STATE OF INDIANA

INDIANA UTILITY REGULATORY COMMISSION

PETITION OF THE TOWN OF CEDAR LAKE, LAKE COUNTY, INDIANA, FOR APPROVAL TO ADJUST ITS RATES AND CHARGES AND ISSUE BONDS	))))	**CAUSE NO. 45367**

PUBLIC'S EXHIBIT NO. 2

TESTIMONY OF KRISTEN WILLOUGHBY

ON BEHALF OF

THE INDIANA OFFICE OF UTILITY CONSUMER COUNSELOR

AUGUST 28, 2020

Respectfully Submitted,

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CERTIFICATE OF SERVICE

This is to certify that a copy of the foregoing ***Office of Utility Consumer Counselor's Testimony of Kristen Willoughby*** has been served upon the following counsel of record in the captioned proceeding by electronic service on August 28, 2020.

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OUCC WITNESS TESTIMONY OF KRISTEN WILLOUGHBY
CAUSE NO. 45367
TOWN OF CEDAR LAKE

I. INTRODUCTION

Q: Please state your name and business address.

A: My name is Kristen Willoughby, and my business address is 115 West Washington Street, Suite 1500 South, Indianapolis, Indiana 46204.

Q: By whom are you employed and in what capacity?

A: I am employed by the Indiana Office of Utility Consumer Counselor ("OUCC") as a Utility Analyst in the Water/Wastewater Division. My qualifications and experience are set forth in Appendix A.

Q: What is the purpose of your testimony?

A: I discuss and make recommendations on the Town of Cedar Lake's ("Cedar Lake" or "Petitioner") proposed capital improvement projects, its proposed revenue requirement for extensions and replacements, and its request for periodic maintenance expenses.

Q: What did you do to prepare your testimony?

A: I reviewed Cedar Lake's petition and the testimonies of its witnesses Neil Simstad, Pamela Sue Sargent Haase, and Randell Niemeyer. I reviewed the Commission's final orders in Cause Nos. 44173 a request for borrowing and 45180 for a higher Eastside system develop charge. I reviewed Cedar Lake's Indiana Utility Regulatory Commission ("IURC") Annual Reports for years 2015 through 2019. I wrote data requests and reviewed Cedar Lake's responses. I reviewed reports Cedar

Lake filed with the Indiana Department of Environmental Management ("IDEM"), which I accessed on IDEM's Virtual File Cabinet.[1]

Q: Does your testimony include attachments?

A: Yes. My testimony includes the following attachments:

- OUCC Attachment KW-01: Utility Dashboard, showing operational statistics based upon Cedar Lake's IURC Annual Reports from 2015-2019.
- OUCC Attachment KW-02: OUCC DR 8-10.
- OUCC Attachment KW-03: Water Meter Invoice.
- OUCC Attachment KW-04: OUCC DR 5-5(c).
- OUCC Attachment KW-05: OUCC DR 5-5(d).
- OUCC Attachment KW-06: OUCC DR 11-4.
- OUCC Attachment KW-07: January 2019 invoice for cleaning and inspecting two of Petitioner's wells.
- OUCC Attachment KW-08: OUCC DR 8-8.
- OUCC Attachment KW-09: What Is GIS, and How Can It Help My Utility?
- OUCC Attachment KW-10: Suez Cost Estimate.
- OUCC Attachment KW-11: OUCC DR 8-5.
- OUCC Attachment KW-12: Dixon Engineering, Inc. quotes.
- OUCC Attachment KW-13: 2018 BNi Building News General Construction Cost Book page 146.

[1] IDEM Virtual File Cabinet available at https://vfc.idem.in.gov/DocumentSearch.aspx

II. APPLICANT'S CHARACTERISTICS AND CURRENT WATER FACILITIES

Q: Please describe the utility's characteristics.

A: Cedar Lake is a municipal utility providing water service to approximately 2,241 customers in Lake County.[2] Applicant's current source of supply consists of four wells. Sodium hypochlorite is added at the wells for disinfection. Cedar Lake's storage and distribution system consists of four storage tanks, one clear well, approximately 40,757 feet of transmission water mains, and approximately 136,281 feet of distribution water mains.[3] Cedar Lake's utility is made up of two separate water systems. The Eastside of the system consists of customers of the former Robin's Nest Water Company (Robin's Nest and Krystal Oaks subdivisions) and new proposed subdivisions. The Westside of the system is made up of customers of the former Utilities, Inc.

Q: Does Cedar Lake currently have the storage capacity recommended by the Ten States Standards?

A: Including storage capacity provided by its clear well, Cedar Lake currently has a total storage capacity of 381,800 gallons. Without including the clear well, Cedar Lake has a storage capacity of 321,800 gallons.[4] With total average sales in 2019 of 386,162 gallons per day, Cedar Lake does not meet the Ten States Standards[5] recommendation that total water storage meet average day demands.[6] Once Cedar

[2] 2019 Annual Report, page W-1, Year End Customer Numbers.
[3] 2019 Annual Report, pages W-7 and W-9.
[4] 2019 Annual Report page W-7 and Petitioner's Exhibit 19, Schedule C, 15,000 + 3,000 + 3,800 + 300,000 + 60,000 = 381,800 gallons and 15,000 + 3,000 + 3,800 + 300,000 = 321,800 gallons.
[5] The Great Lakes – Upper Mississippi River Board of State and Provincial Public Health and Environmental Managers Recommended Standards for Water Works ("Ten States Standards"), Section 7.0.1 Sizing of Finished Water Storage.
[6] 2019 Annual Report page W-6, 140,949,000 gallons sold 2019 for the Eastside + Westside / 365 days = 386,162 gallons per day.

Lake has installed its proposed 250,000 gallon Krystal Oaks tank, it will have the recommended storage capacity.[7]

Q: Please discuss "water loss" as it pertains to Petition's operations.

A: As used in Applicant's IURC annual reports, "water loss" is the difference between total water pumped and purchased and the total amount of water sold to customers or used for backwash, flushing mains, street cleaning/sewer flushing, or other authorized consumption. Water loss may reasonably be attributed to both leaks and inaccurate measurement of consumption. Customers pay through their rates the cost to treat and distribute water that is lost through leaks.

Q: What is Cedar Lake's water loss?

A: According to its IURC annual reports, over the last five years Cedar Lake's water loss values have decreased from 20.4% to 10.4% of water produced.[8] On page W-6 of its 2018 IURC annual report, Cedar Lake reported a negative water loss value. This appears to be a data recording or data entry error.

III. CAPITAL ASSET MANAGEMENT AND EXTENSIONS AND REPLACEMENTS

Q: Has Petitioner developed a Capital Asset Management Plan?

A: Yes. Petitioner's 20-year Capital Asset Management Plan was included as Petitioner's Exhibit 11. Petitioner's plan is in the form of a table and includes information such as line item number, a very brief description, location, cost, and year of completion.

[7] 381,800+250,000 = 631,800 gallons and 321,800 + 250,000 = 571,800 gallons
[8] See "Percent Water Loss" chart in Attachment KW-01.

Q: How is Petitioner proposing to fund its Capital Asset Management Plan?

A: Currently, Petitioner only seeks funding for the Capital Asset Management Plan through 2025. Petitioner proposes to finance the capital improvements by borrowing funds and through rates in its proposed extensions and replacements ("E&R") revenue requirement. Petitioner is seeking Commission authority to issue $3.915 million in revenue bonds from the State Revolving Loan Fund and for approval of an E&R revenue requirement of $210,571 per year. Petitioner's proposed revenue bonds and E&R revenue requirement fully funds its Capital Asset Management Plan through 2025.

Q: Do you have any concerns with any of the new assets Petitioner has proposed to construct through 2025?

A: No. Petitioner provided information on each of the projects. The projects through 2025 appear to be reasonable, and the projects should enhance the utility's ability to effectively and efficiently serve its customers.

Q: Do you have an opinion about assets Petitioner plans to construct after 2025?

A: Petitioner provided very little information on the proposed 1 MG ground storage tank and associated improvements Mr. Simstad listed in his supplemental testimony.[9] Petitioner indicates the life of these rates to be through 2025, and those projects are not projected to occur until 2028.[10] Moreover, costs and project priorities can change a great deal in 8 years Therefore, the OUCC did not evaluate projects occurring after 2025.

[9] Petitioner's Exhibit 13, Supplemental Testimony of Neil J. Simstad, page 2.
[10] Petitioner's Exhibit 17, Preliminary Engineering Report, page 5.

Q: Do you have any concerns with how Petitioner proposes to pay for the projects proposed in this proceeding?

A: Yes. In Cause No. 45180, Cedar Lake proposed a system development charge ("SDC") to fund certain improvements. In this Cause, Cedar Lake now proposes to fund these same improvements through a borrowing. Thus, customers would pay for these projects twice - through both the system development charge and again through a debt service revenue requirement embedded in rates. OUCC witness Thomas Malan discusses this issue in his testimony.

Q: Does Cedar Lake acknowledge these concerns?

