

COMPARATIVE ANALYSIS:

Limestone Water's Performance vs. National Standards

Why an 80% Capacity Expansion Represents Unacceptable Risk

Supplementary Analysis for NPDES Permit TN0027278 Public Comment

February 2026

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I. EXECUTIVE SUMMARY

This analysis examines Limestone Water Utility Operating Company's performance against national standards for wastewater utilities, comparing private and public sector operators. The data reveals that Limestone ranks among the worst performers nationally, and Central States Water Resources (CSWR), Limestone's parent company, exhibits a documented pattern of acquiring failing systems, raising rates dramatically (200-350% in 2-3 years), and failing to achieve proportional compliance improvements across six states.

Key Findings:

1. Limestone's 68 violations in 2018 represents performance approximately 5x worse than even troubled private utilities (Aqua NC's Beau Rivage: 13.5 violations/year average over 6 years) and vastly worse than well-managed facilities. [1, 2]
2. Multi-state pattern confirmed: Mississippi Today investigation (December 2025) documented that CSWR customers in Louisiana, Kentucky, Missouri, North Carolina, Texas, and Tennessee report identical issues - dramatic rate increases without proportional service improvements. [3]
3. Post-acquisition performance decline: 257,000 gallons sewage spills in March-April 2025 (3.25 years after December 21, 2021 CSWR acquisition) represent worst performance in facility history. [2, 4]
4. CSWR's own engineer testified to Mississippi PSC about raw sewage and pathogens dumping from company-operated lagoons into creeks 'where kids play,' describing it as 'a very, very bad situation.' [3]
5. Regulatory rejection: Mississippi Public Service Commission voted 2-1 to deny CSWR's rate increase request in February 2025, citing that 'the service hasn't changed, but the rates went up extensively.' [3]
6. Expansion compounds risk: Authorizing 80% capacity increase using more complex technology (Aerobic Granular Sludge vs. extended aeration) for operator demonstrating inability to maintain basic compliance with simpler systems creates mathematical certainty of larger, more frequent failures. [5]

Recommendation: TDEC should deny this permit. The publicly available record demonstrates CSWR cannot reliably operate existing small, simple systems. Expansion creates foreseeable, preventable harm.

II. PRIVATE VS. PUBLIC UTILITY PERFORMANCE: NATIONAL DATA

A. Academic Research: Violation Patterns by Ownership Type

Peer-reviewed study analyzing EPA Safe Drinking Water Act data: [6]

Study: "Effectiveness of Public versus Private Ownership: Violations of the Safe Drinking Water Act (SDWA)" [6]

Authors: Agricultural and Resource Economics Review, Cambridge University Press, 2020

Methodology: Comprehensive analysis of EPA's Safe Drinking Water Information System (SDWIS) with fixed effects models controlling for state and municipal heterogeneities

Violation Type	Public Utilities	Private Utilities
Max Contaminant Level (MCL) Violations	SIGNIFICANTLY MORE	Fewer
Treatment Technique (TT) Violations	SIGNIFICANTLY MORE	Fewer
Monitoring & Reporting (MR) Violations	Fewer	SIGNIFICANTLY MORE
Average Rate Premium	Baseline	+59% water / +63% sewer

Sources:

[6] Agricultural and Resource Economics Review, Vol. 49, "Effectiveness of Public versus Private Ownership: Violations of the Safe Drinking Water Act (SDWA)," Cambridge University Press, August 2020

[7] Food & Water Watch, "Water Privatization: Facts and Figures," August 2, 2015 (updated December 20, 2023)

Study Finding (direct quote): [6]

"Privately owned PWSs may choose low-cost compliance actions to avoid high-cost actions... [and] can avoid fixing potential MCL and TT violations, both of which involve more costly penalty and stringent enforcement actions, while committing less costly MR violations."

Interpretation: Private utilities may strategically under-report and under-test to avoid discovering problems requiring expensive fixes. This pattern matches CSWR's documented behavior across multiple states.

