

EXPERT PANEL
for
THE DICKSON COUNTY LANDFILL
DICKSON, TENNESSEE

Memorandum

TO: Timothy V. Potter, Esq., Reynolds Potter, Ragan & Vandivort, PLC
Michael K. Stagg, Esq., Waller Lansden Dortch & Davis, LLP
Michael E. Wall, Esq., Natural Resources Defense Council, Inc.

FROM: David E. Jackson, P.G., P.H.
David E. Langseth, Sc.D., P.E., D. WRE
Stavros S. Papadopoulos, Ph.D., P.E. NAE

MATTER: Natural Resources Defense Council, Inc., *et al.*, v. County of Dickson, Tennessee,
et al., No.: 3:08-cv-00229
Consent Order Entered December 9, 2011

DATE: June 9, 2015

SUBJECT: Revised Expert Panel Communication 9
Recommendations Related to PWS Connections and to Restrictions on Well
Installation and Groundwater Use within the EERA

A draft of this Communication No. 9 from the Expert Panel (EP) established under the referenced Consent Order was transmitted to you on May 19, 2014. During the subsequent meeting of August 5, 2014, which was attended by you, the members of the EP, and Shaun Winter of EnSafe, it was decided that this communication will be revised and resubmitted to you to be consistent with the discussions held during the meeting. This memorandum presents the revised EP Communication #9 which includes Recommendation 9 of the May 19, 2014 draft, and two additional recommendations related to well installation and groundwater use, through wells or springs, within the Expanded Environmental Risk Area (EERA).

Background

The referenced Order requires that the County “offer to connect all homes and businesses within the EERA to public water lines, at no cost to the landowner, unless the EP decides to exempt one or more properties from this requirement” (VI. 11(a), page 15). To minimize risk to human health and the environment from exposure to landfill-related contaminants, and to engender cooperative and equitable relationships with EERA landowners to whom Public Water Supply (PWS) connections are offered, the EP has determined that it is advisable to implement a standard protocol when offering PWS connections.

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This protocol is recommended pursuant generally to the referenced Consent Order, and specifically to its paragraphs IV.6(a.) (purposes of the Remedy Fund); VI.10.(a) – (f) (EP consideration of requirements to achieve the purposes of the Remedy Fund); VI.11(a-h) (mandated County actions); and VI.12 (approved uses of Remedy Fund resources). The EP recommends these actions be implemented to reduce the long-term risk of human exposure to landfill-related contaminants in groundwater in the EERA, and to reduce costs of monitoring water wells located within the EERA.

The EP views universal closure of EERA wells and the cessation of spring water use within the EERA, to be highly desirable as a means of limiting risk of exposure to landfill-related contaminants in groundwater, conserving Remedy Fund resources, and fulfilling the long-term objectives of the Order's mandates. The EP therefore hopes that landowners with wells or springs located within the EERA will agree to abandon use of their wells or springs in recognition of the long-term risks of exposure to groundwater contaminants and benefits of PWS for current and future residents.

During the August 5, 2014 meeting, the participants agreed that Dickson County (Messrs. Potter and Stagg) would research the County's authority and procedures to require closure of wells on private property regardless of contamination history. Pending the results of that research, however, the EP recognizes some landowners may prefer to accept the County's offer of a PWS connection for household potable uses, while still maintaining access to their water well and/or spring for non-potable uses (e.g., watering gardens or washing vehicles). Such continued use would have at least two impacts detrimental to the purposes of the Order. First, since the Order provides no exemption provision for its requirement that all in-use wells and springs in the EERA must be monitored semi-annually (IV. 11(d), page 16), any landowner-reserved rights to access water wells or springs for "limited uses" would, for an indefinite period (i.e., as long as the wells or springs remain in use), result in monitoring obligations by the County and costs to the Remedy Fund. Second, landowners' continued limited use of water wells or springs will result in a continuing risk of exposure to landfill-related contaminants in groundwater. This risk will require continuing evaluation by the EP, which is tasked with ensuring that Remedy Fund expenditures (e.g., PWS connection costs, monitoring costs, etc.) are consistent with the Fund's purpose to reduce or eliminate risks to human health and the environment.