A: Yes. Ms. Haase discusses this issue in her second supplemental testimony.[11] Ms. Haase acknowledges that the "potential for double collection would not occur until sometime in late 2021 or 2022 when Cedar Lake begins making principal and interest payments on the proposed bonds and those customers having paid the Eastside system development charge are paying the rates and charges that are inclusive of the project's debt service."[12] Ms. Haase suggests there are a number of future projects that could "replace" the projects recently used to support the system development charge in Cause No. 45180, including the 1.0 million gallon storage tank and associated items listed in Mr. Simstad's supplemental testimony.[13]

[11] Petitioner's Exhibit 18, Second Supplemental Testimony of Pamela Sue Sargent Haase, page 5, line 17 – page 8, line 12.
[12] Haase Second Supplemental, page 6, lines 10-13.
[13] Haase Second Supplemental, page 6, line 14 – page 7, line 2.

Q: Is it appropriate to use funds from the Eastside system development charge to pay for the 1.0 million gallon ground storage tank and associated projects?

A: Not necessarily. These projects were not used to justify the recently approved Eastside system development charge. Moreover, these other projects are not located on the Eastside where the system development charge is collected.

Page 5 of the Preliminary Engineering Report states:

> The 1.0 million gallon ground storage tank with associated site work, piping, booster station and well field is necessary to provide storage and source water to the Westside system in the medium to long term (2028) due to anticipated population and water demand growth.[14] (emphasis added)

It is inappropriate to use funds from the Eastside system development charge to pay for growth related projects on the system's Westside, especially given that the two sides are not interconnected and the Westside has its own system development charge.

Q: Should the funds from the Eastside system development charge be used to pay for interconnecting Cedar Lake's Eastside and Westside?

A: No. Petitioner has not provided any information supporting the interconnection of the Eastside and Westside as a growth-related project. System development charges are typically meant to pay for growth-related projects. Additionally, given the large difference between the system development charges in each side,[15] Petitioner would need to show with evidence why new Eastside customers should pay a greater portion of the cost than new Westside customers.

[14] Petitioner's Exhibit 17.
[15] Eastside SDC 5/8" meter = $2,556; Westside SDC 5/8" meter = $580

Q: What is your recommendation regarding the system development charge?

A: Cedar Lake has not provided sufficient evidence as to which of its "future projects" would support the continued collection of a $2,556 system development charge on its Eastside. Moreover, this is not a system development charge case, and Cedar Lake has not proposed to amend its Eastside system development charge in this proceeding. Further, should the Commission approve Cedar Lake's proposed financing, which includes debt service for projects used to justify the Eastside system development charge in Cause No. 45180, Cedar Lake should be required to file a case to justify and amend its Eastside system development charge with new support. If Cedar Lake has not done so before the closing of the loan, the Eastside system development charge should terminate.

A. Adjustments to E&R Expenses

Q: What E&R revenue requirement has Petitioner proposed to recover?

A: Petitioner has requested an E&R revenue requirement of $210,571. Mr. Simstad prepared a list of capital improvements which were included in Petitioner's Exhibit 13, as Exhibit G titled "Capital Improvement Plan – Summary." Exhibit G indicates that $1,263,426 of capital improvements will be funded through the E&R revenue requirement over the next six years. Thus, the E&R revenue requirement is $210,571 ($1,263,426 / 6 years = $210,571 per year). Petitioner provided cost support for most of the E&R funded projects.

Q: Are there any E&R costs for which Petitioner did not provide supporting documentation?

A: Yes. The OUCC asked Petitioner multiple times to provide cost documentation for E&R projects over $2,000 for which Petitioner is seeking funding. Cedar Lake did not provide documentation for the following line items:

Line Item[16]	Description	Total Cost
101	Neptune R900Water Meter 5/8" (typ)	$350 per unit x 2,026 units = $709,100
102	Neptune R900Water Meter 5/8" (typ)	$350 per unit x 400 units = $140,000
203	Piping under concrete	$100,000

Q: Do utilities need to replace water meters?

A: Yes. Over time water meters become less accurate and should be replaced to ensure customers are billed for the correct amount of water they use. However, the cost provided for the replacement of each meter is higher than other water utilities.[17] The OUCC asked for documentation to support the $350 cost of the meters in DR 8-10.[18] Petitioner responded with the following statement:

> Cedar Lake has recently paid $210 per meter and then anticipates two (2) hours of time for a licensed plumber to install. Accordingly, Cedar Lake estimates a total cost of $350 per meter.

Petitioner did provide an invoice supporting the cost of $210 per meter.[19] Utilities generally use their own personnel to install meters rather than a licensed plumber. No information or documentation was provided by Cedar Lake to support why it

[16] Line item numbers are from Petitioner's Exhibit 19 page 12.
[17] For example, Brown County Water Utility, Inc. submitted their meter replacements cost as $216.71 per meter on page 7 of Mr. Baker's Testimony in Cause No. 45210.
[18] See OUCC Attachment KW-02.
[19] See OUCC Attachment KW-03.

requires a licensed plumber two hours to install each water meter as opposed to using its own staff. Due to lack of supporting documentation and explanation of need for the time and cost of the plumber, I recommend the Commission disallow $141,098 of the meter replacement costs to be recovered over the six years or $23,516 per year.[20]

Q: What is the "piping under concrete" project proposed by Cedar Lake?

A: This project involves replacing steel pipes under concrete at the Parrish pumping station. Petitioner stated that 5 years ago a contractor made emergency repairs to the area and the contractor believed the "remaining steel would likely not last 5 more years."[21]

Q: How does Petitioner say it developed the estimate for this project?

A: In response to OUCC DR 5-5(d),[22] Petitioner stated:

> This cost estimate was provided to Cedar Lake by an independent, third party engineer, Neil Simstad. Based on his twenty-five (25) years of experience as a professional engineer (as well as his firm's decades of experience), Mr. Simstad prepared and then submitted an estimated cost of this particular project to Cedar Lake. It is difficult to estimate the exact cost of this project until the piping is exposed and Cedar Lake can evaluate the scope of the work that needs to be completed. Cedar Lake believes, however, that this project is important and somewhat urgent as a contractor who performed work on-site for Cedar Lake approximately five (5) years ago indicated that the piping would most likely last approximately five (5) years. Although the project could cost more or less than the estimated cost of $100,000, the engineer believes, in his professional opinion, that the estimate is reasonable.

[20] See Table 6 of OUCC Witness Malan.
[21] This information was provided in response to OUCC DR 5-5(c). See Attachment KW-04 for full question and response.
[22] See OUCC Attachment DR-05.

In Response to OUCC DR 11-4, Petitioner stated: "Based on input from its professional engineer, this is a rather unique project for which the engineer does not have an estimate or cost from a comparable job."[23]

No additional explanation, breakdown of expected costs, or documentation was provided. While Petitioner may not know the full scope of work at this time, it should have some idea of what needs to be done to develop a cost estimate. No other information was provided to the OUCC. As such, I recommend the Commission disallow $100,000 from the project costs Petitioner listed to support its E&R revenue requirement. This results in a decrease of $16,667 to the annual E&R revenue requirement.

Q: What E&R revenue requirement do you recommend?

A: The adjustments I discuss above result in a $40,182[24] decrease to Petitioner's proposed E&R revenue requirement. I recommend the Commission authorize an annual E&R revenue requirement of $170,389 ($210,571 – $40,182). [25]

IV. PERIODIC MAINTENANCE

Q: Please provide an overview of Cedar Lake's proposed adjustments to Periodic Maintenance expense.

A: Petitioner's Exhibit 19 at page 12 proposes increasing Periodic Maintenance spending by $111,044 per year. I recommend the Commission approve $102,725

[23] See OUCC Attachment KW-06 for the full DR 11-4 question and response.
[24] ($23,516 + $16,667 = $40,182)
[25] For more detail on how this was calculated, please see OUCC Schedule 6.

per year in Periodic Maintenance expense.[26] Supporting documentation was requested for each line item with a total cost (unit cost x quantity) greater than $2,000. The following types of projects and expenditures had at least one total individual line item cost greater than $2,000:[27]

General Category	Total Cost	Annual Cost
Tank contracts and tank maintenance	$211,700	$96,942
Building maintenance – roof / paint /siding	$35,000	$1,750
Well inspection and cleaning	$96,00	$6,402
GIS / mapping equipment	$3,500	$3,500

Q: Is it reasonable for Petitioner to incur expenses to perform periodic maintenance?

A: Yes. Water utilities need to perform periodic maintenance on their capital assets. Periodic maintenance will allow Cedar Lake to continue to operate its facilities properly and extend the service lives of its assets.

Q: Do you accept Petitioner's *pro forma* expense amount for each periodic maintenance item?

A: No. I accept Petitioner's *pro forma* expenses for well inspection and cleaning, and GIS / mapping equipment. However, I disagree with certain aspects of the proposed expenditures for tank maintenance and maintenance contracts and building maintenance (roof / paint /siding).

Q: Please describe Petitioner's proposed well inspection and cleaning costs.

