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May 8, 2006

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Office of the Oldham County Attorney  
Oldham County Fiscal Court Building  
100 West Jefferson Street  
LaGrange, Kentucky 40031

Damon R. Talley, Esq.  
112 N. Lincoln Blvd.  
P. O. Box 150  
Hodgenville, Kentucky 42748-0150

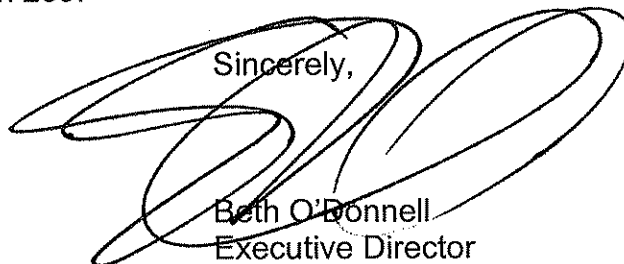
Mr. Phillip Ward  
Oldham County Water District  
P. O. Box 51  
Buckner, Kentucky 40010

Re: Case No. 2006-00065  
Oldham County Water District

Gentlemen:

The enclosed memorandum has been filed in the record of the above-referenced case. Any comments regarding this memorandum's contents should be submitted to the Commission within five days of receipt of this letter. Any questions regarding this memorandum should be directed to Gerald Wuetcher, Assistant General Counsel, at (502) 564-3940, Extension 259.

Sincerely,



Beth O'Donnell  
Executive Director

gw  
Enclosure

**INTRA-AGENCY MEMORANDUM**

**KENTUCKY PUBLIC SERVICE COMMISSION**

**TO:** Case File No. 2006-00065

**FROM:** Gerald Wuetcher *GBW*  
Assistant General Counsel

**DATE:** May 8, 2006

**RE:** Conference of April 19, 2006

On April 19, 2006, Commission Staff held an informal conference in this case in the Commission's offices in Frankfort, Kentucky to discuss technical aspects of Oldham County Water District's ("OCWD") water distribution system. Present were:

Brad Montgomery	-	OCWD
Shanna Stone	-	OCWD
Damon Talley	-	OCWD
Robert Cowan	-	Commission Staff
Preston Robards	-	Commission Staff
Jess Thompson	-	Commission Staff
George Wakim	-	Commission Staff
Gerald Wuetcher	-	Commission Staff

Oldham County Water District ("OCWD") requested the conference.

Beginning the conference, Mr. Wuetcher stated that Commission Staff would prepare minutes of the conference for the case record, that a copy of these minutes would be provided to all parties, and that all parties would be given an opportunity to submit written comments upon those minutes.

Mr. Talley noted the absence of OCWD's commissioners. He stated that the Commissioners wished to attend, but on the advice of counsel did not. Mr. Talley stated that, due the highly technical nature of this conference, he felt that their attendance was not cost-effective. Mr. Talley also noted that much of the information that the utility would present today is contained in its response to Commission Staff's First Information Request.

Mr. Talley and Mr. Montgomery presented an overview of OCWD's system. Mr. Talley noted that the system is experiencing astronomical growth and that OCWD previously had been reacting to this growth rather than developing a forward-looking plan to address it. Mr. Montgomery then provided a detailed review of OCWD's distribution system. He described the system as hydraulically confusing and noted that,

in its current state, some of OCWD's water storage tanks are not functioning very effectively. He further noted that, although OCWD has sufficient storage capacity to meet the Commission's minimum requirements, this storage is not being used effectively and is not in locations where new growth is being experienced. He further noted that, in some pressure zones within the OCWD distribution system, OCWD lacks the minimum storage requirements. Mr. Montgomery also noted that power system outages have occurred frequently in portions of OCWD's system. Since some of the pressure zones lack sufficient storage and are dependent upon electric pumps to meet system demands, the lack of electricity could present significant problems. The proposed storage tank will alleviate some of these concerns.

Mr. Montgomery and Mr. Talley stated that OCWD is attempting to develop a plan that provides for the expected growth in the OCWD area. They noted that growth patterns have shifted to the south and central portions of Oldham County. The area along Interstate Highway 71 is expanding at a significant rate. This trend represents a shift from earlier expectations that the significant growth would be in the north and western portions of the county.

Mr. Wuetcher inquired whether OCWD had developed a long-range facilities plan. Mr. Montgomery stated that such a plan had been developed and was available for downloading on OCWD's website ([www.oldhamcountywater.com/projects.html](http://www.oldhamcountywater.com/projects.html)). Mr. Montgomery noted that since no funding agency was involved in the current project, no engineering report had been prepared for the proposed water storage tank.

