

Making Connections

The Official Publication of the Louisiana Ground Water Association Volume 7 Issue 1 Summer 2022

From the Executive Director's Desk



Looks like we are off to a good start for 2022. COVID restrictions have been lifted. Weather is great. Everybody seems to be busy, and in some cases busier than they can handle. People are spending money. If we could get product, everything would be fine!



Our convention this year came off without a hitch. We had fairly good attendance, especially from vendors. Speaking of vendors, they are there to support you and your business. Many of them bring new or revised products to show and demonstrate for you at our convention. However, if you don't attend, they can't provide this information to you.

This year, we had 72 completed attendance registration forms turned in to me at the convention. I have had a lot of calls about a make-up session to get required credit hours missed by not attending the convention. I would like to have a make-up convention, but it is not financially feasible to do one for 20 - 25 people when we do not have the vendors to exhibit and help pay for a make-up session. Therefore, I must report there will not be a make-up session.

I can't imagine out of 200+ license holders, more than half of which are required to get credit hours, are too swamped with jobs to attend a one-day convention to get the hours. We have done what you asked in providing a breakfast buffet, a complete hot lunch with a variety of choices, a comfortable venue for the convention, entertainment on the night before the convention, etc.

Is this not what you want? We could easily go back to a plain, older building and serve cold doughnuts, coffee, and sandwiches. We could also do outdated safety videos and canned vendor videos or we could do online presentations that you watch all day and punch a button every few minutes plus take a test.

Maybe I have not been listening to your desires. Call me, e-mail me, text me, or send me a note and we will try to get it right. This is your association and I believe we need these conventions to form connections with the suppliers, distributors, DNR, and each other to keep our organization and occupation strong. LET ME KNOW YOUR OPINION AND WHAT YOU WANT!

Joel Walton LGWA Executive Director

Multimillion Dollar Investment in Louisiana Communities

Adapted from Information by Delta Regional Authority

Delta Regional Authority (DRA) recently announced a \$6,806,567 investment to boost economic development and improve the quality of life for Louisiana communities and residents. The investment will be matched by \$9 million and

will attract an additional \$4 million in leveraged private investment into Louisiana.

The 17 new investment projects will improve water and sewer systems, update transportation infrastructure, and support business development and job training in communities across Louisiana. These projects are expected to create or retain 675 jobs, train 224 individuals, and affect over 18,000 families.

"Born and raised along the Mississippi River, I know firsthand how vital the Delta Regional Authority's ability to bolster community revitalization and economic prosperity within the Delta and Alabama Black Belt is," said DRA Alternate Federal Co-Chairwoman Leslie Durham. "By strategically investing federal dollars into physical and human infrastructure, DRA helps alleviate the critical needs of the region in order to improve quality of life for our residents and foster future growth."

Project funding is provided by the States' Economic Development Assistance Program, which provides

direct investment into community-based and regional projects to support basic public infrastructure, transportation infrastructure, workforce training and education, and small businesses development with an emphasis on entrepreneurship, and the Community Infrastructure Fund, which targets physical infrastructure projects to help build safer, more resilient communities in the Delta region. DRA coordinates directly with the Office of the Governor for the State of Louisiana and its local development districts for program funding implementation.



Fiscal Year 2021: Louisiana Investment Snapshot -

• Number of Projects: 17

DRA Investment: \$6,806,567

Total Project Investment: \$15,867,807Additional Capital Investment: \$4,000,000

Jobs Created: 122
Jobs Retained: 553
Individuals Trained: 224
Families Affected: 18.875

New investment projects include:

Hudson Well Transmission Main - Farmerville: The Union Parish Waterworks District No. 1 will use DRA funds for well modifications and construction of a transmission main from the District's Hudson well to the Spillway Production and Treatment Facility. This investment is projected to affect 568 families.

Village of Simsboro New Water Well - Simsboro: The Village of

Simsboro will use DRA funds to supply a new high-capacity water well and associated improvements. This investment is projected to create 13 jobs, retain 36 jobs, and affect 352 families.

Commercial Vehicle Operations Mobile Lab Simulator - Schriever: The Fletcher Technical Community College Foundation will use DRA funds to develop a Commercial Vehicle Operations (CVO) Mobile Lab Simulator to train approximately 50 individuals in CVO at a faster and updated pace.