A: Cedar Lake requests funds needed to periodically clean and inspect its wells at a cost of $16,000 per well. Petitioner has requested a *pro forma* annual revenue

[26] See OUCC Schedule 5, Adjustment No. 9 for detail as to how this was calculated.
[27] See Petitioner's Exhibit 19 for more detail.

requirement of $6,402 ($1,067 per well based on a fifteen year cycle for each well). Cedar Lake currently has four wells and plans to acquire two more wells. Attachment KW-07 includes a copy of a January 2019 invoice for cleaning and inspecting two of Petitioner's wells. This invoice supports the proposed well cleaning and inspection costs. When asked what guidance was relied upon to determine well inspections once every fifteen years was sufficient, Petitioner stated:

> Cedar Lake has only operated the system for ten (10) years so it does not yet possess a long track record for well inspections. Initially, the estimate was based on information from the water utility operator who believes that well inspections once every fifteen (15) years will be sufficient. While not entirely certain, this estimate may be overly optimistic as other regulated utilities, such as Stucker Fork Conservancy District, perform well inspections at least once every 5 to 10 years. With this in mind, this expense may be understated. Unfortunately, the Indiana Department of Environmental Management and Department of Natural Resources do not provide guidance documents on such inspections.[28]

The Water Well Journal recommends annual or biannual evaluations of wells and well pumps for municipalities.[29] Penn State Extensions also recommends wells be "inspected annually for obvious signs of damage or contamination" and professionally inspected once every ten years.[30] I recommend Petitioner inspect wells biannually to ensure the wells are being properly maintained. I recommend the Commission approve Cedar Lake's request to include as part of its periodic maintenance expense $6,402 in its *pro forma* annual revenue requirement for well cleaning and inspection.

[28] See the entire OUCC DR 8-8 in OUCC Attachment KW-08.
[29] https://waterwelljournal.com/well-pump-rehabilitation-3/
[30] https://extension.psu.edu/water-well-maintenance-and-rehabilitation

Q: Please discuss Cedar Lake's proposed GIS / mapping equipment expenses.

A: Cedar Lake requests $3,500 each year for GIS / mapping equipment expense. One thousand dollars of this is for the annual software subscription fee. The other $2,500 is to pay a summer intern ($10/hour, 250 hours/year) to collect and enter data into the GIS system. It is a good practice to establish and maintain an ongoing map of the collection system so that employees, contractors, and the like may be able to reference such information. If, for example, there were a loss of pressure due to a main break, an accurate map of the system would assist in locating the break and making repairs.[31] I recommend the Commission approve Cedar Lake's request to include $3,500 for GIS / mapping expenses in its revenue requirement.

Q: Do you accept the proposed Tank Maintenance programs?

A: Yes. Cedar Lake has proposed to enter into a Tank Asset Management Program with Suez to implement a comprehensive management program for the Parrish elevated tank and proposed Krystal Oaks elevated tank. This agreement will provide for: 1) annual inspection and service, 2) washout, touch-up, and inspection every three years, 3) engineering, inspection and repair services as needed, 4) exterior coating every 11 to 13 years, and 5) interior cleaning and repainting every 14 to 16 years, emergency services and other miscellaneous items.

Additional services may be included depending upon the specific tank and its current needs. This provides the utility with a predictable, repeatable program to maintain its critical water storage facilities. Contracting this type of activity provides Cedar Lake with the tank maintenance expertise and staffing it needs and

[31] For additionally information on GIS and its benefits to water utilities see OUCC Attachment KW-09.

helps levelize payments for these services over time, rather than incurring irregular, significant, and periodic expenditures potentially with multiple contractors.

Q: Do you accept the proposed Tank Maintenance programs cost?

A: No. The proposal Cedar Lake provided from Suez shows an annual cost of $55,637 per year per tank for each of the next eight years.[32] Cedar Lake has proposed the life of these rates as the next six years.[33] Cedar Lake is not proposing to implement the tank maintenance program for the Krystal Oaks tank until 2023 when construction is expected to be complete. Since this tank will not be complete until 2023, I have included only three years of expense recovery for the Krystal Oaks Tank. Therefore, I recommend the Commission approve $83,455.50 for periodic tank maintenance.[34]

Q: Has Cedar Lake signed a contract with Suez?

A: No. Cedar Lake informed the OUCC that it was waiting on funding approval before signing a contract with Suez for tank maintenance.[35] I recommend the Commission require a signed contract with Suez be submitted to the Commission and the OUCC or Petitioner to file a rate true up within 60 days of issuance of the Final Order for the Parrish Tank and within 60 days of completion of the Krystal Oaks Tank.

Q: Please describe Petitioner's proposed periodic maintenance expense for storage tanks not covered by the tank maintenance programs.

A: Petitioner requests periodic maintenance funds for the following projects not covered by the tank maintenance program and that meet or exceed $2,000:

[32] See OUCC Attachment KW-10
[33] Petitioner's Exhibit 19 at page 12 shows the periodic maintenance costs for the next six years only.
[34] $55,637 a year for the Parrish Tank (for six years) + ($55,637 a year for three years) / 6-year life of the rates for the Krystal Oaks Tank = $83,445.50
[35] See OUCC Attachment KW-11.

Line Item[36]	Description	Total Cost	Annual Cost
302	3,000 gal tank – blast and epoxy coat internal	$26,000	$1,733
303	3,000 gal tank – external paint	$2,000	$133
304	3,000 gal tank - inspection	$3,000	$600
312	15,000 gal tank – blast and epoxy coat internal	$35,000	$2,333
313	15,000 gal tank – external paint	$2,000	$133
314	15,000 gal tank - ports[37]	$12,000	$600
315	15,000 gal tank - inspection	$3,000	$600
322	60,000 gal clear well – power wash and drain	$7,500	$750

Q: Did you request additional information regarding each of these projects?

A: Yes. I sought and received additional information on each of the projects through data requests. Based on our review of the responses, we can agree that line items 303, 304, 313, 314, 315, and 322 are reasonable and will enhance the utility's ability to effectively and efficiently serve its customers.

Q: Did Petitioner provide support for line items 302 and 312?

A: Yes. Petitioner provided preliminary maintenance inspection reports on the Parrish tank and the Meadow Lark Lane tank from Dixon Engineering, Inc.[38] These reports included the following costs for each tank:

[36] Line item numbers are from Petitioner's Exhibit 19, Schedule C, Revenue/Expense Adjustments, page 12.
[37] Ports maintenance includes removal of existing ports, installation of new ports, associated piping replacement, paint touch-up, and professional inspection of work.
[38] Included as Attachment KW-12.

Tank	Description of Work	Cost
3,000 gal Parrish Tank	Interior blasting and repainting	$18,000
	Manway install	$6,000
	Engineering and contingencies	$8,000
15,000 Meadowlark Lane Tank[39]	Interior blasting and repainting	$25,000
	Manway install	$6,000
	Engineering and contingencies	$10,000

Costs the Petitioner has asked for in Petitioner's Exhibit 19, page 12 equal the amount of interior blasting and repainting plus the engineering and contingencies for each tank. Engineering and contingency costs are not usually associated with cleaning and painting storage tanks as there is no engineering needed to clean and paint a tank and the scope of work is defined in the initial quote. They are however associated with the installation of manways for which Petitioner has not asked for funding. I recommend the Commission exclude the $18,000 in engineering and contingencies. I also recommend the Commission approve $18,000 for the interior blasting and repainting of the Parrish tank and $25,000 for the interior blasting and repainting of the Meadowlark Lane Tank.

Q: Please discuss your conclusions about Petitioner's proposed periodic maintenance expense for building maintenance – roof / paint /siding.

A: Petitioner seeks periodic maintenance funds for the repainting of the Parrish pump building, replacement of siding at the Haven Wood water pumping station, and the replacement of the roofs at both the Parrish pump building and the Havenwood water pumping station. I agree with the project amounts and most amortization

[39] Note this tank is located at 121 Havenwood Pump Station. It is identified by Dixon Engineering, Inc. as the Meadowlark Lane Tank.

periods Petitioner is proposing. (Petitioner provided cost support from the BNi Building News General Construction Cost Book for each of these projects.[40]) However, I do not support the proposed amortization period for the roof replacements.

Cedar Lake is proposing to install metal roofs on the Parrish pump building and the Havenwood water pumping station. While metal roofs cost more up front, they last approximately 40-70 years compared to the 12-20 years asphalt roofing materials typically last.[41] Petitioner has proposed a 20-year amortization period. I recommend a 40-year amortization period. Therefore, I recommend the Commission approve $200 per year for the replacement of the Parrish pump building roof and $375 per year for the replacement of the Havenwood water pumping station roof.

Q: What Periodic Maintenance revenue requirement do you recommend?

A: I recommend the Commission approve $102,725 per year in Periodic Maintenance expense.[42]

V. OTHER MATTERS

Q: Does the United States Environmental Protection Agency ("EPA") have any resources that may be beneficial to Cedar Lake's operations?

A: Yes. In conjunction with the United States Department of Agriculture ("USDA"), the EPA developed the Rural and Small Systems Guidebook to Sustainable Utility

[40] See OUCC Attachment KW-13.
[41] https://www.statefarm.com/simple-insights/smart-ideas/wondering-about-metal-roofs-here-are-the-pros-and-cons#:~:text=Metal%20roofs%20offer%20many%20benefits,of%20roughly%2012%2D20%20years.
[42] See OUCC Schedule 5, Adjustment No. 9 for detail as to how this was calculated.

Management ("Guidebook").[43] Rural and small water systems can use the information in the Guidebook in several different ways:

- By system managers, water system operation specialist and staff as a guide for taking actions leading to short-term and long-term improvements to system management and performance;
- By service providers as they work with individual systems or groups of systems through workshops or other assistance efforts;
- As a resource for system improvement workshops, like those sponsored by USDA and EPA;
- As a resource for guiding conversations about sustainability with utility board members; or
- As a resource for communicating and educating utility board members on the importance of effective management.