III. LIMESTONE'S PERFORMANCE VS. COMPARABLE FACILITIES

A. Violation Rate Comparison (Wastewater Facilities)

Facility	Type	Period	Violations	Rate/Yr	Src
Limestone TN (CSWR)	Private	2018	68	68	[2]
Limestone TN (CSWR)	Private	2022	29	29	[2]
Aqua NC Beau Rivage	Private	2015-2021	81	13.5	[1]
Franklin WRF TN	Public	2014-2025	Minimal	~0	[8]
American Water (national avg)	Private	2007-2020	N/A	~0.1%	[9]

Sources:

[1] Port City Daily, "Private development's sewer plant cited for 81 environmental violations over six years," May 1, 2021

[2] NewsChannel 5 Nashville, "Decade of problems revealed at sewage plant that leaked into Harpeth River," July 31, 2025

[8] Williamson Herald, "Harpeth Conservancy to dismiss appeal of permit for Franklin sewage treatment plant," March 28, 2019 (Franklin described as having "strong history of consistently outperforming permit limits")

[9] American Water white paper, "The Benefits of Investor-Owned Water Utilities," stating "more than a 99.9 percent compliance rate" in 2007

Analysis: Limestone's 68 violations in 2018 is approximately 5x worse than Aqua NC Beau Rivage's troubled plant (13.5/year average) and vastly worse than Franklin's near-zero rate or American Water's claimed 99.9% compliance. Limestone is an extreme outlier even among problematic private utilities.

B. Sewage Spill Magnitude and Context

Event/Facility	Type	Volume	Context	Src
DC Water Potomac (Jan 2026)	Public	243M gal	Catastrophic pipe collapse, 1960s infrastructure	[10]
LA Hyperion (July 2021)	Public	12.5M gal	\$27M fine proposed	[11]
Charleston SC (Dec 2023)	Public	40K gal	Chronic 10-20 year problem	[12]
Limestone TN (Mar-Apr 2025)	Private	257K gal	0.25 MGD facility, worst in history	[4]

Sources:

[4] NewsChannel 5 Nashville, "Troubled Tennessee water plant finally submits upgrade plans after major sewage spills," October 3, 2025

[10] NPR, "What we know about the massive sewage leak in the Potomac River," February 7, 2026; Washington Times, "High levels of disease-causing bacteria found in Potomac River," February 6, 2026

[11] Heal the Bay, "The Raw Truth: The Real Deal About Sewage Spills," June 6, 2024

[12] Southern Environmental Law Center, "Number one city haunted by sewer overflows," July 25, 2024

Context: While DC Water's 243M gallons and LA's 12.5M gallons represent catastrophic infrastructure failures at massive facilities, Limestone's 257,000 gallons is disproportionately large for a tiny 0.25 MGD facility serving approximately 450-600 homes. This indicates chronic operational failure, not isolated catastrophic event.

IV. CSWR'S DOCUMENTED MULTI-STATE PATTERN

A. Geographic Extent of Customer Complaints

Mississippi Today investigative report documented CSWR customer complaints across six states: [3]

State	Documented Issues	Specific Evidence	Src
Tennessee	68 violations (2018), \$100K+ fines, 257K gal sewage spills (2025)	\$9.5M rate request; 300 customer complaints filed	[2,4,13]
Mississippi	Poor water quality/pressure, lagoons with 'bloodworms and pathogens', rate increases 200-350%	800 complaints (2022); PSC denied rate increase (Feb 2025)	[3]
Louisiana	Poor water quality and pressure	Customer complaints documented	[3]
Kentucky	Poor water quality and pressure	AG 'sincerely worried' about CSWR Airview acquisition	[3,14]
Missouri	Poor water quality and pressure	Customer complaints documented	[3]
N. Carolina	Poor water quality and pressure	Customer complaints documented	[3]
Texas	Poor water quality/pressure, brown and overly chlorinated water	Rate increase requests while delivering poor quality	[3,15]

Sources:

[3] Mississippi Today, "Customers of some of the state's worst water and sewer systems are seeing 'astronomic' rate hikes," by Alex Rozier, December 18, 2025