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Helping to preserve a priceless resource - the Louisiana groundwater aquifers and recharge areas.





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Membership in the Louisiana Ground Water Association (LGWA) is open to water well and geotechnical drilling professionals. LGWA and its members are active throughout the State of Louisiana.

Funding Granted for Wastewater System Improvements

With assistance from the Louisiana Department of Environmental Quality (LDEQ), the Village of Natchez in Natchitoches Parish will be soon be addressing long-standing issues with its wastewater system using a \$540,000 loan through the Clean Water State Revolving Loan Fund.

"In the world of wastewater funding, this is a modest loan," said LDEQ Secretary Dr. Chuck Carr Brown. "But in the real world, the tangible good for the people of the Village of Natchez is immense."

The mayor of the Village of Natchez, was very pleased with the announcement stating the infusion of funds will be a godsend for the village's aging wastewater treatment system.



LDEQ Secretary Dr. Chuck Carr Brown, presented the check to Village of Natchez Mayor Rosia Humphery with LDEQ Assistant Secretary for Assessment Roger Gingles at LDEQ Headquarters.

The loan is intended to fund collection system improvements and projects including smoke testing, closed circuit television inspections, repairs to existing gravity mains and manholes, rehabilitations to two existing lift stations (replacing pumps, piping, etc.), and recoating of all other existing lift station wet wells.

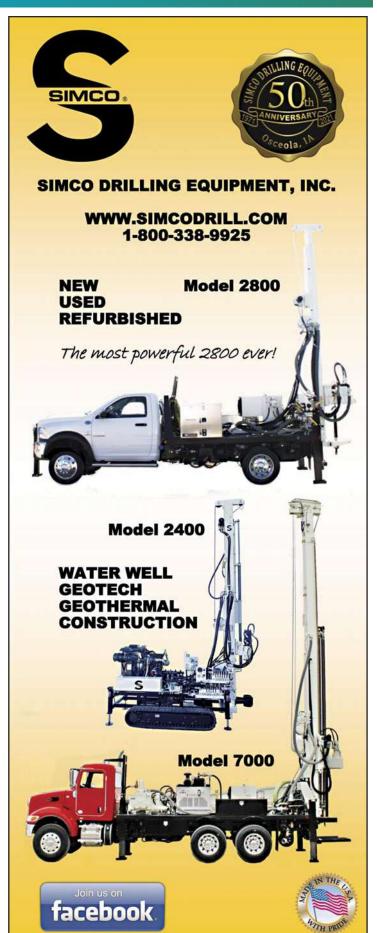
The Village would also like to make improvements to its wastewater treatment plant - including replacing mechanical screen, replacing chlorine feeders, and installing dechlorination feeders, as well as several other needed repairs.

Now Taking Classified Ads

Making Connections is now accepting classified ad listings.

Text Line Ads - \$12.50 line, 4-line minimum Classified Display Ads - \$80 per column inch add \$15.75 for color

Contact Ed Moranski for more information Ed@worldwidedrillingresource.com 850-547-0102



In Memoriam: Mary Christine LaBorde

Mary Christine Coburn LaBorde passed away on March 8, 2022, at the age of 95. Born on her family farm in Grant Parish on October 16, 1926, she was the youngest of six children.

Christine attended school in Georgetown, Louisiana, and graduated Summa Cum Laude in 1943. After graduation, she began working for the U.S. Government at Camp Livingston where she met Oscar Charles LaBorde, Jr., who had recently returned from service in the South Pacific. Six weeks later, they were married at Emmanuel Baptist Church in Alexandria. The

two remained inseparable for the next 67 years.



In 1953, Oscar and Christine started Continental Engine Sales and Service. The company grew into several local businesses which continue today. Christine loved being around her sons at the business and continued working into her 90s.

She was greatly involved in her local community. Christine was a member of Broadmoor Baptist Church for over 60 years and part of the Friendship Sunday School Class. She was a 50-year member of the Order of the Eastern Star, a member of the Daughters of the Nile, and the Ladies Oriental Shrine. Christine also loved cooking and hosting Sunday lunch for family and friends.

