



Program Update

January–March 2009

Welcome to the January–March 2009 issue of the U.S. Department of Energy (DOE) Office of Legacy Management (LM) Program Update. This publication is designed to provide a status of activities within LM. Please direct all comments and inquiries to LM@hq.doe.gov.

Goal 1

Department of Energy Co-Sponsors Environmental Justice Conference

The Department of Energy (DOE or Department) and U.S. Environmental Protection Agency have signed a Memorandum of Understanding (MOU) with Environmental Justice Conference, Inc. to jointly plan and conduct “The Third Annual State of Environmental Justice in America 2009 Conference”.

The Conference will convene May 27 through 29, 2009, at the Howard University School of Law and the Crystal City Doubletree Hotel in Crystal City, Virginia. The opening session will convene in the Moot Court Room at the Howard University School of Law, and the remaining sessions will move to larger quarters at the Doubletree Hotel to provide greater services to participants. This year’s conference will concentrate on climate change, community benefits, and youth involvement. The conference continues to bring together participants from Federal agencies, academia, business and industry, non-profit organizations, and faith-based organizations, as well as local community activists and citizens to participate in dialogue on achieving equality of environmental protection. DOE’s Environmental Justice Program is one of the Conference founders, and the Department has been a major participant in planning and execution of the prior two State of Environmental Justice in America conferences.

Congresswoman Donna M. Christensen has agreed to speak at the State of Environmental Justice 2009 Conference Health Disparities Workshop. Congresswoman Christensen is a Delegate to the U.S. House of Representatives from the U.S. Virgin Islands and a former family physician. She also serves as the Chair of the Congressional Black Caucus

Health Braintrust and Chair of the Public Health Subcommittee of the Congressional Black Caucus Foundation. Congresswoman Christensen continues to promote the importance of open dialogue to raise awareness about the disproportionate burden of sickness and the need to mobilize a stronger and more unified advocacy to eliminate the health disparities that plague millions of Americans.



Congresswoman
Donna M. Christensen

Legacy Management Goals

- Goal 1:** Protect human health and the environment through effective and efficient long-term surveillance and maintenance.
- Goal 2:** Preserve, protect, and make accessible legacy records and information.
- Goal 3:** Support an effective and efficient work force structured to accomplish Departmental missions and assure continuity of contractor worker pension and medical benefits.
- Goal 4:** Manage legacy land and assets, emphasizing protective real and personal property reuse and disposition.
- Goal 5:** Improve program effectiveness through sound management.

See page 11 for a more detailed version of LM’s goals.



Goal 1

Environmental Justice Program Issues

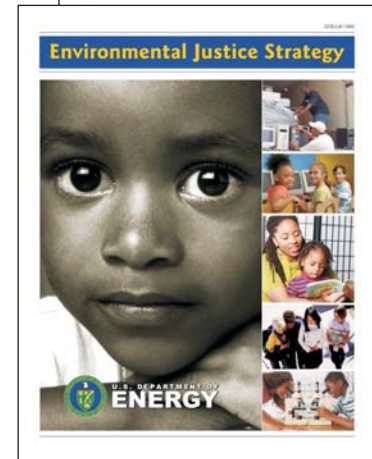
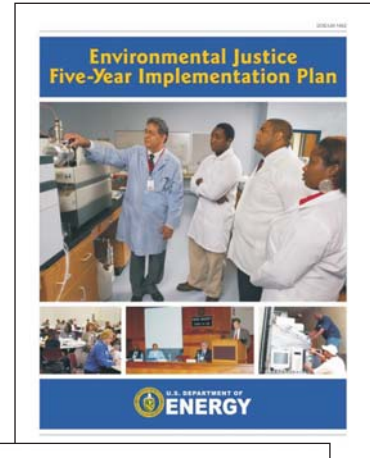
Environmental Justice Five-Year Implementation Plan

In December 2008, the Department of Energy's (DOE) Environmental Justice Program released its *Environmental Justice Five-Year Implementation Plan* (Plan). The Plan sets forth an ambitious agenda to guide the Department's environmental justice activities forward through 2013.

The work on the Plan started in the fall of 2007 with the re-establishment of DOE's Environmental Justice Task Force. The Task Force reviewed and revised the original Environmental Justice Strategy that was developed in 1995. Secretary Bodman released the revised Strategy with a message encouraging all employees to be responsive and to look for ways to improve its implementation to ensure that all employees were aware of the Strategy and its provisions.