[13] Tennessee Consumer Advocate filing, TPUC Docket 24-00044, April 1, 2025 (noting "close to 300 utility customers filed comments")

[14] WDRB, "Attorney general 'sincerely worried' about proposed purchase of troubled Kentucky sewage treatment plant," July 4, 2024

[15] KSAT San Antonio, "Company delivering brown, overly chlorinated water now asking to increase rates for customers statewide," February 24, 2025

Significance: Identical complaints across six states indicate systemic corporate-level problems, not isolated local issues. Pattern: acquire systems, raise rates, fail to achieve proportional service improvements.

B. Rate Increases Without Proportional Service Improvement

Documented rate increases at CSWR facilities: [3]

Location	Before	After	Increase	Period	Src
Wellsgate, MS (water)	\$12/mo	\$47/mo	+292%	2021-2022	[3]
Raymond, MS (sewer)	\$16/mo	\$67/mo	+319%	2022-2024	[3]
Panola County, MS	\$12/mo	\$36/mo	+200%	3 years	[3]
Olive Branch, MS (sewer)	\$17/mo	\$77/mo	+353%	2021-2024	[3]

National context for private utility rate increases: [7]

- Food & Water Watch analysis: After privatization, rates increase at 3x rate of inflation (avg 18% every 2 years)
- Ten largest privatizations (1990-2010): Rates nearly tripled in average 11 years
- CSWR increases (200-350% in 2-3 years) far exceed even this concerning national pattern

Critical Finding: Customers report paying dramatically more for service quality that hasn't improved or has declined. Mississippi customer: "In no universe does this seem like an acceptable course of action." [3]

V. CSWR'S OWN ENGINEER TESTIMONY: FACILITY CONDITIONS

Jacob Freeman, CSWR Engineering Director, testified under oath to Mississippi Public Service Commission (December 2025) about conditions at CSWR-operated sewage lagoons: [3]

"Lagoons where so much sludge accumulated that it breached the water's surface... At that point, you've taken up all the volume in the lagoon, so whatever small amount of treatment that Mother Nature could've provided originally is no longer happening, and raw wastewater is short-circuiting the lagoon, going out the back end... I'll find bloodworms or pathogens pouring into the receiving watershed. That's dumping into a creek where maybe kids play, or flows down into another body of water that could be recreational. It's a very, very bad situation."

Source: [3] Mississippi Today, December 18, 2025 (direct quote from PSC testimony)

Additional testimony about testing compliance gaming: [3]

Freeman testified that utilities not meeting permit limits "can choose to only be tested during suitable weather conditions when it's less likely to have a violation" due to Mississippi's lax testing requirements (once or twice annually vs. quarterly/monthly in other states).

Significance: This testimony comes from CSWR's own engineering director, not external critics. It describes: (1) complete treatment system failures at company facilities, (2) raw sewage and pathogens discharging where children play, and (3) acknowledgment that utilities may strategically avoid testing to hide violations.

VI. LIMESTONE POST-ACQUISITION PERFORMANCE TIMELINE

Performance under CSWR ownership (with sources):

Date	Event	Significance	Src
2014-2024	\$100,000+ in TDEC fines	Long-term non-compliance pattern pre-CSWR	[2]
2018	68 violations in single year	Peak violation year; extreme distress	[2]
Dec 21, 2021	CSWR ACQUISITION	Company promises compliance improvements	[16]
2022	29 violations	Improvement from 68, but still elevated	[2]
July 2024	\$9.5M rate increase request filed	Customers protest lack of improvement	[13]
March 2025	~200,000 gallons sewage spill	WORST SPILL IN FACILITY HISTORY	[4]
April 2025	~57,000 gallons additional spill	Second major spill within weeks	[4]
July 2025	Multiple overflow events	Emergency response, public health warnings	[17]
Sept 2025	Requests 80% expansion permit	Seeks expansion during worst performance	[5]

Additional Sources:

[5] Draft NPDES Permit TN0027278, Permit Modification Rationale, October 1, 2025, pages MOD-1 through MOD-7

[16] Tennessee regulatory records indicate CSWR acquisition finalized December 21, 2021

[17] Williamson Herald, "County commissioners express concern about Limestone Wastewater Treatment Plant following sewage leak," August 1, 2025

Timeline Conclusion: 3.25 years after CSWR acquisition with promises of improvement (December 2021 to March 2025), facility experienced worst sewage spills in history. This represents performance DECLINE under CSWR ownership, not improvement.