She was most proud of her family and was always there for her children, seeing them through broken limbs, surgeries, cuts, and bruises; planning birthday parties; and attending graduations. Christine encouraged her children in their education and expected a proper work ethic.

Christine was preceded in death by her parents, Robert Luther Coburn and Rosa Hattie Barton Coburn; two of her sons, Kirby Wayne LaBorde and Michael Gary LaBorde; and her husband, Oscar Charles LaBorde, Jr. She is survived by her sons Robert (Robin), Larry (Puddy), Rick (Elizabeth), Jonathan (Colleen), and Peyton (Kari); 11 grandchildren; seven great-grandchildren; as well as numerous nieces, nephews, and cousins.

Drilling a Well - Does it Really Matter if we Move Over a Few Feet?

We've all heard, and in some cases experienced, stories of how the geology changed in two wells only a few feet apart, or how

one well produces ten times the amount of water as an "identically" constructed well not that far away. Is the subsurface truly different, or is one well "developed" better than the other? Let's assume the well construction is identical. Can the geology change rapidly over very short distances?

The short answer is yes and no. We know in some areas there are very uniform sediments known to be uniform for hundreds of miles; and well yields are very uniform, especially in flat-lying sandstones (example from Tuscaloosa, Alabama; covering the top of Florida; over to include Louisiana) which are relatively uniform, fine, clean sands believed to be wind-blown deposits. These water-bearing zones are said to have "primary porosity" which has not been altered by fracturing or dissolution. Generally, wells drilled into formations of this type are consistent producers no matter where you set up to drill.

On the other hand, wells which rely upon transmitting water along secondary porosity features, such as fractures or porosity formed by percolating water dissolving the rock along bedding planes or fractures, are less consistent. These wells are much more variable in yield, depending upon if the borehole intersects the fractures or solution features. A well intersecting a few fractures could produce large volumes of water; however, a few feet away boreholes into solid rock may only yield a trickle of water.

If you are not very satisfied with the well yield, you may try drilling deeper wells. which will provide more zones to percolate into the well. Well development may also increase the efficiency of the well up to double or more depending upon the type of development. A surge block is often worthwhile.



Using a surge block is one of the most effective ways to develop any well. Properly developed wells can produce 2-10 times more water than undeveloped or poorly developed wells.

Time to Replace the Green Book ~ A New Guide is Available

The Louisiana Department of Natural Resources (DNR) and Louisiana Department of Environmental Quality (DEQ) have released a new *Guidance Manual for Environmental Boreholes and Monitoring Systems* to act as the primary reference document for those licensed by the State of Louisiana to work in the construction, installation, repair, and proper abandonment of such structures. This replaces the notable "Green Book" as the primary reference for licensed environmental drilling professionals and associated professionals working in the state.

A lot has changed in the field since the initial publication of the "Green Book" in the early 1990s, and even since its last revision in 2000. With technological advances and changes in the regulatory scheme, both licensed environmental drill operators and government regulators saw the need for a comprehensive replacement. The process began in 2016, when Commissioner of Conservation Richard P. leyoub authorized staff in the agency's Ground Water Resources Program (GWRP)/Environmental Division to undertake the task. The agency organized a work group, including representatives from the Louisiana DEQ and DNR, as well as licensed well drillers and other industry professionals.

This resulting manual reflects not only a deep knowledge of current best management practices in the field, but also an appreciation of the regulatory framework which governs this work for the larger purpose of environmental protection and conservation. In crafting the guidance manual, members of the work group drew upon their own experience and professional judgement, as well as a wide array of technical resources including, but not limited to: current Federal and State of Louisiana regulations and guidance documents; national standards promulgated by the ASTM (American Society for Testing and Materials), trade associations and organizations; widely distributed scientific and technical publications; manufacturer documents and similar resources, including standard operating practices, guidelines, and instructions.

Recognizing the complexities of the type of work in which environmental drill operators are engaged, the DNR and DEQ strongly encourage water well contractors and associated professionals

to use the *Guidance Manual* for the planning, construction, documentation, and plugging-and-abandonment of subsurface penetrations for environmental projects in Louisiana.