OCWD provided Commission Staff with a copy of the letter in which the Kentucky Division of Water noted its approval of the plans and specifications for the proposed storage water storage tank. It further provided a large scale map of OCWD's water distribution system that noted all system node junctions. A copy of each document is attached.

The conference then adjourned.

Attachments

1. EPPC Letter of 9/2/2005
2. OCWD System Map

cc without attachments: Parties of Record



ENVIRONMENTAL AND PUBLIC PROTECTION CABINET  
DEPARTMENT FOR ENVIRONMENTAL PROTECTION

Ernie Fletcher  
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September 2, 2005

Phillip Ward, Superintendent  
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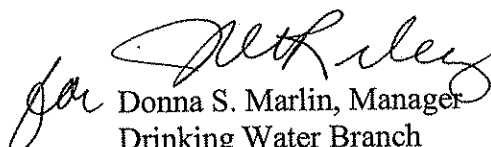
RE: Oldham County  
AI No: 3360  
DW No: 0930333-05-003  
Water Storage Tank  
KY HWY 146 Tank  
Activity ID: APE 20050003

Dear Mr. Ward:

We have reviewed the plans and specifications for the above referenced project. The plans include the construction of 2,000,000 gallon elevated tank. This is to advise that plans and specifications for the above referenced project are APPROVED with respect to sanitary features of design, as of this date with the requirements contained in the attached construction permit.

If you have any questions concerning this project, please contact Solitha W. Dharman, PE, at (502) 564-2225, extension 572.

Sincerely,

  
Donna S. Marlin, Manager  
Drinking Water Branch  
Division of Water

DSM:SWD  
Enclosures

C: Oldham County Health Department  
James E. McNulty, LPG, Strand Associates, Inc.  
Public Service Commission

## Distribution-Major Construction

Oldham Co Water District  
Subject Item Inventory

Activity ID No.: APE20050003

### Subject Item Inventory:

ID	Designation	Description
AIOO3360		
STOR3	Water Storage Tank	2,000,000 gallon elevated water tank

### Subject Item Groups:

ID	Description	Components
GACT11	2,000,000 gallon elevated water tank	STOR3 2,000,000 gallon elevated water tank

**KEY**

ACTV = Activity  
 AREA = Area  
 EQPT = Equipment  
 PERS = Personnel  
 STOR = Storage  
 TRMT = Treatment

AIOO = Agency Interest  
 COMB = Combustion  
 MNPT = Monitoring Point  
 PORT = Transport  
 STRC = Structure

## Distribution-Major Construction

Oldham Co Water District  
Facility Requirements

Activity ID No.: APE20050003

### GACT11 (Kentucky HWY 146 Tank) 2,000,000 gallon elevated water tank:

#### Monitoring Requirements:

Condition No.	Parameter	Condition
M-1	Coliform	The presence or absence of total-Coliform monitored by sampling and analysis as needed shall be determined for new storage structures. With at least 1 sample taken at least 24 hours after the first construction complete sample(s), take 2 or more samples from the yard hydrant, the outlet piping from the storage structure, or a sample tap directly connected to the storage structure. Sample bottles shall be clearly identified as "special" construction tests. [Recommended Standards for Water Works 7.0.18, 401 KAR 8:150 Section 4] This requirement is applicable during the following months: All Year. Statistical basis: Instantaneous determination.

#### Submittal/Action Requirements:

##### Coliform:

Condition No.	Condition
S-1	Coliform For new construction projects, the distribution system, using the most expedient method, shall submit Coliform test results to the Cabinet. Due immediately following disinfection and flushing. [401 KAR 8:150 Section 4(2)]

Condition No.	Condition
S-2	For proposed changes to the approved plan, submit information: Due prior to any modification to the Cabinet for approval. Changes to the approved plan shall not be implemented without the prior written approval of the Cabinet. [401 KAR 8:100 Section 1(8)]
S-3	The person who presented the plans shall submit the professional engineer's certification: Due when construction is complete to the Division of Water. The certification shall be signed by a registered professional engineer and state that the water project has been constructed and tested in accordance with the approved plans, specifications, and requirements. [401 KAR 8:100 Section 1(8)]

**Distribution-Major Construction**  
Oldham Co Water District  
Facility Requirements

Activity ID No.: APE20050003

**Narrative Requirements:**

**Additional Limitations:**

Condition No.	Condition
T-1	Additional Limitations: Chlorinated water resulting from disinfection of project components shall be disposed in a manner which will not violate 401 KAR 5:031. [401 KAR 8:020 Section 2(20)]