The next step in this process was assembling a series of activities by various program offices to make the Plan. When completed, these activities will meet the goals and expectations of the Strategy. Offices that contributed specific activities to the Plan include Bonneville Power Authority, Energy Efficiency and Renewable Energy, Environmental Management, Fossil Energy, Hanford Site, Legacy Management, National Nuclear Security Administration, Office of Civilian Radioactive Waste Management, Oak Ridge Operations, Savannah River Site, and Western Area Power Administration. Primary responsibility for accomplishing various tasks lies with specific program offices.

DOE's Environmental Justice Program is a Department-wide program with leadership provided by the Office of Legacy Management. An annual DOE Environmental Justice Progress Report will track our success in completing planned activities and meeting the goals in a timely manner.



Goal 5

Omnibus Legislation To Provide Funding for LM Programs

On March 10, 2009, the *Omnibus Appropriations Act, 2009* (Public Law 111-8), providing funding for fiscal year (FY) 2009, was signed by President Obama following a continuing resolution of more than five months. The *Omnibus* legislation not only provided approximately \$186 million for Legacy Management programs and program direction but also placed all programs under one appropriation.

The preparation of the FY 2010 budget was delayed due to the change of administration. In a non-transition year, it would have been sent to Congress on the first Monday in February. The budget is currently scheduled to be completed in late March. Comments have been obtained from LM managers and the budget is scheduled to be sent to the Office of Management and Budget (OMB) on March 30. Following a comment period with OMB, the final budget is to be sent to Congress on April 28.



Goal 4

Fernald Preserve: First Quarter 2009

After 6 months of operation, the Fernald Preserve has demonstrated that it is both a vital resource for educating current and future generations on the history of the Fernald site and a regional destination for wildlife observation. Over 4,000 people have visited the site for tours, field trips, and meetings. The Community Meeting Room has been used by the Ohio Valley Camera Club, the Tri-State Hiking Club, the Butler County Township Association, the Hamilton County Soil and Water Conservation District, and Cub Scouts from nearby Harrison, Ohio, for their annual Pinewood Derby.

Area bird watchers frequently use the Fernald Preserve. Winter is the time for peak raptor activity, and recent sightings include a bald eagle; ospreys; great horned, barred, and short-eared owls; red-tailed, red-shouldered, and rough-legged hawks; and northern harriers. A variety of waterfowl have also been seen in the wetlands, including resident mute swans. The number of bird watchers is expected to increase even more during the songbird migration this spring.

To ensure the continued vitality of the grasslands, a series of prescribed burns are scheduled for spring

2009. Prescribed burns are commonly used by federal, state, and local land management agencies to manage grasslands. These burns are critical to the health and sustained growth of the on-site prairies. The burns will be conducted in accordance with the Department of Energy's Fernald Preserve Wildland Fire Management Plan and will be overseen by a State of Ohio certified burn manager, who will be directing Legacy Management Support (LMS) personnel during the burns. A [prescribed burn fact sheet](#) has been distributed to the surrounding community and regulatory agency. The LMS contractor has held several meetings with the public to help attendees better understand, and become more comfortable with, these burns. The local fire department will be on standby to support site personnel if needed.

The Fernald Preserve will host a BioBlitz May 15 and May 16, 2009. This 2-day event will bring a variety of subject matter experts to the site to further document plant and animal species. Students and other interested community members will be invited to accompany the subject matter experts and gain real-world field experience in data collection and the life sciences.



A northern harrier hovers above a meal at the Fernald Preserve and is oblivious to the valve houses (two of which are pictured here) at the On-Site Disposal Facilities (OSDF). The OSDF contains 2.95 million cubic yards of low-level waste generated during the site's remediation.



Goal 4

Fernald Preserve Visitors Center Receives DOE EStar Award

The Fernald Preserve Visitors Center will receive an Environmental Sustainability award from the U.S. Department of Energy (DOE) during the EStar Awards ceremony on Earth Day, April 22, 2009. EStar Awards are presented annually in conjunction with DOE's Environmental Protection Program to organizations and projects that make significant contributions to achieving DOE's sustainable environmental stewardship goals.