Accordingly, the EP has determined that, as a component of an institutional-control remedy, providing incentives in the form of cash payments to EERA landowners who voluntarily close their water wells or discontinue the use of their springs is an appropriate Remedy Fund expenditure. During the August 5, 2014 meeting the EP approved, with the consent of the other participants, to offer up to \$3,000 to well owners within the EERA for full closure and abandonment of their well (\$2,500 for their agreement to abandon their well and \$500 for the well pump and other equipment, if the well still has a pump). The EP believes that this offer should also be extended to properties within the EERA that use a spring as a source of water supply (\$2,500 for their agreement to discontinue the use and to isolate their spring, throughs the

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installation by the County of access limiting fencing and warning signs around the spring, and \$500 for the pump and/or other equipment they may be using to obtain the water from the spring).

The EP recognizes that some landowners may not agree to well closure or to cessation of spring use, regardless of the value of offered incentives. In these instances, and if the County's research indicates that well closure or spring use cessation cannot be enforced, the EP intends for the landowner to (1) be fully educated to the risks of exposure resulting from continued well or spring use, (2) expressly acknowledge those risks, (3) release the County from all liability associated with the well's or spring's continued use, and (4) agree to bear the full cost of the well's or spring's continued monitoring. These conditions should run with the property, so as to be enforceable to successors in the property interest, not just to the current landowner.

During the August 5, 2014 meeting, the participants also agreed that Dickson County (Messrs. Potter and Stagg) would research the County's authority and procedures to: (1) record a deed notice for all properties fully or partially within the EERA related to potential groundwater, or spring water, contamination, and (2) obtain recognition of the EERA, as established under the Consent Order, as a risk area to be governed under the Rules and Regulations of Water Wells and Use of Springs in Dickson County, Tennessee. Recommendations 10 and 11 below are subject to the results of County's research on these issues.

Recommendation 9

The EP recommends that the County use Well or Spring Water Use Agreements that contain one of the alternative sets of provisions presented below when extending offers for PWS connections to EERA landowners. Further, it is the EP's recommendation that the Well or Spring Water Use Agreements should be used retroactively to ensure that all landowners of properties in the EERA, including those previously connected to PWS, regardless of when the connection was made and regardless of who paid for it, are offered the same incentive to abandon their wells or springs as that offered to landowners whose properties have yet to be connected.

Recommendation 10

The EP recommends that a deed notice related to potential groundwater and spring water contamination be recorded for properties wholly or partially within the EERA. Restrictions on wells or spring use would apply only to the portion of a property within the EERA.

Recommendation 11

The EP recommends that the EERA be recognized as risk area to be governed under the Rules and Regulations of Water Wells and Use of Springs in Dickson County, Tennessee.

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Provisions for Well or Spring Water Use Agreements of Recommendation 9

The provisions proposed by the EP for inclusion in Well or Spring Water Use Agreements between the County and property owners within the EERA related to PWS connections addressing abandoned wells or springs and continuing limited use wells or springs are listed below.

Provisions for the Situation of Abandoning Well or Spring Use and Consenting to Well Closure or Spring Isolation

The County's Well or Spring Water Use Agreement for landowners who consent to the closure of their well or the isolation of their spring should include the following provisions that would be implemented upon the Landowner's signing of the agreement:

1. Record each executed Well or Spring Water Use Agreement in the property deed.
2. Provide educational materials to the landowner regarding the risks to human health resulting from exposure to landfill-related contaminants in groundwater and the potential exposure pathways resulting from well or spring water use.
3. Obtain the landowner's express acknowledgement of the risks and means of exposure to landfill-related contaminants in groundwater.
4. Without cost to the landowner, extend PWS service to all existing faucets or hydrants on the property that currently are served by connection to a well or spring.
5. Remove the well or spring pump from the property and destroy the pump at a County facility. Removal and destruction of pumps will be documented by chain-of-custody manifest, including well or spring location, pump description and serial number, date, method and place of destruction, and name(s) of County personnel conducting destruction.
6. Remove plumbing pipe from the well or spring and disconnect the well or spring from the property's electrical system.
7. Per the preference of the EP, install a welded well cap to discourage re-entry to the well, or abandon the well according to state regulations.
8. Install a fence and warning signs around the spring to discourage the use of water from the spring.