Q: How should Cedar Lake use the Guidebook?

A: At a minimum, Cedar Lake should work through Appendices 1 and 2 of the Guidebook to see if it might benefit from any of the Guidebook's practices or programs.

Q: Does the American Water Works Association ("AWWA") offer any guidance on distribution systems operation and management?

A: Yes. The AWWA has created many standards to establish formal management guidelines that identify the appropriate practices, procedures, and behaviors whose implementation will promote effective and efficient utility operations and contribute to protection of public health, public safety, and the environment.[44] As such, the AWWA has created a standard for Distribution Systems Operation and Management ("AWWA Standard G200") and developed an Operational Guide to

[43] The Guidebook can be obtained for free from the following website: https://www.epa.gov/sustainable-water-infrastructure/rural-and-small-systems-guidebook-sustainable-water-and-wastewater
[44] AWWA Standard G200, Distribution Systems Operation and Management, Effective Date: April 1, 2010, page vii.

AWWA Standard G200. The AWWA guide contains good management and operation guidance for water utilities. Cedar Lake should use this guide.

VI. OUCC RECOMMENDATIONS

Q: Please summarize your recommendations in this Cause.

A: I recommend the Commission approve $170,389 per year in E&R revenue and approve $102,725 per year in Periodic Maintenance expense. I recommend the Commission require that a signed contract with Suez be submitted to the Commission and the OUCC or Petitioner to file a true up for the funds within 60 days of issuance of the Final Order for the Parrish Tank and within 60 days of completion of the Krystal Oaks Tank. Finally, I recommend Petitioner be required to file a docketed case with the Commission within 6 months from the date an order is issued in this Cause to support or update its Eastside system development charge.

Q: Does this conclude your testimony?

A: Yes.

APPENDIX A

Q: Please describe your educational background and experience.

A: I graduated from Indiana University with a Bachelor of Science degree in Biology and a Master of Public Affairs ("MPA") concentrating in Environmental Management. My graduate coursework included studying how water pollution affects aquatic ecosystems, environmental rules and regulations, toxicology, risk analysis, epidemiology, finance and budgeting, economics, statistics, public management, and other courses on how pollution affects human health and the environment. After graduating with my MPA, I was hired as an Environmental Manager (EM2) by the Indiana Department of Environmental Management, Office of Air Quality, Permits Branch in 2006 where I analyzed projects for a variety of industries, calculated the air emissions associated with those projects, determined applicable state and federal rules, and drafted federally enforceable air permits. I was promoted to a Senior Environmental Manager (SEM1) about one year later. I held this position for more than ten years. As an SEM1, I worked on complex permit projects, trained and mentored staff, reviewed staff's work, and developed templates, guidance, and training materials. Since joining the OUCC, I have attended numerous utility related seminars and workshops including the National Association of Regulatory Utility Commissioners ("NARUC") Western Utility Rate School.

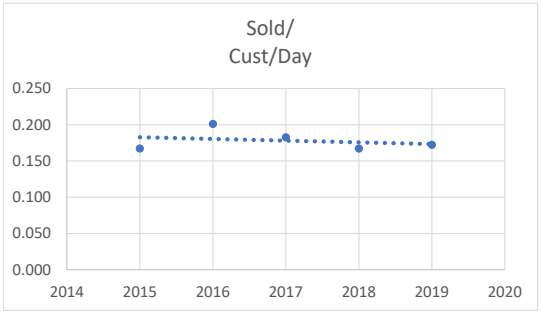
Page 1 of 1

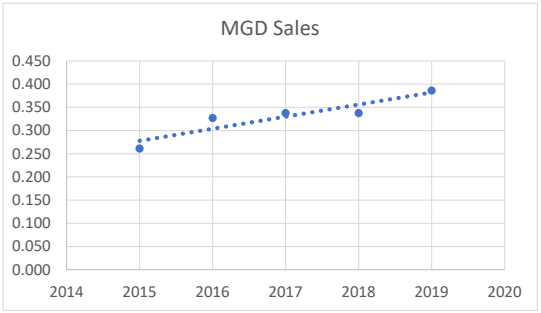
Utility Dashboard
Cedar Lake Municipal Water Utility
Cause No. 45367
OUCC Attachment KW-01

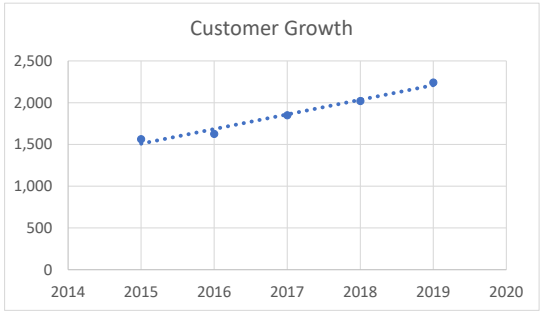
A	B	C	D	E	F	G	H	I	J	K
Year	Customers Year-End	Total Pumped	Total Sold	Non-Revenue (C - D)	System Usage	Water Loss (E - F)	Percent Loss (G / C)	Average MGD	Sold/ Cust/Day	Main Breaks
2015	1,563	120,939	95,331	25,608	928	24,680	20.4%	0.261	0.167	
2016	1,625	137,405	119,606	17,799	428	17,371	12.6%	0.327	0.201	
2017	1,848	142,668	123,227	19,441	2,825	16,616	11.6%	0.338	0.183	
2018	2,020	125,025	123,227	1,798	2,825	-1,027	-0.8%	0.338	0.167	
2019	2,241	160,429	140,949	19,480	2,825	16,655	10.4%	0.386	0.172	

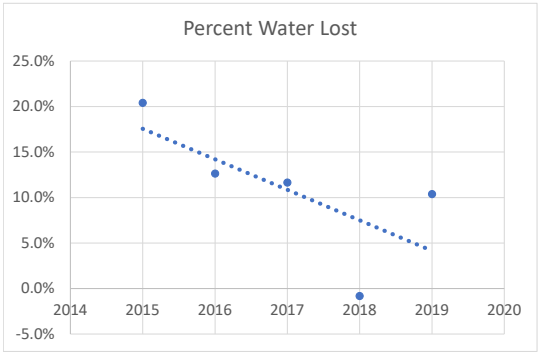
average mgd 2019	0.386 mgd
avg gals/cust/mo 2019	5,241 gals
average cust growth	169.5 /yr
average mgd 5 yrs	0.330 mgd

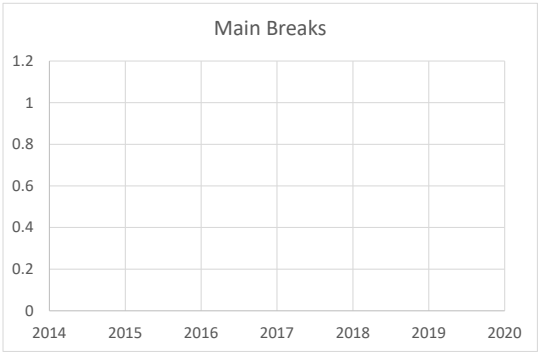
All reported in thousand gallons
System usage includes water used for firefighting, backwashing, main flushing, etc.
Source: IURC Annual Reports











Dashed lines shows results of linear regression (trend) over period shown

Testifying Witness: Neil Simstad

Q-8-9: Please provide copies of all test records for each well.

Response: Please see Exhibit 5-8.

Person(s) providing information: Howard Jones and Neil Simstad

Testifying Witness: Neil Simstad

Q-8-10: See Capital Spending Forecast – Existing Assets Continuous Replacement Costs and Event Replacement Costs spreadsheet, Petitioner's Exhibit 13, page 23, lines 101 and 102. Please provide documentation supporting the cost of the 5/8 meters.

Response: Cedar Lake has recently paid $210 per meter and then anticipates two (2) hours of time for a licensed plumber to install. Accordingly, Cedar Lake estimates a total cost of $350 per meter.

Person(s) providing information: Howard Jones and Neil Simstad

Testifying Witness: Neil Simstad

Q-8-11: In DR Q-5-10, the OUCC asked for documentation for each periodic maintenance item over $2,000. Petitioner's Exhibit 13, page 10 contains a table of period maintenance items. Lines 308-311, 316, 317, 320, 321, 325, and 326 each list items greater than $2,000 for which no information was provided. Please provide documentation supporting the cost of each line item (including any agreements for the provision of such items) or confirm that no such documentary support exists.

Response: Information responsive to this request will be provided under separate cover.