Designed in cooperation with the University of Cincinnati's College of Design, Architecture, Art and Planning, the Fernald Preserve Visitors Center depicts the site's varied history through a series of exhibits that tells Fernald's story from the time of the Native Americans through the early settlement and farming periods to the uranium production years, and the ultimate environmental cleanup and legacy management period that continues today. In addition to fulfilling its educational mission, the Visitors Center houses information that serves as an important institutional control by providing historical background on the remediation of the Fernald property, including site restrictions, ongoing maintenance and monitoring, and residual risk.

The Visitors Center is a refurbished metal structure that served as a warehouse during the cleanup of the Fernald site. It was designed and constructed as a



The high-efficiency windows in the Office of Legacy Management's Fernald Preserve Visitors Center provide natural light and passive solar heating. A green building also offers environmental, economic, health, and community benefits.

sustainable building to reduce its overall impact on the environment by reducing energy, electricity, and water consumption. During the building's dedication, it was announced that the Fernald Preserve Visitors Center had become Leadership in Energy and Environmental Design certified to the Platinum level by the U.S. Green Building Council, making it the first building in Ohio and one of only 100 worldwide to receive this prestigious designation.

Goal 5

DOE Legacy Management Support Services Contractor Achieves One Million Safe Work Hours

In June 2007, the Office of Legacy Management (LM) awarded a \$170 million prime contract to the S.M. Stoller Corporation (Stoller). At the time of the award Stoller was the incumbent contractor under a then five-year Technical Assistance Contract to LM. Included among the various contractual requirements that Stoller performs are long-term surveillance, maintenance, and technical support at more than 100 legacy sites across the nation, including Fernald, Ohio, and Rocky Flats, Colorado.

In December 2008 Stoller achieved the one million-hour milestone for safe work (no OSHA recordable

injuries or illnesses). As of the end of February 2009 Stoller had accumulated 1,143,805 safe work hours. This means that for the last 21 months everyone who works for Stoller went home at day's end as healthy and as sound as when they arrived for work at the beginning of the day.

LM attributes this achievement to noteworthy implementation of the Integrated Safety Management (ISM) Core Functions and Guiding Principles. Both LM and Stoller place significant emphasis on ISM work-planning and performance. Detailed work scopes,

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Goal 4

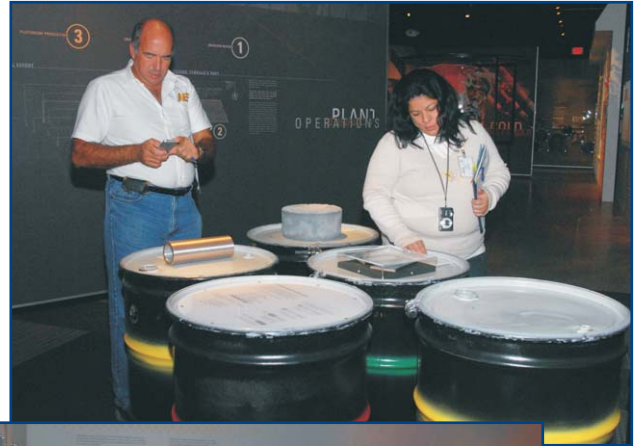
Gathering Ideas from Established LM Visitor Centers

Guests from Puerto Rico visited two Office of Legacy Management (LM) sites recently to gather ideas and inspiration for their museum and outreach program. Carlos Velez and Linda Flores from Puerto Rico Electric Power Authority (PREPA) visited the Fernald Preserve in Ohio and the Weldon Spring Site in Missouri to see the sites' visitor centers and education programs.

PREPA shares responsibility with LM for the long-term maintenance and surveillance of the decommissioned Boiling Nuclear Superheater (BONUS) reactor, located northwest of Rincón, Puerto Rico. The BONUS reactor was developed in the early 1960s as a prototype nuclear power plant to investigate the technical and economic feasibility of the integral boiling-superheating concept. It underwent a series of criticality tests and then was operated experimentally at various power levels, first as a boiler and later as an integral boiler-superheater. Operation of the BONUS reactor stopped in the late 1960s because of technical difficulties and the need for high-cost modifications. The reactor was subsequently decontaminated and decommissioned.

