / year	Annual Maintenance	Annual Insurance Cost / each	Annual Truck Cost
94.3	34404.9	11.56	\$ 3.00	\$ 8,929	\$ 500	\$ 1,039	\$ 11,507
Truck Purchases							
Number of trucks	Estimated cost / each						Truck Purchase Cost
2	\$ 23,000						\$ 46,000
<b>Grand Total</b>							<b>\$ 334,967</b>

# Lift Station Route - Radcliff Wastewater



Lift Station	DISTANCE		AV (mph)	Time (hours)	Inspect (min)
	FEET	MILES			
<b>RWWTP</b>					
Watkins	37,332	7.07	55	0.13	10
John Hardin	3,910	0.74	25	0.03	10
A Arnold	14,112	2.67	35	0.08	10
Battle Training	9,484	1.80	55	0.03	10
Deer Haven	6,020	1.14	35	0.03	10
Quiggins	14,900	2.82	55	0.05	10
Conroe	7,123	1.35	35	0.04	10
Oak	5,810	1.10	25	0.04	10
Skylark	12,898	2.44	35	0.07	10
Masters	4,763	0.90	25	0.04	10
313	7,997	1.51	55	0.03	10
Stovall	5,031	0.95	55	0.02	10
Maple Forest	8,146	1.54	35	0.04	10
Marvins	5,045	0.96	35	0.03	10
Greenview	3,729	0.71	25	0.03	10
Christopher SQ	4,112	0.78	45	0.02	10
Church	5,913	1.12	35	0.03	10
Kindergarten	1,593	0.30	25	0.01	10
Crocus	840	0.16	25	0.01	10
Cement	6,013	1.14	35	0.03	10
Logan	1,706	0.32	35	0.01	10
Sherwood	3,931	0.74	35	0.02	10
Swope	2,225	0.42	35	0.01	10
Hensley	6,357	1.20	35	0.03	10
Boone Trace	2,973	0.56	35	0.02	15
Brooke Trace	1,353	0.26	25	0.01	10
Boone Trace 2	6,383	1.21	25	0.05	10
Indiana	5,759	1.09	25	0.04	10
Spring	6,991	1.32	35	0.04	10
Brown	3,153	0.60	25	0.02	10
Redmar	8,672	1.64	35	0.05	10
Globe	3,744	0.71	45	0.02	10
Payton	5,058	0.96	35	0.03	10
Paradise 1	3,294	0.62	25	0.02	10
Paradise 2	1,230	0.23	15	0.02	10
Beacon Hill	8,926	1.69	45	0.04	10
Arlington	4,218	0.80	25	0.03	10
Wendover	8,431	1.60	35	0.05	10
Red Hawk	6,664	1.26	35	0.04	10
North Logsdon	7,181	1.36	35	0.04	10
Seminole	5,296	1.00	35	0.03	15
Audubon	2,181	0.41	35	0.01	10
Hillcrest	3,172	0.60	35	0.02	10
Cypress	3,269	0.62	25	0.02	10
Docs	8,483	1.61	45	0.04	10
City Hall	2,969	0.56	45	0.01	10
Lincoln Trail	1,368	0.26	45	0.01	15
Classic Cars	1,379	0.26	35	0.01	10
Woodcreek	4,213	0.80	35	0.02	10
Total Hours				1.53	8.42



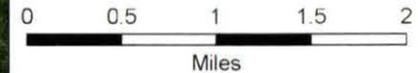
SOURCE: Hardin County Water District No. 1 Field Collection  
 PROJECTION: NAD\_1983\_StatePlane\_Kentucky\_South\_FIPS\_1602\_Feet  
 AUTHOR: Charles Altendorf, GIS Planning Specialist

# Lift Station Route - Fort Knox Wastewater

Lift Station	Distance		AV	Time	Inspect
	FEET	MILES	(mph)	(hours)	(min)
<b>Fort Knox</b>					
LS-7215	322	0.06	25	0.002	10
LS-6901	4246	0.80	25	0.032	10
LS-6903	192	0.04	25	0.001	10
LS-6904	886	0.17	25	0.007	10
LS-6151	5322	1.01	25	0.040	10
LS-6037	2609	0.49	25	0.020	10
LS-5918	6345	1.20	25	0.048	10
LS-9298	6239	1.18	25	0.047	10
LS-9410	2807	0.53	25	0.021	10
LS-2723	7829	1.48	25	0.059	10
LS-2390	3524	0.67	25	0.027	10
LS-2391	28	0.01	25	0.000	10
LS-2954	5799	1.10	25	0.044	10
LS-9401	2919	0.55	25	0.022	10
LS-2804	2390	0.45	25	0.018	10
LS-2803	658	0.12	25	0.005	10
LS-9373	14196	2.69	25	0.108	10
LS-9324	6834	1.29	25	0.052	10
LS-9101	20304	3.85	45	0.085	10
LS-9105	1586	0.30	25	0.012	10
LS-9102	3824	0.72	25	0.029	10
LS-4210	30175	5.71	45	0.127	10
LS-4555	3391	0.64	25	0.026	10
LS-4996	6534	1.24	25	0.050	10
LS-5535	1588	0.30	25	0.012	10
LS-5590	1405	0.27	25	0.011	10
LS-4760	6643	1.26	25	0.050	10
LS-4767	2508	0.48	25	0.019	10
LS-4015	2934	0.56	25	0.022	10
LS-4002	8287	1.57	25	0.063	10
LS-129	8313	1.57	25	0.063	10
LS-170	2780	0.53	25	0.021	10
LS-7873	3499	0.66	25	0.027	10
LS-9066	11350	2.15	25	0.086	10
LS-7243	11303	2.14	45	0.048	10
LS-7245	329	0.06	25	0.002	10
LS-7244	605	0.11	25	0.005	10
LS-7233	1809	0.34	25	0.014	10
<b>Total Hours</b>				1.32	6.33



 Lift Stations  
 Route



SOURCE: Hardin County Water District No. 1 Field Collection  
 PROJECTION: NAD\_1983\_StatePlane\_Kentucky\_South\_FIPS\_1602\_Feet  
 AUTHOR: Charles Allendorf, GIS Planning Specialist



Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community