Person(s) providing information: Howard Jones and Neil Simstad

Testifying Witness: Neil Simstad

INVOICE

UTILITY SUPPLY COMPANY
Branch: 02 USC PERU
6310 SOUTH HARDING STREET
INDIANAPOLIS, IN 46217
US

1-317-783-4196

MAR 2 3 2020

INVOICE	
1316249	
Invoice Date	Page
3/19/2020 11:16:39	1 of 1
ORDER NUMBER	
1332497	

DIRECT SHIPMENT

Bill To:
CEDAR LAKE PUBLIC WORKS
PO BOX 707
7408 CONSTITUTION AVENUE
CEDAR LAKE, IN 46303
US

Attn: JILL MUIR

Customer ID: 101114

Ship To:
CEDAR LAKE PUBLIC WORKS
CEDAR LAKES PUBLIC WORKS
8550 LAKESHORE DR.
CEDAR LAKE, IN 46303
US

Ordered By: Mr. RYAN KUIPER

PO Number	*Term Description*	*Net Due Date*	*Disc Due Date*	*Discount Amount*
002-20	Net 30 DAYS	4/18/2020	4/18/2020	0.00

Order Date	*Pick Ticket No*	*Primary Salesrep Name*	*Taker*
1/7/2020 11:59:07	1353622	AARON DELONG	MMUNDY

Quantities					*Item ID* / *Item Description*	*Pricing UOM* / *Unit Size*	*Unit Price*	*Extended Price*
Ordered	*Shipped*	*Remaining*	*UOM* / *Unit Size*	*Disp*				
Carrier: OUR TRUCK					*Tracking #:*			
144.00	144.00	0.00	EA		ED2B31RDG3	EA	210.0000	30,240.00
				1.0	METER 5/8X3/4 E R900i INSIDE GALLON	1.0000		

Total Lines: 1

SUB-TOTAL:	30,240.00
TAX:	0.00
AMOUNT DUE:	**30,240.00**

A FINANCE CHARGE computed at a periodic rate of 1 1/2 % per month (18% ANNUAL PERCENTAGE RATE) is applied to PAST DUE ACCOUNTS OVER 30 DAYS.

APPROPRIATION 6440-001-242
PO # 002-20
APPROVED BY
DESCRIPTION water meters

ORIGINAL

Q-5-4: Page 3 of the "Robins Nest Water Utility Capacity Analysis for Production and Storage," Petitioner's Exhibit 8, contains cost projections for a 150,000 gallon multi-column support system and a 150,000 gallon single pedestal support system. Which design did the Petitioner select to build and why?

Response: The Petitioner selected the single pedestal support tank. Cedar Lake selected the single pedestal support tank primarily due to the ongoing maintenance associated with this type of tank. For a single pedestal support tank, the structural portions of the tank are reduced from 4-6 to 1. By only having a single support (i.e. pedestal), the ongoing maintenance costs for coating, repair, and maintenance will be reduced, and the inspections will be easier (by drone) and less expensive. In addition, Cedar Lake considered the aesthetics of a single pedestal tank due, in large part, that such tank will be located in a residential subdivision.

Person(s) providing information: Neil Simstad and Howard Jones

Testifying Witness: Neil Simstad

Q-5-5: Please provide a brief explanation of need for each of the following capital projects identified on pages 22 and 23 of Petitioner's Exhibit 13:

a. New HS pumps, motors, and controls as part of the Krystal Oaks E1 Tank Project
b. 1 MG ground storage tank installation – booster station, site work and piping, tank, and well field
c. Items 201 – 214 of the Capital Spending Forecast – Existing Assets Continuous Replacement Costs and Event Replacement Costs.
d. Please provide documentation supporting the cost for each capital project that is $2,000 or more.

Response:

a. New HS pumps are required to meet the new higher hydraulic grade of the system which is itself required to fill the proposed elevated tank. The new pumps will require new motors which, in turn, will require new controls.

b. The ground storage tank and related improvements are projects to be completed in approximately ten (10) years at a time when Cedar Lake hopes its two (2) systems will be interconnected under a unified tariff for all rates and charges. The ground storage tank will be necessary for Cedar Lake to have adequate storage in times of emergency, to provide adequate water for fire protection, and to meet the Ten States Standards. At this time, however, the cost of the ground storage tank and related improvements is not specifically included in the rates and charges for this Cause.

c. 201 Robins Nest Generator – The existing generator is inadequate in that it is unable to power the wells and HS pumps at the same time. It is also important to note that the existing generator is located inside a pump station and produces noise and air pollution that places workers at risk.

202 Power Bucket and Mechanical Pump Controls – The existing equipment has reached the end of its serviceable life, and Cedar Lake's pumps cannot be controlled manually with the existing Hand Off Auto Controls.

203 Piping Under Concrete at Parrish Pump Station – The existing piping was repaired 5 years ago and the contractor making the emergency repairs at that time informed Cedar Lake that the remaining steel would likely not last 5 more years.

204 Havenwood Pump Station Generator – The existing generator will reach the end of its anticipated useful life in 2022. Similar to the Robin's Nest generator, this generator is located inside a pump station and produces noise and air pollution that places workers at risk.

205-208 Havenwood replacement Well Pumps and Motors – This existing equipment will reach the end of its anticipated useful life in 2022 and must, therefore, be replaced.

209 Office GIS / Mapping Computer and Software – The GIS mapping computer and software should be replaced or updated every three (3) years. The $2,500 estimated cost is for the replacement of workstation and monitors. This equipment is necessary for the utility to track all assets in the water system.

210-213 Parrish Pump Station replacement Well Pumps and Motors – This equipment will reach the end of its anticipated useful life in 2025.

214 Billing Office Computers – Cedar Lake plans on replacing two (2) computers and software every five (5) years. These computers are used to track customers and billing. The estimated cost includes setup as well as the purchase of the requisite software and security.

d. Cedar Lake will provide an appropriate response to this request under separate cover.

Person(s) providing information: Neil Simstad and Howard Jones

STATE OF INDIANA

INDIANA UTILITY REGULATORY COMMISSION

PETITION OF THE TOWN OF CEDAR LAKE, LAKE COUNTY, INDIANA, FOR APPROVAL TO ADJUST ITS RATES AND CHARGES AND ISSUE BONDS	))))	**CAUSE NO. 45367**

TOWN OF CEDAR LAKE'S SUPPLEMENTAL RESPONSE TO OUCC DATA REQUEST SET NO. 5

The Town of Cedar Lake, Indi2ana ("Cedar Lake"), by counsel, hereby provides its supplemental response to the Fifth Set of Discovery Requests propounded by the Office of the Utility Consumer Counselor ("OUCC") as set forth below.

Q-5-5: Please provide a brief explanation of need for each of the following capital projects identified on pages 22 and 23 of Petitioner's Exhibit 13:

d. Please provide documentation supporting the cost for each capital project that is $2,000 or more.

Response:

a.-c. Cedar Lake previously responded to these requests on June 29, 2020.

d. Outlined below are the individual capital items listed on pages 22 and 23 of Petitioner's Exhibit 13 and an explanation of the estimated cost for each capital project that is $2,000 or more:

001 85Kw Generator Installation

This cost estimate was provided to Cedar Lake by an independent, third party engineer, Neil Simstad with NIES Engineering, Inc. ("NIES"). Based on his twenty-five (25) years of experience as a professional engineer (as well as his firm's decades of experience), Mr. Simstad prepared and then submitted an estimated cost of this particular project to Cedar Lake. Mr. Simstad believes the referenced cost of this item is a reasonable estimate of the cost Cedar Lake will incur to purchase and install the generator. In preparing his estimate of the anticipated cost for this project, Mr. Simstad relied upon his firm's experience with a similar project in Highland, Indiana, in 2001. The cost of the project for Highland, Indiana, in 2001, was $47,600, and NIES has assumed a 2% annual increase in cost since the 2001 project, which results in a

102 Neptune R900 Water Meter 5/8" (Not Transmitter Ready)
Because the estimated cost for this project was less than $2,000 per unit, no further information or response is required by this request. Based on his professional experience and opinion, however, Mr. Simstad believes this estimate is reasonable.

103 Std Fire Hydrant Assembly
This cost estimate was provided to Cedar Lake by an independent, third party engineer, Neil Simstad. Based on his twenty-five (25) years of experience as a professional engineer (as well as his firm's decades of experience), Mr. Simstad prepared and then submitted an estimated cost of this particular project to Cedar Lake. Mr. Simstad believes the referenced cost of this project is a reasonable estimate of the cost Cedar Lake will incur to complete the project. In preparing this estimate, NIES reviewed the bid results of a 2019 project for the Town of Dyer, Indiana ("Dyer"), for which NIES was the consulting engineer. A copy of the Dyer bid documents, as well as NIES analysis, is attached as Exhibit 5-5(103).

104 Control Valves
This cost estimate was provided to Cedar Lake by an independent, third party engineer, Neil Simstad. Based on his twenty-five (25) years of experience as a professional engineer (as well as his firm's decades of experience), Mr. Simstad prepared and then submitted an estimated cost of this particular project to Cedar Lake. In preparing his estimate of the anticipated cost for this project, Mr. Simstad used the Kennedy Valve catalog (see https://www.kennedyvalve.com/upl/downloads/library/entire-2012-awwa-price-book.pdf) **for pricing. Since preparing his original estimate, the cost for a non-gasket 8 inch valve has actually increased from approximately $2,100 to $2,400. Accordingly, this estimate may be understated. Nonetheless, Mr. Simstad believes the referenced cost of this project is a reasonable estimate of the cost Cedar Lake will incur to complete the project.**

105 Vehicle
This cost estimate was provided to Cedar Lake by an independent, third party engineer, Neil Simstad. Based on his twenty-five (25) years of experience as a professional engineer (as well as his firm's decades of experience), Mr. Simstad prepared and then submitted an estimated cost to purchase this particular item to Cedar Lake. Mr. Simstad believes the referenced cost of this item is a reasonable estimate of the cost Cedar Lake will incur to purchase the truck. In preparing the estimate, NIES relied upon its personal experience in purchasing a similar vehicle for NIES within the last two (2) years. Because NIES paid approximately $35,000 for a similar vehicle, NIES believes that this cost estimate is reasonable.