Jack Craig, LM Site Manager for the BONUS Site, invited Velez and Flores to visit the LM sites in Ohio and Missouri during his recent visit to Puerto Rico. The BONUS facility was added to the National Register of Historic Places in 2007 and currently houses displays recounting the history of the site and the development of electric power and nuclear energy. Velez and Flores hope to update their outreach program and Craig said he was impressed with PREPA's plans for expanding the BONUS museum and extending their public education activities. He thought that seeing existing LM visitor centers and discussing how they were envisioned, designed, and completed would give Velez and Flores more ideas to pursue. "A common goal of educating the public about past operations at historical sites led to the invitation," said Craig.

Velez and Flores spent a day touring the Fernald Preserve and spent the next day touring the Weldon Spring Site. The Fernald Preserve was established following the cleanup and ecological restoration of the former Fernald uranium foundry, where high-grade uranium-metal products were manufactured for nuclear weapons during the Cold War. After production



Top photo: Carlos Velez and Linda Flores look at the materials in the plant operations display at the Fernald visitor center.

Bottom photo: Carlos Velez takes a photograph of a display at the Fernald visitor center while Linda Flores looks on.

operations ceased in 1989, the site was remediated and restored. Habitats created during the restoration, such as wetlands, ponds, prairies, and upland forest, were based on original land surveys and post-excavation topographies of the site. The site's visitor center, built from an existing warehouse, has been Leadership in Energy and Environmental Design certified to the Platinum level, the highest rating possible, for green design and construction from the U.S. Green Building Council. Exhibits in the visitor center portray the history of the site from the time of Native Americans, to the arrival of settlers and farmers, to the uranium-processing years, to the eventual environmental cleanup and site restoration.

Continued on page 6



Continued from page 5

Gathering Ideas from Established LM Visitor Centers



The Weldon Spring Site was once an explosives-manufacturing site and later a processing plant for uranium ore used to manufacture nuclear weapons. The site has since been remediated and the former facilities have been replaced with a prairie garden, nature trails, an on-site disposal cell, and a visitor center. The visitor center is housed in a building that was once used to check workers for radioactivity. Exhibits include the history of the site, a timeline of significant events, the legacy of the explosives and uranium plants, environmental cleanup, and disposal cell construction.

Velez and Flores were impressed with the transformation from operational to recreational sites. "We were expecting to see the original buildings, but the sites had been demolished and we could see that remediation worked at both sites," said Velez. "Wildlife is coming back at both sites and we could see that the work is going in a good direction."

Velez and Flores spent most of their time studying the exhibits at the visitor centers. Flores thought the historical timelines illustrating important dates and events at the sites were very effective. Velez liked the interactive computer screen at Fernald showing information about local people involved at the site and an interactive display with information about the site's former buildings. He also liked the hands-on displays at the Weldon Spring Site and the educational tours. Velez and Flores hope to use these ideas to create exhibits for the BONUS museum. "We will try to add exhibits and interactive displays at BONUS," said Velez.

"I'm pleased that Carlos and Linda were able to visit the two LM sites and see what we've done," said Craig. "I understand that they're going to use some of the ideas gathered during their trip, and that's great because that was what this was all about."



Top photo: Carlos Velez on the stairs of the Weldon Spring disposal cell.

Bottom photo: Carlos Velez and Linda Flores at the Weldon Spring visitor center.

Continued from page 4

DOE LM Support Services Contractor Achieves One Million Safe Work Hours

hazards analysis of the work scopes, development of hazard specific mitigators, appropriate training of personnel, and oversight during work performance are at the core of how work is accomplished within LM. During and after work scope accomplishment, involved personnel are always encouraged to provide feedback on the ISM process to continually improve the safety program.

Looking forward, Stoller will further strengthen the LM safety program through their efforts to obtain STAR Status in the DOE Voluntary Protection Program (VPP). Stoller is currently in the initial phases of this effort and plans to submit a VPP application to DOE late this calendar year. LM recognizes and is appreciative of the Stoller efforts to maintain a safe work place.



Goal 1

The Rocky Flats Site Completes Dam Breach

The Rocky Flats Site completed a \$1.7 million dam-breaching project that reduces long-term maintenance and monitoring costs while returning sections of two drainages to a flow-through condition that helps preserve wetlands and habitat.