VII. REGULATORY REJECTION: MISSISSIPPI PSC PRECEDENT

In February 2025, the Mississippi Public Service Commission voted 2-1 to DENY CSWR's (Great River subsidiary) rate increase request. [3]

Commissioner Chris Brown's statement: [3]

"The service hasn't changed, but the rates went up extensively... As public service commissioners, we want to make sure that rate payers are getting what they're paying for."

Commissioner Wayne Carr background: [3]

Carr won his seat in 2023 elections with campaign criticizing Great River (CSWR). Estimated rural customers typically pay less than \$30/month for water, questioning why CSWR charges significantly more.

Customer testimony to PSC: [3]

"We are on a fixed income and finding it difficult just (to) pay our debts and put food on the table and pay for gas and meds... I pray your office will deny this increase request."

Parallel to Tennessee: Mississippi regulators concluded CSWR's rate increases were not justified by service quality improvements. Tennessee should similarly conclude that capacity expansion is not justified by performance record. Mississippi denied rates; Tennessee should deny expansion.

VIII. WHY EXPANSION IS A RECIPE FOR DISASTER

Combining multiple proven failure factors creates compounding, predictable risk:

Factor 1: Demonstrated Operational Incapability

Evidence:

- 68 violations in single year (2018) [2]
- \$100,000+ in fines over 10 years (2014-2024) [2]
- Broken/corroded equipment, moldy tools, improper lab procedures [2]
- 257,000 gallons sewage spills in 2025, 3.25 years post-acquisition [4, 16]

Factor 2: Technology Complexity Increase

Current vs. Proposed: [5]

- **Current:** Simple extended aeration (1970s design, proven technology)
- **Proposed:** Aerobic Granular Sludge (AGS) - advanced technology requiring:
 - Chemical dosing and process control
 - Real-time ORP, DO, TSS monitoring
 - Sludge Volume Index (SVI) monitoring
 - Waste sludge management with backup haulers
 - Higher operator certification (Grade IV vs. current III)

Risk Assessment: Operator unable to maintain simple technology reliably should not be entrusted with advanced technology requiring higher skill level.

Factor 3: Scale Multiplication

Mathematical reality:

- Current capacity: 0.25 MGD serving ~450-600 homes
- Proposed capacity: 0.45 MGD (80% increase)
- New service area: Nash Ridge + Adley subdivisions (hundreds more homes) [5]
- **Failure projection:** If 257,000 gallons spilled at 0.25 MGD capacity, proportional failure at 0.45 MGD = ~463,000 gallons potential spill

Adding complexity (AGS technology) to scale increase compounds failure probability. Risk multiplies, not adds.

Factor 4: Unresolved Infrastructure Problems

Documented in permit rationale: [5]

- "Large volume of extraneous water... via inflow and infiltration" (MOD-2)
- No I&I study mentioned
- No remediation plan provided
- No documented I&I removal despite Section 2.3.2(d) requirements

Problem: Expanding treatment capacity without fixing collection system means new capacity will be partially consumed by rainwater, not sewage. Wet weather overflows will be larger in volume.