201 Generator
This cost estimate was provided to Cedar Lake by an independent, third party engineer, Neil Simstad with NIES Engineering, Inc. ("NIES"). Based on his twenty-five (25) years of experience as a professional engineer (as well as his firm's decades

of experience), Mr. Simstad prepared and then submitted an estimated cost of this particular project to Cedar Lake. Mr. Simstad believes the referenced cost of this item is a reasonable estimate of the cost Cedar Lake will incur to purchase and install the generator. In preparing his estimate of the anticipated cost for this project, Mr. Simstad relied upon his firm's experience with a similar project in Highland, Indiana, in 2001. The cost of the project for Highland, Indiana, in 2001, was $47,600, and NIES has assumed a 2% annual increase in cost since the 2001 project, which results in a current project cost of $69,334. Attached as Exhibit 5-5(1) is an exhibit illustrating how NIES estimated the cost of this project.

202 Power Bucket and Mechanical Pump

This cost estimate was provided to Cedar Lake by an independent, third party engineer, Neil Simstad. Based on his twenty-five (25) years of experience as a professional engineer (as well as his firm's decades of experience), Mr. Simstad prepared and then submitted an estimated cost of this particular project to Cedar Lake. Mr. Simstad believes the referenced cost of this project is a reasonable estimate of the cost Cedar Lake will incur to complete the project. In preparing this estimate, NIES relied upon a quote from Xylem Water Solutions USA, Inc. ("Xylem"). A copy of Xylem's quote is attached as Exhibit 5-5(202).

203 Piping Under Concrete

This cost estimate was provided to Cedar Lake by an independent, third party engineer, Neil Simstad. Based on his twenty-five (25) years of experience as a professional engineer (as well as his firm's decades of experience), Mr. Simstad prepared and then submitted an estimated cost of this particular project to Cedar Lake. It is difficult to estimate the exact cost of this project until the piping is exposed and Cedar Lake can evaluate the scope of the work that needs to be completed. Cedar Lake believes, however, that this project is important and somewhat urgent as a contractor who performed work on-site for Cedar Lake approximately five (5) years ago indicated that the piping would most likely last approximately five (5) years. Although the project could cost more or less than the estimated cost of $100,000, the engineer believes, in his professional opinion, that the estimate is reasonable.

204 30Kw Generator (Nat Gas)

This cost estimate was provided to Cedar Lake by an independent, third party engineer, Neil Simstad with NIES Engineering, Inc. ("NIES"). Based on his twenty-five (25) years of experience as a professional engineer (as well as his firm's decades of experience), Mr. Simstad prepared and then submitted an estimated cost of this particular project to Cedar Lake. Mr. Simstad believes the referenced cost of this item is a reasonable estimate of the cost Cedar Lake will incur to purchase and install the generator. In preparing his estimate of the anticipated cost for this project, Mr. Simstad relied upon his firm's experience with a similar project in Highland, Indiana, in 2001. The cost of the project for Highland, Indiana, in 2001, was $47,600, and NIES has assumed a 2% annual increase in cost since the 2001 project, which results in a

b. State the make and model of the similar vehicles and the purchase price for each.
c. State the make, model and listed price of each vehicle Petitioner is considering to purchase.

Response: Cedar Lake objects to this request on grounds that it seeks information that is not relevant, nor will it lead to the discovery of admissible evidence. Cedar Lake is entitled to recover depreciation up to an amount not exceeding $227,602. (See Petitioner's Exhibit 13, Exhibit H, p. 30). In an effort to avoid a further increase to its customers, Cedar Lake has reduced its request for depreciation to an amount equal to the anticipated cost of the identified capital improvements. In addition, Cedar Lake objects to this request on grounds it is unduly burdensome as the purported cost of such item should be known to be reasonable by the OUCC. Without waiving its objections, please see Exhibit 11-2.

Person(s) providing information: Neil Simstad and Howard Jones

Testifying Witness: Neil Simstad

Q-11-3: OUCC DR 5.5 d. requested "*documentation supporting the cost for each capital project that is $2,000 or more." I*n support of lines 201 and 204 (30 kw generators) *Petitioner indicated a 2001 cost of $47,600 multiplied by a 2% inflation factor. But no documentation was* provided to support the 2001 cost. Please provide any invoices, bids, quotes, price list, catalogue or other document to support the 2001 cost.

Response: Cedar Lake objects to this request on grounds that it seeks information that is not relevant, nor will it lead to the discovery of admissible evidence. Cedar Lake is entitled to recover depreciation up to an amount not exceeding $227,602. (See Petitioner's Exhibit 13, Exhibit H, p. 30). In an effort to avoid a further increase to its customers, Cedar Lake has reduced its request for depreciation to an amount equal to the anticipated cost of the identified capital improvements. In addition, Cedar Lake objects to this request on grounds it is unduly burdensome as the purported cost of such item should be known to be reasonable by the OUCC. Without waiving its objections, please see Exhibit 11-3.

Person(s) providing information: Neil Simstad and Howard Jones

Testifying Witness: Neil Simstad

Q-11-4: OUCC DR 5.5 d. requested "*documentation supporting the cost for each capital project that is $2,000 or more."* Schedule G-2 line item 203 in Exhibit 13 indicates a cost of $100,000 for piping under concrete. But no actual documentation to support this estimate was provided. Please provide any bids, quotes, price list, catalogue or other document to support that cost.

Response: Cedar Lake objects to this request on grounds that it seeks information that is not relevant, nor will it lead to the discovery of admissible evidence. Cedar Lake is entitled to recover depreciation up to an amount not exceeding $227,602. See Petitioner's Exhibit 13, Exhibit H, p. 30). In an effort to avoid a further increase to its customers, Cedar Lake has reduced its request for depreciation to amount equal to the cost of the anticipated capital improvements. Without waiving its objection, and as noted in the original response to OUCC DR 5.5(d), Cedar Lake will not have bids, quotes, or an exact estimate until such time as the concrete is exposed and the project is bid (estimated to occur in 2022). Based on input from its professional engineer, this is a rather unique project for which the engineer does not have an estimate or cost from a comparable job.

Person(s) providing information: Neil Simstad and Howard Jones

Testifying Witness: Neil Simstad

Q-11-5: OUCC DR 5.5 d. requested "*documentation supporting the cost for each capital project that is $2,000 or more."* Schedule C line item 303 in Exhibit 13 indicates a cost of $2,000 for the external paint for the 3,000 gal tank. However, Petitioner has not provided any documentary support. Please provide any bids, quotes, price list, catalogue or other document to support that cost. If there is no such documentation, please explain how the cost of $2,000 for line item 303 was determined?

Response: Cedar Lake objects to this request on grounds that it seeks information that is not relevant, nor will it lead to the discovery of admissible evidence. Cedar Lake is entitled to recover depreciation up to an amount not exceeding $227,602. (See Petitioner's Exhibit 13, Exhibit H, p. 30). In an effort to avoid a further increase to its customers, Cedar Lake has reduced its request for depreciation to an amount equal to the anticipated cost of the identified capital improvements. In addition, Cedar Lake objects to this request on grounds it is unduly burdensome as the purported cost of such item should be known to be reasonable by the OUCC. Without waiving its objections, please see Exhibit 11-5.

Person(s) providing information: Neil Simstad and Howard Jones

Testifying Witness: Neil Simstad

Q-11-6: OUCC DR 5.5 d. requested "*documentation supporting the cost for each capital project that is $2,000 or more."* Schedule C line item 304 in Exhibit 13 indicates a cost of $3,000 for the inspection of the 3,000 gal. tank. However, Petitioner has not provided any documentary support. Please provide any bids, quotes, price list, catalogue or other

ORTMAN
Drilling & Water Services
Research - Design - Construction - Maintenance
241 N. 300 W. • Kokomo, IN 46901 • 765-459-4125 Fax 765-459-8750

INVOICE

CEDARLK

Town of Cedar Lake		Invoice Number	19CA102
8500 Lakeshore Drive		Invoice Date	10-Jan-19
Cedar Lake, IN 46303		Purchase Order	303-18
219-880-7800		Terms	Due Upon Receipt
Ryan Kuiper		Salesperson	Deanna Ortman
		Job Number	DO18072

QTY	UNIT	DESCRIPTION	PRICE	AMOUNT
		Parrish Well Field Capacity Testing and Well Cleanings		
				$ -
				$ -
				$ -
				$ -
1	each	Well Capacity Testing for Well #4	$ 10,900.00	$ 10,900.00
				$ -
1	each	AirBurst Well #4	$ 8,190.00	$ 8,190.00
				$ -
1	each	Credit for Performing AirBurst during Capacity Testing	$ (3,800.00)	$ (3,800.00)
				$ -
1	each	New 4" Aluminum Check Valve and Steel Nipple in Well #4	$ 350.00	$ 350.00
				$ -
1	each	Well Capacity Testing for Well #4a	$ 10,900.00	$ 10,900.00
				$ -
1	each	AirBurst Well #4a	$ 8,190.00	$ 8,190.00
				$ -
1	each	Credit for Performing AirBurst during Capacity Testing	$ (3,800.00)	$ (3,800.00)
				$ -
1	each	New 4" Brass Check Valve and Steel Nipple in Well #4a	$ 490.00	$ 490.00
				$ -
				$ -
		*All invoices not paid within 30 days will be subject to 1.5% per month (18% per year)		$ -
		service and handling fees, plus any court and/or attorney fees required for collection.		$ -
		THANK YOU FOR YOUR BUSINESS	TOTAL DUE	$ 31,420.00

APPROPRIATION 643-001-396
PO # 303-18
APPROVED BY [signature]
DESCRIPTION well capacity testing and rehab at Parrish Wells

Response: At this time, Suez is one of a very few contractors, if not the only contractor, providing tank maintenance services. By using Suez, Cedar Lake will ensure that its tank(s) will have proper, professional, and timely maintenance which will hopefully extend the useful life of the tank(s) over the long term. Based on the advice of its professional engineer, Cedar Lake believes the proposed cost of the Suez agreement is reasonable.