The purpose of the regulations pertaining to the construction of water wells is to reduce the potential for contaminating the state's groundwater resources via improperly constructed wells and boreholes. Notably, two of the most critical tasks relating to well construction are: 1) grouting of annular spaces, and 2) plugging-and-abandonment (P&A) of boreholes and wells. Consistent with the mission of the state Ground Water Resources Program within DNR's Office of Conservation, the Guidance Manual includes detailed discussions on the topics of sealing, grout materials, grout mixtures, grouting techniques, and P&A of environmental boreholes, monitoring wells, as well as related subsurface environmental systems. These boreholes, monitoring wells, and related subsurface environmental systems are intended to be completed in such a manner so as not to adversely impact the quality of groundwater, provide an avenue for contaminants to be introduced from the surface, nor allow such an avenue of contamination between aquifers.



You can find the manual on the DNR website at, <u>dnr.louisiana.gov/assets/OC/env_div/gw_res/Drillers/</u> <u>Guidance Manual Final Revision Nov 2021.pdf</u>



MEMORIES FROM THE 2022 LOUISIANA GROUND WATER ASSOCIATION ANNUAL CONVENTION AND TRADE SHOW

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Drill Rig Safety Tips

Drill rigs are large, heavy pieces of machinery which require a great deal of training to ensure safe operation. Proper and regular maintenance to keep the equipment in good operating condition is also a must.



Some of the hazards with drill rigs include:

Rig Stability - Rigs can topple on uneven or unstable surfaces.

Rotating and Moving Machinery - Loose clothing or uncovered long hair can become caught in rotating or moving machinery, resulting in serious injuries.

Stored Energy - Air and hydraulic hoses damaged by misuse or poor maintenance can fail, causing uncontrolled movements of heavy components.

Heights - Working platforms and walkways on drill rigs are usually elevated, and can become slippery. Falling or jumping from the platform or walkway can cause serious in-

Exposure to Gases - If a drill intersects a pocket of gas or other contaminants, it may become dangerous to continue operating.

Moving Equipment - Contact with power lines can result in electrocution and the destruction of the rig. Restricted visibility from the cab also increases the possibility of collisions with other equipment.

Here are some tips to ensure your drill rig operators and employees remain safe on the

- ➤ Only authorized and competent operators should run and move rigs.
- ➤ Conduct a thorough precheck of equipment to identify potential safety issues.
- ➤ Ensure people working near rotating machinery do not wear loose clothing and do not have loose cleaning rags on them.
- ➤ Long hair should be tied back or netted when working near rotating machinery.
- ➤ Always use the correct rod handling equipment.
- ➤ Ensure safety hand rails and harnesses are adequate for the job.
- ➡ Provide detection equipment and go over safety procedures in the event gas is encountered.
- → Do not allow workers to jump on or off any part of a drill rig. A safe means of access should be provided and used at all times.
- ➤ Establish a procedure for the safe removal and fitting of the drill string.
- ➤ Before moving a rig, make sure no one and nothing is in the way.
- → Be aware of overhead hazards, especially power lines.
- > Never move a rig with the mast raised, except when moving between drilling positions on level, competent ground.

Above all, remember drill rigs are complex machines, and safe operation requires high levels of knowledge and skill. Complacency can cause injuries and even death.

LSU Student Receives Grant to Study Water Management in the Netherlands

Adapted from Information by Louisiana State University (LSU) and The Water Institute

LSU student Kelli Moran is one of 14 in the nation to receive a National Science Foundation (NSF) Grant supporting graduate studies in the Netherlands. Moran is a doctoral candidate in the College of the Coast and Environment.

This \$399,718 grant awarded to The Water Institute and the University of New Orleans supports three groups of students over the next three years for two-week educational programs in water management and resiliency in the Netherlands. The program, which will begin its first session this summer, will include work with Deltares, Delft University of Technology, and Utrecht University where students will integrate classroom training, field site visits, and hands-on instruction in numerical modeling techniques using Delft3D software and flume lab experiments.

"The Netherlands and Louisiana are very similar in that they have some of the most engineered coastlines in the world. By exchanging information with the experts there, in addition to the amazing experts at LSU, my research will enable us to better manage the delicate coastlines and ecosystems along the Gulf Coast, as well as abroad," said Moran.