The project, which began in September 2008, consisted of excavating notches in the dams on six of the 12 holding ponds that were left in place after closure. The remaining ponds will be breached in two subsequent construction phases in 2012 and 2018. The time phasing will allow native vegetation to become fully established between the construction phases.

Stop-log structures were installed in the notches to allow stream flows to pass through the ponds, rather than flowing through bypass pipes that had previously been used to control pond levels. Large grouted stone rip-rap was installed in the channels above and below the stop-log structures to control erosion and the area around each breach was reseeded with the appropriate native wetland and upland species.

The Office of Legacy Management's (LM) Environmental Management System (EMS) is a comprehensive system to incorporate life-cycle environmental considerations into all aspects of the LM mission. The EMS principles of environmental compliance and sustainability were a significant influence in the planning and execution of the project. Rocky Flats recycled approximately 190 tons of concrete and 6.5 tons of steel from dam infrastructure that was removed during excavation. In addition, stone riprap that was removed from the dam faces during the excavation was used as fill to add additional support for some of the stop-log structures and soil removed from notched areas was used to backfill and restore hillside contours where several sections of road that were no longer needed were removed.

The entire seven-month project was completed safely on time and under budget. Despite the significant challenges inherent in working with heavy equipment and frequent high winds and other inclement weather, not a single safety incident or injury occurred during the project.



Rocky Flats dam B-2 before the dam breach project.



Rocky Flats dam B-2 following project completion.



Goal 1

Solar Hot Water System Reduces Energy Costs

Uranium-contaminated groundwater is being remediated at the Tuba City, Arizona, Uranium Mill Tailings Radiation Control Act site. A pump-and-treat operation began in 2002 and may be necessary for another 40 to 50 years. The sole-source aquifer was contaminated by a uranium mill that operated from 1956 through 1966. Following negotiations with the Nuclear Regulatory Commission and then a series of pilot tests, an electrically powered vapor-recompression evaporator was designed and installed to treat the water. Although the evaporator is state-of-the-art and highly efficient, electrical costs to treat the groundwater that runs through it at the rate 90 gallons per minute still run about \$16,000 per month.

With electrical rates increasing at a rate of 12 percent per year, Legacy Management (LM) decided to pursue renewable energy sources to reduce operating costs. In consultation with the National Renewable Energy Laboratory, LM evaluated wind, solar voltaic, and solar thermal technologies. Tuba City is not particularly windy but it does have more than 300 days of sunshine. Economic evaluations performed in 2007 showed that the payout for generating power with solar voltaic panels would be greater than 30 years but the payout for solar thermal systems would be 5 to 11 years. A detailed process design was performed, and a procurement package was issued for competitive bids.



The solar hot water system is estimated to reduce the amount of electricity used to operate the Tuba City Site groundwater treatment system by 15 percent.



Surveyors mark the precise location to install the solar thermal parabolic mirrors to maximize efficiency.

The winning bidder, Abengoa of Lakewood, Colorado, offered the lowest cost and least complex proposal. The Abengoa system consists of two rows of parabolic mirrors that focus sunlight on a glass-encased steel pipe, a propylene glycol circuit, and a programmable logic control computer. Additional equipment designed and installed by LM included a 20,000 gallon insulated tank to store a two-day supply of hot water and pumps and piping to transfer the hot water to the existing evaporator.

Solar-heated hot water at a temperature of up to 170°F is used to preheat evaporator feedwater. The feedwater is preheated only an additional 2°F but that is sufficient to reduce electricity usage by an estimated 15 percent. The solar hot water system has been operating since late February and energy usage is being tracked. Actual savings cannot be fully known until a full year of operations can be monitored. However, initial energy savings results are encouraging.



A crane is utilized to install the 20,000 gallon insulated hot water storage tank.



The parabolic mirrors focus solar energy to preheat the water to 170 degrees before it goes into the treatment system.



Goal 2

Construction Continues at LM Business Center

The General Services Administration (GSA) awarded the lease contract on behalf of the U.S. Department of Energy Office of Legacy Management (LM) for a records management and operations facility to be located in Morgantown, West Virginia, on June 9, 2008. The design and construction team for the facility includes FD Partners, LLC and Petroplus and Associates, LLC as the developers; Paradigm Architecture as the architect; and DCK North America, LLC as the general contractor.