Person(s) providing information: Howard Jones and Neil Simstad

Testifying Witness: Neil Simstad

Q-8-7: How often are drawdown tests performed for each well? Please explain.

Response: As the Town has only operated the system for 10 years they have not fully established a schedule for drawdown tests; however, the Town has conducted drawdown tests. As the schedule is developed, it will be included in the Town's publically available Water Operating Procedures Document.

Person(s) providing information: Howard Jones, Neil Simstad, and Brandon Szamatowicz

Testifying Witness: Neil Simstad

Q-8-8: What guidance does Petitioner rely on to determine that well inspections occurring once every 15 years is sufficient? Please provide a copy of the guidance.

Response: Cedar Lake has only operated the system for ten (10) years so it does not yet possess a long track record for well inspections. Initially, the estimate was based on information from the water utility operator who believes that well inspections once every fifteen (15) years will be sufficient. While not entirely certain, this estimate may be overly optimistic as other regulated utilities, such as Stucker Fork Conservancy District, perform well inspections at least once every 5 to 10 years. With this in mind, this expense may be understated. Unfortunately, the Indiana Department of Environmental Management and Department of Natural Resources do not provide guidance documents on such inspections.

Person(s) providing information: Howard Jones, Neil Simstad, and Brandon Szamatowicz

Question of the Month

ADVICE FOR SMALL SYSTEMS

What Is GIS, and How Can It Help My Utility?

BY AWWA STAFF

Computer technology is dramatically changing the way utilities operate. One of the most dramatic examples is the way many utilities are converting their paper maps to electronic formats so the maps can be used by a geographic information system (GIS), a powerful computer-based information management system designed to work with data referenced by geographic coordinates, or spatial data.

A GIS allows utility operators and managers to determine the locations of their assets; for example, where valves, water mains, hydrants, and meters are located. A GIS also lets users update, analyze, and display information about the assets. As a result, a GIS can present important information for better decision making.

What is now the GIS field began around 1960 with the discovery that maps could be programmed using simple code and stored in a computer, allowing for future modification when necessary. A GIS takes the numbers and words from the rows and columns of a spreadsheet and displays them on a map so users can view, understand, question, interpret, and visualize data in ways that aren't possible with spreadsheet rows and columns. A GIS stores the database information of the map features in a database table and maintains a link between the features and their stored information, or attributes. The resulting database, called a "relational" database, is the power source of a GIS.

Maps can be drawn from the relational database, and the GIS then uses layers, called themes, to overlay them with different types of information. Each theme represents a category of information, such as roads, parcels, mains, or hydrants. In effect, GIS acts as a large digital funnel of many types of data in constructing a database, which can then return data and analysis back into the system for subsequent use. However, GIS is much more than just a computer mapping system.

GIS COMPONENTS

A GIS is a collection of four main components: people, data, software, and hardware.

People. The foundation of a successful GIS is formed of the people and processes dedicated to making the GIS work. The most sophisticated GIS with the best-quality data can fail if it lacks a team of skilled professionals to develop, manage, and maintain it. Operator feedback is essential to the system's success.

Data. There are two types of GIS data: vector and raster. Vector GIS data show street objects on a map as points, lines, or polygons. Point data include valves, hydrants, and meters. Line data include streams, streets, and water mains. Polygon data include lakes and property parcels. Raster data, on the other hand, show continuous data as an image file. An image consists of small grid cells, or pixels. Aerial photographs or satellite images are good examples of raster data, and such imagery often makes excellent base maps for GIS development.

If the data to be used aren't already in digital form—that is, in a form the computer can recognize—various techniques can be used to capture the information. To ensure accuracy, field surveys are often performed with satellite-based Global Positioning System (GPS) technology, which was initially developed by the US military to be used for a military navigation system but later made widely available. In short, GPS allows users to pinpoint locations of assets, such as manhole covers, valves, and hydrants—not by street address, but by GPS coordinates. Thus, location is a fundamental characteristic of spatial data.

What sets a GIS apart is its stored nonspatial information regarding a geographic feature or object. The set of nonspatial or attribute data is stored in the system's relational database, and each feature or object is linked by a unique identifier differentiating it from every other element in the system. Therefore, a GIS can determine conditions of adjacency (what is next to what), containment (what is enclosed by what), and proximity (how near something is to something else).

Software. Common tasks of implementing a GIS include acquiring software to create a GIS database and layers, querying the database and performing spatial analyses, and displaying and printing maps. Once these core GIS capabilities are accomplished, other application software may be acquired to extend the use of the GIS.

Hardware. Hardware consists of the machinery on which GIS operates—computers, printers, plotters, digitizers, and other types of equipment. Hardware and software are relatively inexpensive—less than 20 percent of total GIS cost. This dictates that one should avoid excessive focus on software and hardware selection and devote an appropriate amount of effort on other GIS implementation issues, such as GIS database design, user training, and data maintenance. There are many startup issues that must be considered when developing a GIS in an organization, and there are consulting businesses to help.

WHAT CAN A GIS DO?

GIS can be used for a wide variety of applications. The GIS applications particularly important to water industry professionals are the four Ms—mapping, monitoring, modeling, and maintenance—which can be applied to help manage water, wastewater, and stormwater systems.

Mapping. Paper maps provide the power of place, but a GIS can combine and manipulate various spatial data layers to

http://dx.doi.org/10.5991/OPF.2017.43.0019

This column is an adapted excerpt from AWWA's GIS for Water Utilities DVD (catalog No. 64320), available from the AWWA Store (www.awwa.org/store).

address numerous planning, operation, and management issues, e.g., keeping water network asset data and documentation up to date or using field crews more effectively.

Monitoring. GIS is ideally suited to install, maintain, and query monitoring equipment such as rain gauges, flowmeters, and water quality samplers, helping utilities assess water quality, determine water availability, prevent flooding, and manage water resources on local and regional scales.

Modeling. Today's hydrologic and hydraulic models, integrated with and running inside a GIS, do everything from creating the models from the GIS data to mapping low-pressure pipes to color coding the system based on chlorine concentration. A GIS prepares data for hydrologic and hydraulic modeling and greatly extends a resulting model's analytical power. In addition, hydraulic modeling can be done in a fraction of the time it formerly took.

Maintenance. Today's water infrastructure, particularly in older cities, is in critical stages of deterioration. GIS offers many opportunities for inspecting and maintaining water distribution systems. For example, when a water main breaks, it should be isolated from the rest of the system so the pipe can be repaired. A GIS can identify the water distribution valves that must be closed to repair or replace a broken water main. A water distribution network layer that shows what pipes are connected to what nodes can be used to traverse networks to solve water main isolation problems. A side benefit of such an application is improved customer service, as the data provided by the GIS can be used to contact customers with no water and let them know estimated repair times.

ENDLESS POSSIBILITIES

As more utilities begin to automate their processes to improve service to water users, increase operating efficiency, and reduce operations costs, it's important for operators to understand computer technology. With use of a GIS, the possibilities to map, monitor, model, and maintain a water system are almost endless.

Cedar Lake	WO = Interior Wash Out w/REPORT				VIS = Visual Inspection w/REPORT															
	EXT = Exterior overcoat				INT = Interior renovation			PW = Exterior pressure wash				IN DRY = 1-Coat Epoxy								
	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Year 11	Year 12	Year 13	Year 14	Year 15	Year 16	Year 17	Year 18	Year 19	Year 20
Tank	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036
250KG-Ped Parish Ave Tank	EXT INT INT DRY REPAIRS	VIS	VIS	WO	VIS	PW VIS	WO	VIS	VIS	WO	VIS	EXT	WO	VIS	VIS	INT	PW VIS	VIS	WO	VIS
$ / YR	$55,637	$55,637	$55,637	$55,637	$55,637	$55,637	$55,637	$55,637	$31,229	$32,335	$33,479	$34,664	$35,891	$37,162	$38,478	$39,840	$41,250	$42,710	$44,222	$45,788
$ / Month	~	$4,636	$4,636	$4,636	$4,636	$4,636	$4,636	$4,636	$2,602	$2,695	$2,790	$2,889	$2,991	$3,097	$3,206	$3,320	$3,437	$3,559	$3,685	$3,816
1,015 meters, $ / meter / month	$4.57	$4.57	$4.57	$4.57	$4.57	$4.57	$4.57	$4.57	$2.56	$2.65	$2.75	$2.85	$2.95	$3.05	$3.16	$3.27	$3.39	$3.51	$3.63	$3.76

250KG - Ped Parish Ave Tank Work	Parish Ave Tank - PAINT
Caulk / Seal Foundation	Exterior - Heavy Power wash
Weld hatch clasp	Exterior - SP2/SP3, 2-Coat Overcoat
Repair fill pipe insulation	Exterior - Paint New Cedar Lake Logos x 2
	Interior Wet - SP10 blast, 2-Coats Epoxy, Stripe Seams

Person(s) providing information: Howard Jones and Neil Simstad

Testifying Witness: Neil Simstad

Q-8-4: What will the rated capacity be for each of the replacement generators proposed for Robin's Nest and the Havenwood Pump Station? Please explain.