"Water management needs, whether facing the challenge of too much water from flooding or needing to



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LSU Student Cont'd from page 8

meet the demands of agriculture, industry, power generation, consumption, and seafood production, continue to grow," said Matthew Tarr, Eurofins professor of analytical chemistry and vice president for research and economic development at the University of New Orleans. "Consequently, a critical and unmet need exists for building a workforce that is capable of effectively addressing these imminent threats."

Moran studies geological oceanography with her major professor, Kevin Xu, director of the Coastal Studies Institute and associate professor in the Department of Oceanography and Coastal Sciences. She loves working in the field and has performed research on a dredge pit on Ship Shoal, Louisiana; in Terrebonne Bay analyzing the last 10,000 years of climate change and sea level rise; and in a 60,000-year-old underwater cypress forest off the Alabama coast.

According to Moran, the opportunities she received at LSU afforded her the right skill set to qualify for this exciting grant. "Dr. Xu, LSU, and the College of the Coast and Environment really gave me an opportunity to thrive and do what I love to do. It was the right major professor, the right time, and the right research projects. I get to work with cutting-edge technology and do some of the coolest research that I didn't even know existed before starting at LSU. I'm looking forward to expanding my skill set and bringing back new ideas and perspectives when I return from the Netherlands," said Moran.

"Participants in this project will gain important training, make connections with in-service professionals, and receive an important set of experimental



Kelli Moran will be heading to the Netherlands this summer. Photo courtesy of LSU.

and modeling skills that will allow them to serve the U.S. and world communities as water management experts," said Christopher Esposito, research scientist at The Water Institute. "This is a great project to strengthen the Institute's ties with University of New Orleans, as well as our collective partnerships with Deltares and Dutch universities."

Groundwater Research in the Mississippi Alluvial Plain

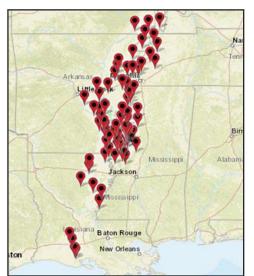
Adapted from Information by the U.S. Geological Survey

The Mississippi Alluvial Plain (MAP) is one of the most productive agricultural regions in the nation and depends on groundwater for irrigation. It constitutes the third largest area of irrigated cropland in the U.S., consisting of approximately 29,000 square miles, or 19 million acres, and includes parts of Missouri, Tennessee, Arkansas, Mississippi, Louisiana, Kentucky, and Illinois.

Heavy use of available groundwater resources has resulted in significant groundwater-level declines and reductions in base flow in streams within the MAP. These impacts are limiting well production and threatening future water availability for the region. Over 9 billion gallons of groundwater are withdrawn each day for irrigation to support agricultural production.

Although agricultural interests in the region are aware of economic and environmental costs which may come from declining water supplies, they lack a basic resource description and analytical tools necessary for effective decision making at a regional scale. Technical specialists working in various federal and state agencies and universities have worked individually and in partnership over many years to address aspects of particular water issues in the MAP, but no single agency or group has had resources to support a broad-based, comprehensive scientific effort.

Accurate and ongoing assessments of water availability in the MAP region are critically im-



Current groundwater-level data collected within the MAP region can be viewed and downloaded from the Water-Use Real-Time Gage map online.

portant for making well-informed management decisions about resource allocation and sustainability, establishing best practices for water use, and dealing with predicted additional changes to the regional water cycle over the next 50-100 years. The U.S. Geological Survey (USGS) Water Availability and Use Science Program is supporting a project called the MAP Regional Water Availability Study to provide information and tools to better understand and manage groundwater resources and their response to development.

The USGS is collecting airborne geophysical data, along with borehole and other ground-based information to provide more specific details about connections between geophysical properties such



The survey helicopter flew along river paths in the MAP and Chicot regions with an attached electromagnetic instrument housed in a cylinder called a "bird" which was towed about 100 feet beneath the aircraft.

as electrical resistivity and geological features of interest. Last year, a low-level helicopter flew over parts of the MAP, between Cape Girardeau, Missouri, and New Orleans, Louisiana, to acquire a more robust picture of aquifers in the area. Additional flights occurred over the Chicot aquifer region in southwest Louisiana. Instruments on the helicopter collected information about geology in shallow aquifers of the region.

Once the data analysis is complete, resulting high-resolution, three-dimensional maps will help USGS researchers understand the aquifer system supporting groundwater resources to depths of about 300 feet.