Condition No.	Condition
T-2	This project has been permitted under the provisions of KRS Chapter 224 and regulations promulgated pursuant thereto. Issuance of this permit does not relieve the applicant from the responsibility of obtaining any other approvals, permits or licenses required by this Cabinet and other state, federal and local agencies. Further, this permit does not address the authority of the permittee to provide service to the area to be served. [401 KAR 8:100 Section 1(7)]
T-3	Unless construction of this project is begun within 1 year from the issuance date of this permit, the permit shall expire. If requested prior to the permit expiration, an official extension from the Division of Water may be granted. If this permit expires, the original plans and specifications may be resubmitted for a new comprehensive review. If you have any questions concerning this project, please contact the Drinking Water Branch at 502/564-3410. [401 KAR 8:100 Section 1(9)]
T-4	During construction, a set of approved plans and specification shall be available at the job site at all times. All work shall be performed in accordance with the approved plans and specifications. [401 KAR 8:100 Section 1(7)(a)]

**Distribution-Major Construction**  
 Oldham Co Water District  
 Facility Requirements

Activity ID No.: APE20050003

**STOR3 (Water Storage Tank) 2,000,000 gallon elevated water tank:**

**Limitation Requirements:**

Condition No.	Parameter	Condition
L-1	Depth	High and low level Depth $\geq 30$ ft apart should not be allowed in storage structures providing pressure to a distribution system. [Recommended Standards for Water Works 7.3.2]. This requirement is applicable during the following months: All Year. Statistical basis: Maximum.
L-2	Distance	To prevent excessive erosion of storage structure foundations, the overflow and main drain shall either a) discharge to concrete or other stable surfaces (splash pads) which extend a Distance $\geq 10$ ft away from the base of the storage structure or b) discharge directly into a crushed stone pit that is at least 2' x 2' x 2' which is a Distance $\geq 10$ ft away from the base of the storage structure. [401 KAR 8:100 Section 1(7)] This requirement is applicable during the following months: All Year. Statistical basis: Minimum.
L-3	Height	Tanks shall have an overflow which is a) brought down to a Height $\geq 12$ and $\leq 24$ in above the ground surface, b) of sufficient diameter to permit waste of water in excess of the filling rate, c) open downward, d) screened with twenty-four mesh noncorrodible screen installed within the pipe at a location least susceptible to damage by vandalism, and e) when not internal, e) i) located on the outside of the tank so that any discharge is visible, when internal, e) ii) located in the access tube. [Recommended Standards for Water Works 7.0.7] This requirement is applicable during the following months: All Year. Statistical basis: Not applicable.
L-4	Height	Tanks shall have manholes that are a) framed a Height $\geq 4$ in above the surface of the roof at the opening and b) fitted with a solid watertight cover which overlaps the framed opening and extends down around the frame at least 2 inches. Manholes should be hinged at one side and shall have a locking device. [Recommended Standards for Water Works 7.0.8] This requirement is applicable during the following months: All Year. Statistical basis: Minimum.



## Distribution-Major Construction

Oldham Co Water District  
Facility Requirements

Activity ID No.: APE20050003

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### Narrative Requirements:

#### Additional Limitations:

Condition No.	Condition
T-1	<p><b>Additional Limitations:</b> The materials and designs used for storage structures shall provide stability and durability as well as protection for the quality of the stored water. Steel structures shall follow the AWWA standards wherever they are applicable. Other materials of construction are acceptable when properly designed to meet the requirements in this permit. [Recommended Standards for Water Works 7.0]</p>
T-2	<p><b>Additional Limitations:</b> The safety of employees must be considered in the design of any tank. The design of tanks shall</p> <ol style="list-style-type: none"><li>meet or exceed the minimum requirements of pertinent safety laws and regulations in the areas where the tanks are constructed,</li><li>include ladders, ladder guards and balcony railings (where applicable),</li><li>locate entrance hatches in safe places,</li><li>provide railings or handholds where persons must transfer from an access tube to the water compartment, and</li><li>consider confined space entry requirements.</li></ol> <p>Additionally, if tanks have riser pipes over 8 inches in diameter, the tanks shall have protective bars over the riser openings inside of the tank. [Recommended Standards for Water Works 7.0.12]</p>
T-3	<p><b>Additional Limitations:</b> Storage structures shall be designed with reasonably convenient access to the interior for cleaning and maintenance. Where space permits, at least 2 manholes shall be provided above the waterline at each water compartment. [Recommended Standards for Water Works 7.0.8]</p>
T-4	<p><b>Additional Limitations:</b> Fencing, locks on access manholes, and other necessary precautions shall be provided to prevent trespassing, vandalism, and sabotage. [Recommended Standards for Water Works 7.0.4]</p>
T-5	<p><b>Additional Limitations:</b> All storage structures and their appurtenances, especially the riser pipes, overflows, and vents, shall be designed to prevent freezing. [Recommended Standards for Water Works 7.0.13]</p>
T-6	<p><b>Additional Limitations:</b> Tanks shall be constructed with no openings except properly constructed vents, manholes, overflows, risers, drains, control ports, and piping for inflow and outflow. Any pipes running through the roof or sidewall must be welded or properly gasketed. [Recommended Standards for Water Works 7.0.10]</p>
T-7	<p><b>Additional Limitations:</b> All finished water storage structures shall have suitable watertight roofs and sidewalls which exclude birds, animals, insects, and excessive dust. [Recommended Standards for Water Works 7.0.3, Recommended Standards for Water Works 7.0.10]</p>