Response: For Robins Nest, the 85kW generator is needed to provide start and run for the four high service pumps at 10 horsepower and two wells pumps at 7.5 HP plus to serve the control, disinfection, SCADA, building power, and ancillary needs. For Havenwood, the 85kW generator is needed to provide start and run for the 2 x 25hp well pump motors which will require approximately 30kW each to run and 50kW to start.

Person(s) providing information: Howard Jones and Neil Simstad

Testifying Witness: Neil Simstad

Q-8-5: Please refer to DR 5-6. The OUCC requested copy of each storage tank's maintenance contract. However, Petitioner's response to this question appears to provide a copy of a presentation from Suez regarding tank maintenance. Is there a signed contract with Suez for tank maintenance? If so, please provide a copy of the contract.

Response: Cedar Lake does not have a signed contract with Suez for tank maintenance as such cost has not yet been included in its rates. The proposal was provided in order to support the estimated cost of the proposed contract. Assuming the cost is approved, Cedar Lake intends to enter into a formal agreement that Cedar Lake understands is similar to the agreements executed by other utilities with Suez.

Person(s) providing information: Howard Jones and Neil Simstad

Testifying Witness: Neil Simstad

Q-8-6: Please explain how Suez was chosen for the tank maintenance contract. Was there a competitive bidding process? In the explanation please include information on other potential contractors and how each contractor and bid was evaluated.

Dixon Engineering, Inc.

Preliminary Maintenance Inspection

3,000 Gallon Hydropneumatic (Parrish)

Town of Cedar Lake, Indiana

Inspection Performed: July 15, 2015
Report Prepared: August 18, 2015
Reviewed by Ira M. Gabin, P.E.:

Phone (616) 374-3221
Fax (616) 374-7116
http://www.dixonengineering.net

Dixon Engineering Inc.
1104 Third Ave. Lake Odessa, MI 48849

CONCLUSIONS:

1. The exterior coating is an unknown system that is in good condition overall. The coating has not faded. Primary modes of failure are blisters and spot coating breaks to the substrate on the end cap. The coating has good adhesion.

2. The wet interior coating is unknown system that is in fair to poor condition overall. The coating is brittle. The coating has areas of extensive failures on the roof.

3. One exterior and one wet interior coating samples were taken and analyzed for metal content. Test results indicated the exterior is not a lead or cadmium bearing coating; the wet interior is not a lead or cadmium bearing coating. Trace levels of chrome were detected, but they are not high enough to require special considerations during repainting

RECOMMENDATIONS:

1. Schedule regular cleanings and inspections of the tank by an independent third party as recommended by AWWA, or once every five years.

2. Complete the recommended 1-2 years. The coating work is the greatest cost and largest part of the recommendations. The repairs and upgrades should be completed during the next major tank rehabilitation process when coating repairs are made.

3. Abrasive blast clean the wet interior to a near white metal condition (SSPC-SP10), and apply a three-coat epoxy polyamide system. The estimated cost is $18,000.

4. Install an 18 x 24 inch manway to allow for contractor confined space entry during the project. The estimated cost is $6,000.

COST SUMMARY:

Wet Interior repaint	$18,000
18 x 24 inch manway install	6,000
Sub total	$24,000
Engineering and Contingencies	8,000
Total	$32,000

Dixon Engineering, Inc.

Preliminary Maintenance Inspection

15,000 Gallon Hydropneumatic (Meadowlark Lane Tank)

Cedar Lake, Indiana

Inspection Performed: June 18, 2015
Report Prepared: July 29, 2015
Reviewed by Ira M. Gabin, P.E.: July 31, 2015

Phone (616) 374-3221
Fax (616) 374-7116
http://www.dixonengineering.net
dixon@dixonengineering.net

Dixon Engineering Inc.
1104 Third Ave. Lake Odessa, MI 48849

CONCLUSIONS:

1. The tank is located inside of a building. The exterior coating is an unknown system that is in good condition with no significant failures.

2. The wet interior coating is an unknown system that is in fair condition overall. There are numerous coating failures especially on the lower ⅔ of the interior with deterioration down to the steel substrate.

RECOMMENDATIONS:

1. Complete the recommended work in 1-3 years. The coating work is the greatest cost and largest part of the recommendations. The repairs and upgrades should be completed during the next major tank rehabilitation process when coating repairs are made.

2. Abrasive blast clean the wet interior to a near white metal condition (SSPC-SP10), and apply a three-coat epoxy polyamide system. The estimated cost is $25,000.

3. Install an 18 x 24 inch manway to allow for contractor confined space safety during the project. The estimated cost is $6,000.

COST SUMMARY:

Wet interior repaint	$25,000
New manway	6,000
Engineering and Contingencies	$10,000
Total	$41,000

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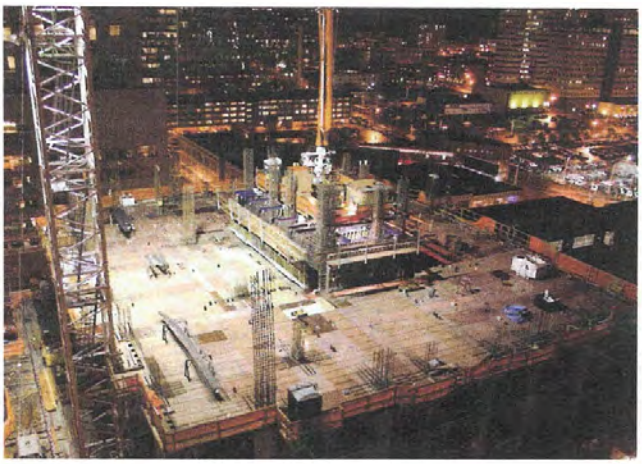
GENERAL CONSTRUCTION COSTBOOK



07 THERMAL AND MOISTURE

Flashing And Sheet Metal	UNIT	MAT.	INST.	TOTAL
07610.10 Metal Roofing *(Cont.)*				
24 ga.	SQ.	290	170	460
22 ga.	"	320	170	490
26 ga., factory insulated with 1" poly	"	490	230	720
Ridge roll				
10" wide	L.F.	2.20	1.95	4.15
20" wide	"	4.47	2.34	6.81
07620.10 Flashing And Trim				
Counter flashing				
Aluminum, .032"	S.F.	2.09	5.86	7.95
Stainless steel, .015"	"	6.69	5.86	12.55
Copper				
16 oz.	S.F.	9.36	5.86	15.22
20 oz.	"	11.00	5.86	16.86
24 oz.	"	13.50	5.86	19.36
32 oz.	"	16.50	5.86	22.36
Valley flashing				
Aluminum, .032"	S.F.	1.58	3.66	5.24
Stainless steel, .015	"	5.06	3.66	8.72
Copper				
16 oz.	S.F.	9.36	3.66	13.02
20 oz.	"	11.00	4.89	15.89
24 oz.	"	13.50	3.66	17.16
32 oz.	"	16.50	3.66	20.16
Base flashing				
Aluminum, .040"	S.F.	2.60	4.89	7.49
Stainless steel, .018"	"	6.05	4.89	10.94
Copper				
16 oz.	S.F.	9.36	4.89	14.25
20 oz.	"	11.00	3.66	14.66
24 oz.	"	13.50	4.89	18.39
32 oz.	"	16.50	4.89	21.39
Waterstop, "T" section, 22 ga.				
1-1/2" x 3"	L.F.	3.25	2.93	6.18
2" x 2"	"	3.60	2.93	6.53
4" x 3"	"	4.41	2.93	7.34
6" x 4"	"	4.67	2.93	7.60
8" x 4"	"	5.79	2.93	8.72
Scupper outlets				
10" x 10" x 4"	EA.	34.00	14.75	48.75
22" x 4" x 4"	"	42.00	14.75	56.75
8" x 8" x 5"	"	34.00	14.75	48.75
Flashing and trim, aluminum				
.019" thick	S.F.	1.28	4.19	5.47
.032" thick	"	1.57	4.19	5.76
.040" thick	"	2.69	4.51	7.20
Neoprene sheet flashing, .060" thick	"	2.14	3.66	5.80
Copper, paper backed				
2 oz.	S.F.	2.75	5.86	8.61
5 oz.	"	3.55	5.86	9.41
Drainage boots, roof, cast iron				
2 x 3	L.F.	110	7.33	117
3 x 4	"	140	7.33	147