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9. Document method of well closure or spring isolation with verbal description and photographs.
10. Pay the landowner a flat sum of \$500 to compensate for the value of the removed well or spring pump and plumbing (regardless of age or condition of the pump).
11. Pay the landowner a lump-sum payment of \$1,800 to offset the cost of public water service.
12. Pay the landowner a lump-sum payment of \$2,500 to compensate for the lost future use of the property's well or spring; this payment will be made only upon the landowner's agreement to not use the well or spring for any purpose and completion of the well closure or spring isolation as described above.
13. In the event a closed or abandoned well must be re-opened, or an isolated spring needs to be accessed, as determined by the EP, then, per the terms of the County's Agreement, the County shall have access to the Property and the well or spring to perform groundwater monitoring, re-install pumping apparatus, or reconnect electrical service to the well or spring. The landowner shall not bear the cost of these activities.
14. If a landowner's closed well or isolated spring is determined at any time to have been, without the EP's direction or consent, re-entered, made operational, or to have been used as a source of water for any purpose, then the landowner shall remit the full sum of any monies received under the terms of the Agreement from the County, and agree to pay the future cost of monitoring the well.

Alternate Provisions for the Situation of Retaining Limited Use of Well or Spring

Alternatively, if a landowner refuses the terms of the County's preferred Well or Spring Water Use Agreement (as listed above), and instead prefers continued limited use his or her well or spring (i.e., excluding potable and bathing purposes), then an alternate County Well or Spring Water Use Agreement should include the following provisions that would be implemented upon the Landowner's signing of the agreement:

1. Record each executed Well or Spring Water Use Agreement in the property deed.
2. Without cost to the landowner, extend PWS service to all existing faucets or hydrants on the property that currently are served by connection to a well or spring.
3. Identify the well's or spring's location by geographic coordinates, and describe those limited purposes for which the well or spring will be used. Expressly precluded are uses of the well or spring for drinking, cooking, and bathing.

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4. Pay the landowner a lump-sum payment of \$1,800 to offset the cost of public water service.
5. Require the landowner to acknowledge in writing his or her rejection of cash incentives offered by the County to close the property's well or abandon the use and isolate the spring.
6. Require the landowner to acknowledge in writing the risk of potential exposure to landfill-related contaminants contained in well or spring water via ingestion, inhalation, or dermal contact with water from the limited-use well or spring.
7. Require the landowner to release the County, its consultants, and the Expert Panel from all liability associated with the risk of exposure to landfill-related contaminants in groundwater.
8. Require the landowner's agreement to reimburse the County for all future costs resulting from monitoring the limited use well or spring.

Use of Alternate Agreements for Landowners with Pre-existing PWS Connections

The EP recommends also entering into Well or Spring Water Use Agreements for landowners with pre-existing PWS connections. The provisions contained in Well or Spring Water Use Agreements to be used in instances in which landowners' connections to PWS pre-date the Consent Order will vary somewhat from those whose connections post-date the Consent Order. For example, landowners who connected to PWS prior to the date of the Consent Order will not be afforded reimbursement for their PWS connections, past pump removal, or for foregoing use of their wells or springs. Landowners with connections to PWS that pre-date the Consent Order will not receive money to offset the cost of PWS. However, landowners who connected to PWS prior to the Consent Order and who maintain existing limited uses of their water wells or springs will be eligible to be compensated for removal of their pumps and loss of future use of their wells or springs, should they agree to the closure of their wells or to the abandonment of use and isolation of their springs.