## Distribution-Major Construction

Oldham Co Water District  
Facility Requirements

Activity ID No.: APE20050003

### Narrative Requirements:

#### Additional Limitations:

Condition No.	Condition
T-8	<p><b>Additional Limitations:</b> The roof of each storage structure shall be well drained. Downspout pipes shall not enter or pass through storage structures. Parapets or similar structures which would tend to hold water and snow on a storage structure roof shall not be approved unless adequate waterproofing and drainage are provided. [Recommended Standards for Water Works 7.0.11]</p>
T-9	<p><b>Additional Limitations:</b> Storage structures shall be designed so they can be isolated from the distribution system and drained for cleaning or maintenance without necessitating loss of pressure in the distribution system. [Recommended Standards for Water Works 7.3.2, Recommended Standards for Water Works 7.0.5]</p>
T-10	<p><b>Additional Limitations:</b> Storage structure drains shall discharge to the ground surface at a drainage structure inlet or splash plate. [Recommended Standards for Water Works 7.3.2, Recommended Standards for Water Works 7.0.7]</p>
T-11	<p><b>Additional Limitations:</b> No drain on a storage structure may have a direct connection to a sewer or storm drain. [Recommended Standards for Water Works 7.0.5, Recommended Standards for Water Works 7.0.7, Recommended Standards for Water Works 7.3.2]</p>
T-12	<p><b>Additional Limitations:</b> Main drains from storage structures shall have a twenty-four mesh noncorrodible screen installed within the drain pipe at a location least susceptible to damage by vandalism. [401 KAR 8:100 Section 1(7)]</p>
T-13	<p><b>Additional Limitations:</b> Storage structures shall be designed to facilitate turn over of water. [401 KAR 8:100 Section 1(7), Recommended Standards for Water Works 7.0.6]</p>
T-14	<p><b>Additional Limitations:</b> Storage structures shall have sufficient capacity, as determined from engineering studies, to meet domestic demands. Additionally, if fire protection is provided, capacity shall also be sufficient to meet fire flow demands. [401 KAR 8:100 Section 1(7), Recommended Standards for Water Works 7.0.1]</p>
T-15	<p><b>Additional Limitations:</b> Storage structure discharge pipes shall be located in a manner that will prevent the flow of sediment into the distribution system. Additionally, removable silt stops should be provided. [Recommended Standards for Water Works 7.0.15]</p>

**Distribution-Major Construction**  
 Oldham Co Water District  
 Facility Requirements

Activity ID No.: APE20050003

**Narrative Requirements:**

**Additional Limitations:**

Condition No.	Condition
T-16	<p><b>Additional Limitations:</b>                      Appropriate sampling tap(s) shall be provided to facilitate collection of water samples for both bacteriologic and chemical analyses. [Recommended Standards for Water Works 7.0.19]</p>
T-17	<p><b>Additional Limitations:</b>                      Storage structures shall be vented. Overflows shall not be considered as vents. Open construction between the sidewall and roof is not permitted. Vents shall</p> <ul style="list-style-type: none"> <li>a) prevent the entrance of rainwater,</li> <li>b) exclude birds and animals, and</li> <li>c) exclude insects and dust (as much as compatible with effective venting).</li> </ul> <p>Vents may use four-mesh noncorrodible screen. [Recommended Standards for Water Works 7.0.9]</p>
T-18	<p><b>Additional Limitations:</b>                      Adequate controls shall be provided to maintain levels in storage structures. The level controls shall be acceptable to the Division of Water. Level indicating devices should be provided at a central location. Overflow and low-level warnings or alarms should be located at places in the community where they will be under responsible surveillance 24 hrs a day. [401 KAR 8:100 Section 1(7), Recommended Standards for Water Works 7.3.3]</p>
T-19	<p><b>Additional Limitations:</b>                      If storage structures have a catwalk over the water, the catwalk floor shall be solid with raised edges so that shoe scrapings and dirt will not fall into the water. [Recommended Standards for Water Works 7.0.14]</p>
T-20	<p><b>Additional Limitations:</b>                      Proper protection shall be given to metal surfaces by</p> <ul style="list-style-type: none"> <li>a) paints or other protective coatings and/or</li> <li>b) cathodic protective devices. [Recommended Standards for Water Works 7.0.17]</li> </ul>
T-21	<p><b>Additional Limitations:</b>                      If cathodic protection is utilized,</p> <ul style="list-style-type: none"> <li>a) competent technical personnel should design and install the protection and</li> <li>b) a maintenance contract should be provided. [Recommended Standards for Water Works 7.0.17]</li> </ul>
T-22	<p><b>Additional Limitations:</b>                      If the interior of the storage structure is coated or lined, the coating or lining shall be of a type approved by the Division of Water for use in contact with potable water. [401 KAR 8:020 Section 2(19)]</p>