More information about the MAP Regional Water Availability Study can be found online at www2.usgs.gov/water/lowermississippigulf/map/

Did You Know?

It is the concentration of calcium and magnesium ions



which determines if you have hard or soft water. If the water has a low concentration, it is soft water. Hard water has a higher concentration of these ions.

When you have hard water, the ions react with soap to produce a scummy residue which is

hard to wash off. You will also have a harder time working the soap into a lather with hard water.

Have an Idea for an Article?

We would love to include your article in the next issue of **Making Connections**. Share your ideas among members of the Louisiana Ground Water Association.

Get Association Help™, a division of WorldWide Drilling Resource, Inc., is working with the Louisiana Ground Water Association to bring you this issue of Making Connections.

For more information about Editorial insertion, call Bonnie or Amy at 850-547-0102.

EPA Announces Funds for New Orleans and Outlines Strategies for Statewide Clean Water Delivery

Adapted from Information by the U.S. Environmental Protection Agency (EPA)

The U.S. Environmental Protection Agency (EPA) released information about funding and collaboration for water projects in Louisiana. The agency announced a \$275 million Water Infrastructure Finance and Innovation Act loan to help modernize aging water systems in New Orleans. U.S. Representative Troy A. Carter Sr., who represents much of the city in Congress, said the loan, along with funding

from the recently passed Bipartisan Infrastructure Law, enables improvements to critical water management systems which will have long-term, positive outcomes for residents. "This is great news for the city and people of New Orleans," said Carter.

More water projects are expected across the state. The EPA issued a memorandum to guide collaboration between state, local, and Tribal partners as they implement additional funding through the new infrastructure law. The memo is a key step for putting funds into action as it outlines requirements and recommendations for Drinking Water and Clean Water State Revolving



Funds (SRFs) to ensure the country is working together to deliver clean and safe water for all Americans.

The majority of water infrastructure funding through the Bipartisan Infrastructure Law - \$43 billion - will flow through SRFs. The EPA's implementation memo provides information and guidelines on how the agency will award and administer supplemental SRF Capitalization Grants and funding dedicated to removing lead service lines and addressing perfluoroalkyl and polyfluoroalkyl substances and other emerging contaminants.

The memo highlights flexibility provided to states and borrowers to address a wide variety of local water quality and public health challenges. SRF funding through the law can be used in combination with additional funding sources to finance water infrastructure projects to meet the most pressing local needs. Additionally, it specifies strategies for making rapid progress toward safe water goals.

The EPA will continue working with state coregulators, Tribal partners, and stakeholders on next steps. The agency intends to review plans aligned with requirements and recommendations of the implementation memo with the goal of promptly investing in communities.

The memo follows a letter from EPA Administrator Michael S. Regan to governors in December 2021, encouraging states and Tribes to maximize impacts of water funding from the law to address disproportionate environmental burdens in historically disadvantaged communities across the country.

Louisiana Department of Environmental Quality (LDEQ) Secretary Dr. Chuck Carr Brown remarked, "LDEQ welcomes the announcement of EPA's continuing funding of the Clean Water State Revolving Fund in Louisiana. Clean water is an invaluable resource. These funds enable water quality projects in communities of need across our state and help those areas meet infrastructure improvement goals . . . that will last a lifetime."

What is Saltwater Intrusion?

Ancient oceans left vast deposits of salt across all Louisiana, including huge salt domes south and west of Baton Rouge. As these domes deteriorated, salt mixed naturally with groundwater sources to create saltwater aquifers. The increased pumping of groundwater at Baton Rouge to meet the demands of a growing population and economy, has led to saltwater intrusion (also known as saltwater encroachment) from these sources into local freshwater aquifers of the Southern Hills system.

Fortunately, the Baton Rouge Fault, which stretches across most of

East Baton Rouge Parish, has protected local freshwater aquifers by cutting off the flow of saltwater from the south. The Fault is a leaky barrier; as heavy use causes water levels to drop inside the aquifers on the north side, saltwater from the south flows across. Because this saltwater is heavier than freshwater, it builds up along the bottom of freshwater aquifers. Saltwater intrusion has been doc-



umented in several Baton Rouge area aquifers.



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