Factor 5: Discharge to Impaired Waters

- Harpeth River impaired for phosphorus 21 years (since 2004) [18]
- Facility discharges phosphorus and oxygen-depleting pollutants [5]
- No margin for error - spills directly harm failing ecosystem

[18] Harpeth Conservancy, "Harpeth River Impaired According to State of Tennessee," April 13, 2020; Draft Permit MOD-3

Factor 6: Corporate-Wide Pattern

- Six states with identical customer complaints [3]
- CSWR engineer testimony about systemic failures (raw sewage, pathogens) [3]
- Mississippi PSC denial (regulatory rejection) [3]
- Kentucky AG concerns about acquisitions [14]

THE COMPOUNDING EQUATION:

**Incapable Operator + Complex Technology + Larger Scale + Broken Infrastructure
+ Impaired Waters + Corporate Pattern = PREDICTABLE DISASTER**

**This is not speculation. This is mathematical certainty based on observed performance
multiplied by increased complexity and scale.**

IX. CONCLUSIONS AND RECOMMENDATIONS

A. Summary of Findings

- 1. National Performance:** Limestone ranks among worst performers nationally. 68 violations/year (2018) is 5x worse than troubled Aqua NC plant (13.5/year) and vastly worse than Franklin's near-zero rate or American Water's 99.9% compliance claim.
- 2. Multi-State Pattern:** CSWR customers in six states report identical issues: 200-350% rate increases without proportional service improvements. Mississippi PSC denied rate increase in February 2025.
- 3. Post-Acquisition Decline:** 257,000 gallons sewage spills in 2025 (worst in history) occurred 3.25 years after CSWR acquisition, demonstrating performance decline not improvement.
- 4. Company Testimony:** CSWR's own engineering director testified about raw sewage and pathogens dumping from company facilities into creeks where children play.
- 5. Complexity Risk:** Operator unable to maintain simple technology (extended aeration) seeks approval for complex technology (AGS) at 80% larger scale.
- 6. Infrastructure Problems:** I&I acknowledged but not remediated; collection system chronic overflows documented; expansion without fixing infrastructure = larger failures.

B. Recommendations

PRIMARY: DENY THE PERMIT

The comparative evidence demonstrates Limestone/CSWR lacks operational capability, track record, and corporate culture to reliably operate expanded, complex infrastructure. Authorizing expansion creates predictable, preventable public health and environmental risk supported by multi-state documented pattern.

ALTERNATIVE: If proceeding, require conditions STRICTER than Franklin

Because Limestone's performance is worse than Franklin's, conditions must be stricter:

- 36 months perfect compliance (vs. Franklin's shorter implied period)
- Binding zero net increase with automatic permit suspension if exceeded
- Demonstrated 60%+ pollutant reduction through optimization before expansion
- Mandatory independent third-party operational audit (quarterly)
- Comprehensive I&I study and remediation documenting 0.25 MGD removal
- \$5M performance bond for emergency response costs
- Real-time public monitoring dashboard with SSO alerts

C. Final Statement

The publicly available record across six states demonstrates CSWR cannot reliably operate small, simple systems. The company's own engineer testified under oath about

raw sewage and pathogens dumping into creeks from company facilities. Mississippi regulators denied rate increases citing unjustified charges. Tennessee facility experienced worst sewage spills in history 3.25 years after acquisition.

Authorizing an 80% capacity expansion using more complex technology during this worst-performance period ignores empirical evidence and creates foreseeable, preventable harm to public health and the impaired Harpeth River ecosystem.

Tennessee should learn from Mississippi's February 2025 regulatory rejection and similarly deny this capacity expansion.

The data is clear. The pattern is established. The risk is unacceptable.

COMPREHENSIVE SOURCE LIST

All data points in this analysis are supported by publicly available sources listed below. Numbers in brackets [#] throughout document correspond to these sources.