# Distribution-Major Construction

Oldham Co Water District  
Facility Requirements

Activity ID No.: APE20050003

## Narrative Requirements:

### Additional Limitations:

Condition No.	Condition
T-23	<p>Additional Limitations: Paints and coatings</p> <ol style="list-style-type: none"><li>shall meet NSF standard 61,</li><li>shall be acceptable to the Division of Water,</li><li>shall be properly applied and cured, and</li><li>shall not transfer any substance to the water which will be toxic or cause tastes or odors (following curing).</li></ol> <p>Wax coatings shall not be used in any storage structure and must be completely removed before using other paints or coatings in an existing storage structure. [401 KAR 8:100 Section 1(7), Recommended Standards for Water Works 7.0.17]</p>
T-24	<p>Additional Limitations: New water storage structures shall be thoroughly disinfected (in accordance with AWWA Standard C652) upon completion of construction and before being placed into service. To disinfect new storage structures</p> <ol style="list-style-type: none"><li>remove all scaffolding, planks, tools, rags, and other items that are not part of the structural or operational facilities of the storage structure,</li><li>clean thoroughly by sweeping, scrubbing, using high-pressure water jets, or some equivalently effective means, and</li><li>use chlorine or chlorine compounds as subsequently described.</li></ol> <p>Finalize disinfection by</p> <ol style="list-style-type: none"><li>chlorination method 1, described in detail at AWWA Standard C652 Section 4.3.1,</li><li>chlorination method 2, described in detail at AWWA Standard C652 Section 4.3.2, or</li><li>chlorination method 3, described in detail at AWWA Standard C652 Section 4.3.3.</li></ol> <p>See the following conditions for abbreviated descriptions of the methods. Following the finalization of disinfection, place storage structures into service if, and only if, Coliform monitoring applicable to the storage structure does not show the presence of Coliform. If Coliform is detected, flush the tank and repeat Coliform monitoring. If Coliform is still detected, repeat disinfection and flushing as if the tank has never been disinfected. Continue the described process until monitoring does not show the presence of Coliform. [Recommended Standards for Water Works 7.0.18]</p>

# Distribution-Major Construction

Oldham Co Water District  
Facility Requirements

Activity ID No.: APE20050003

## Narrative Requirements:

Condition No.	Condition
T-25	<p>If applicable, chlorination method 1 generally requires</p> <ul style="list-style-type: none"><li>a) filling a storage structure to the overflow level with water providing a free chlorine Residual Disinfection <math>\geq</math> 10 ppm and</li><li>b) i) completely draining the storage facility and refilling or</li><li>ii) otherwise reducing (in accordance with method 1) the free chlorine residual to a level appropriate for distribution. [Recommended Standards for Water Works 7.0.18]</li></ul>
T-26	<p>If applicable, chlorination method 2 generally requires</p> <ul style="list-style-type: none"><li>a) scrubbing or spraying the water-contact surfaces of a storage structure with a water solution having an available chlorine concentration = 200 ppm and</li><li>b) purging of the strong chlorine solution and filling to the overflow level. [Recommended Standards for Water Works 7.0.18]</li></ul>
T-27	<p>If applicable, chlorination method 3 generally requires</p> <ul style="list-style-type: none"><li>a) filling a storage structure to approximately 5% of the total storage volume with water having an available chlorine concentration of 50 ppm,</li><li>b) continued filling of the storage structure to the overflow level with normal potable water, and</li><li>c) purging the storage structure so that various disinfection by-products do not reach water consumers. [Recommended Standards for Water Works 7.0.18, 401 KAR 8:100 Section 1(7)]</li></ul>