The 59,000-square-foot facility, located on a 10-acre site in the West Virginia University Research Park, will house more than 90 Federal and contractor personnel supporting LM. The facility, which is to be called the LM Business Center, will contain nonclassified records from the Cold War nuclear legacy. The records, now maintained at several Federal Records Centers, will be centralized at the Morgantown facility and will be accessible to researchers, former contractor employees, and other authorized persons both in on-site records research facilities and via a state-of-the-art electronic record-keeping system.

The development team, in conjunction with GSA and LM, is making great progress on the construction of the Business Center. The steel structure of the new building is well under way, with the erection of the shell (columns, girders and beams, and trusses) already completed for the entire facility. The roof decking installation is essentially complete. The exterior stud framing, which will anchor the brick veneer, is well under way. The developer has completed installation of all of the under-slab piping and conduit and has prepared the building footprint for pouring the concrete

slab on grade. Some sections of the slab have already been poured and finished. The site utilities have been completed from the building to the main road (Research Park Road). West Virginia University's contractor, the Green River Group, is making progress on extending the roadway and utilities to the Business Center site. Storm drains and concrete curbing have been installed. Green River Group's work should be completed by the end of April 2009.

In keeping with the Federal Government's support of environmentally friendly buildings, the project has extended the goal to achieve the U.S. Green Building Council's Leadership in Energy and Environmental Design (LEED) program from a Silver certification to a Gold certification level. Design considerations have also been integrated; the architect consultant assisted with the National Archives and Records Administration 2009 compliance, and the LEED consultant assisted with obtaining the LEED Gold certification.

Artist's rendition of completed LM Business Center.

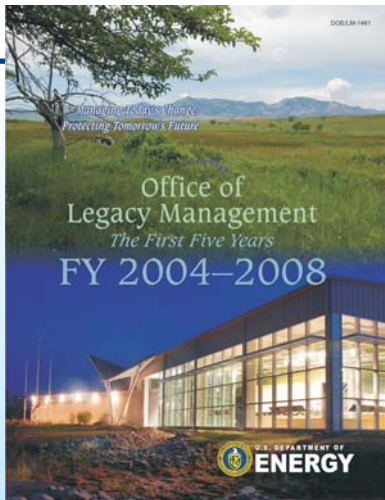


Construction at the LM Business Center site.



Program Update

LM Sites to Date



The Office of Legacy Management (LM) was established to manage activities at sites where the U.S. Department of Energy's mission and active environmental cleanup has been completed. As a high performing organization, LM is well on its way to meeting the goal that was established at its inception—providing a long-term sustainable solution to the management of DOE's Cold War legacy.

"The First Five Years" was created to capture some of the highlights of LM's activities from the last five years and goals for upcoming years. The report is available on LM's website at http://www.LM.doe.gov/pro_doc/firstfiveyears.htm or you may request a printed copy by e-mailing LM@hq.doe.gov or sending a fax to (202) 586-1540.



Legacy Management Goals



Goal 1: Protect human health and the environment through effective and efficient long-term surveillance and maintenance. This goal highlights DOE's responsibility to ensure long-term protection of people, the environment, and the integrity of engineered remedies and monitoring systems.

Goal 2: Preserve, protect, and make accessible legacy records and information. This goal recognizes LM's commitment to successfully manage records, information, and archives of legacy sites under its authority.



Goal 3: Support an effective and efficient work force structured to accomplish Departmental missions and assure continuity of contractor worker pension and medical benefits. This goal recognizes DOE's commitment to its contracted work force and the consistent management of pension and health benefits. As sites continue to close, DOE faces the challenges of managing pension plan and health benefits liability.

Goal 4: Manage legacy land and assets, emphasizing protective real and personal property reuse and disposition. This goal recognizes a DOE need for local collaborative management of legacy assets, including coordinating land use planning, personal property disposition to community reuse organizations, and protecting heritage resources (natural, cultural, and historical).



Goal 5: Improve program effectiveness through sound management. This goal recognizes that LM's goals cannot be attained efficiently unless the federal and contractor work force is motivated to meet requirements and work toward continuous performance improvement.



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Ms. Brenda Waters
U.S. Department of Energy
Office of Legacy Management
1000 Independence Avenue, SW
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