News & Investigative Reporting

- [1] Port City Daily, "Private development's sewer plant cited for 81 environmental violations over six years," May 1, 2021
<https://portcitydaily.com/local-news/2021/05/01/private-developments-sewer-plant-cited-for-82-environmental-violations-over-six-years/>
- [2] NewsChannel 5 Nashville, "Decade of problems revealed at sewage plant that leaked into Harpeth River," July 31, 2025
<https://www.newschannel5.com/news/decade-of-problems-revealed-at-sewage-plant-that-leaked-into-harpeth-river>
- [3] Mississippi Today, "Customers of some of the state's worst water and sewer systems are seeing 'astronomic' rate hikes," by Alex Rozier, December 18, 2025 Available at multiple Mississippi news outlets including Enterprise-Tocsin, Greenwood Commonwealth
- [4] NewsChannel 5 Nashville, "Troubled Tennessee water plant finally submits upgrade plans after major sewage spills," October 3, 2025
<https://www.newschannel5.com/news/state/tennessee/williamson-county/troubled-tennessee-water-plant-finally-submits-upgrade-plans-after-major-sewage-spills>
- [8] Williamson Herald, "Harpeth Conservancy to dismiss appeal of permit for Franklin sewage treatment plant," March 28, 2019
https://www.williamsonherald.com/news/local_news/harpeth-conservancy-to-dismiss-appeal-of-permit-for-franklin-sewage-treatment-plant/
- [10] NPR, "What we know about the massive sewage leak in the Potomac River," February 7, 2026; Washington Times, "High levels of disease-causing bacteria found in Potomac River," February 6, 2026
- [11] Heal the Bay, "The Raw Truth: The Real Deal About Sewage Spills," June 6, 2024
<https://healthebay.org/the-raw-truth-the-real-deal-about-sewage-spills/>
- [12] Southern Environmental Law Center, "Number one city haunted by sewer overflows," July 25, 2024 <https://www.selc.org/news/number-one-city-haunted-by-sewer-overflows/>
- [14] WDRB Louisville, "Attorney general 'sincerely worried' about proposed purchase of troubled Kentucky sewage treatment plant," July 4, 2024
<https://www.wdrb.com/news/attorney-general-sincerely-worried-about-proposed-purchase-of-troubled-kentucky-sewage-treatment-plant/>
- [15] KSAT San Antonio, "Company delivering brown, overly chlorinated water now asking to increase rates for customers statewide," February 24, 2025
- [17] Williamson Herald, "County commissioners express concern about Limestone Wastewater Treatment Plant following sewage leak," August 1, 2025
https://www.williamsonherald.com/news/local_news/county-commissioners-express-concern-about-limestone-wastewater-treatment-plant-following-sewage-leak/

Academic & Research Sources

- [6] Agricultural and Resource Economics Review, Volume 49, Special Issue 2, "Effectiveness of Public versus Private Ownership: Violations of the Safe Drinking Water Act (SDWA)," Cambridge University Press, August 2020

<https://www.cambridge.org/core/journals/agricultural-and-resource-economics-review/article/effectiveness-of-public-versus-private-ownership-violations-of-the-safe-drinking-water-act-sdwa/>

[7] Food & Water Watch, "Water Privatization: Facts and Figures," August 2, 2015, updated December 20, 2023 <https://www.foodandwaterwatch.org/2015/08/02/water-privatization-facts-and-figures/>

[9] American Water white paper, "The Benefits of Investor-Owned Water Utilities," claiming "more than a 99.9 percent compliance rate" for 2007
<https://calwaterassn.com/wp-content/uploads/2014/02/American-Water-BenefitsofInvestorOwnedWaterUtility.pdf>

Regulatory & Government Sources

[5] Draft NPDES Permit No. TN0027278 and Permit Modification Rationale, Tennessee Department of Environment and Conservation, Division of Water Resources, October 1, 2025
Available: <https://tpucdockets.tn.gov/archive/filings/2024/2400044oq.pdf>

[13] Tennessee Consumer Advocate, Supplemental Comments, TPUC Docket No. 24-00044, April 1, 2025 (Filing notes "close to 300 utility customers filed comments")

[16] Tennessee regulatory records, CSWR acquisition of Cartwright Creek system finalized December 21, 2021

[18] Harpeth Conservancy, "Harpeth River Impaired According to State of Tennessee," April 13, 2020; Tennessee 303(d) List; Draft Permit Modification Rationale page MOD-3
<https://harpethconservancy.org/our-work/clean-water-protection/reducing-pollution/nutrient-pollution/restoring-the-harpeth/harpeth-river-impaired-according-to-state-of-tn/>

END OF ANALYSIS

All sources publicly available and verifiable