



**VIRGINIA COAL SURFACE MINING AND RECLAMATION
PERMANENT REGULATORY PROGRAM**

**A GUIDE¹ TO WATER REPLACEMENT
AND SUBSIDENCE REPAIR**

TABLE OF CONTENTS	
Introduction	Page 2
Water Supply Impacts	Page 2
• Replacement Water Supplies – Interim Water Replacement Plan	Page 3
• Permanent Water Supply Replacement	Page 4
• Cost and Responsibilities	Page 6
• Termination of Water Replacement Order	Page 7
Subsidence Damage Repair	Page 7
Replacement/Repair Agreements	Page 8
• Water Replacement or Subsidence Repair Order	Page 8
• Compensation Offers	Page 9

¹ This is to be considered a guideline issued under the authority of § 45.1-230.A1 of the Code of Virginia which reads:

"In addition to the adoption of regulations under this chapter, the Director may at his discretion issue or distribute to the public interpretative, advisory or procedural bulletins or guidelines pertaining to permit applications or to matters reasonably related thereto without following any of the procedures set forth in the Administrative Process Act (§ 2.2-4000 et seq.). The materials shall be clearly designated as to their nature, shall be solely for purposes of public information and education, and shall not have the force of regulations under this chapter or under any other provision of this Code."

Introduction

The Department of Mines, Minerals and Energy/Division of Mined Land Reclamation (DMLR) has jurisdiction to resolve complaints that may arise when adverse impacts occur to covered water supplies and surface lands and property from coal mining operations, under §45.1-230 of the Code of Virginia, as amended, and the regulations promulgated thereunder.

The DMLR initiates an investigation whenever it receives a complaint alleging a mining operation has adversely impacted property or other resources. If the DMLR's technical investigation determines that a mining operation has adversely impacted a covered water supply or damaged property through subsidence effects, the DMLR will issue a notice to the company to repair or replace the impacted supply or structure, or to compensate the property owner for the adverse impact. (See §§4 VAC 25-130-816.41(h), 4 VAC 25-130-817.41(j), and 4 VAC 25-130-817.121(c) of the **Virginia Coal Surface Mining Reclamation Regulations**.)

The company has the right to request administrative review of a water replacement or subsidence repair notice, pursuant to the **Virginia Administrative Process Act**. If a request for administrative review is filed, the DMLR may require a company to implement interim measures to ensure the situation is not posing a hardship upon the water supply user or presenting a hazard to the impacted persons.

This memorandum is intended to provide guidance to industry and the public in understanding what the DMLR looks for in evaluating whether a company has met its obligations under the regulations and the approved permit, insofar as water replacement and subsidence mitigation. It should be understood that the circumstances of each situation may warrant a unique resolution for the individual case.

The following guidance is predicated on the assumption that DMLR's complaint investigation has rendered an opinion that a mining operation has adversely impacted a covered water supply, structure, or resource.

I. Water Supply Impacts

§4 VAC 25-130-816.41(h) - Any person who conducts **surface mining activities** shall **replace the water** supply of an owner of interest in real property who obtains all or part of his supply of water **for domestic, agricultural, industrial, or other legitimate use** from an underground or surface source, where the water supply has been adversely impacted by contamination, diminution, or interruption proximately resulting from the surface mining activities.

§4 VAC 25-130-817.41(j) - The permittee must promptly **replace any drinking, domestic or residential water supply that is contaminated, diminished or interrupted by underground mining activities conducted after October 24, 1992**, if the affected well or spring was in existence before the date the division received the permit application for the activities causing the loss, contamination or interruption.

**Division of Mined Land Reclamation
A Guide to Water Replacement and Subsidence Repair**

Some of the ways an operator may address a water supply loss, diminution, or contamination complaint (with the complainant's concurrence) are:

- providing temporary water and allowing time (up to 3 years) for the affected water supply to recover;
- providing a replacement water supply that is adequate in quality and quantity to serve the existing use(s) of the original water supply; or,
- entering into a private agreement with the property owner setting the:
 - amount of compensation the property owner is to receive for the loss of the original water supply, and
 - any other terms of the replacement.

Besides meeting quantity and quality requirements, a replacement water supply should be reliable, accessible to the property owner, controllable by the property owner, and operable at a cost that is not significantly higher than that associated with the original water supply.

Replacement Water Supplies - Interim Water Replacement Plan

Pursuant to §45.1-245 of the Code of Virginia, a company may be instructed to provide temporary water to the complainant(s)². Temporary water must be provided until –

1. A permanent replacement has been established,
 2. A determination is made that the company is not responsible for the impact, or
 3. Until the DMLR determines the original supply has recovered from the adverse impacts to the extent that pre-mining uses are maintained and supported.
- The temporary supply should be of sufficient quantity and meet applicable public health quality standards.
 - The temporary supply should be installed and operational within 48 hours after the DMLR's preliminary investigation determines the loss may have been caused by the coal mining operation.
 - At the landowner's option, the company may reimburse the water user for all additional and reasonable costs the landowner incurred in providing his/her own temporary water. The company may also opt to pay the costs up front.
 - The company should notify DMLR when the temporary water supply is in place and available for use.

The company may elect to provide a permanent replacement without waiting for a final DMLR decision concerning the need for permanent replacement.

² A company does not have to wait upon the DMLR technical investigation finding to initiate water replacement. If the company believes its operations impacted a covered water supply, it may proceed on its own to establish a permanent water replacement.

Permanent Water Supply Replacement

In the event DMLR's technical investigation determines that a water supply has been contaminated, diminished, or interrupted by a coal mining operation, the company will be issued a water replacement order to replace the affected supply. Water replacement should be comparable to the quality, quantity, and duration of the original supply. No final bond release on disturbed lands within the permit area may occur until:

- Satisfactory water replacement has been achieved.
- Interim water supply costs and permanent replacement costs incurred by the complainant, if any, have been reimbursed (Note: only those additional costs in excess of the pre-impact costs).
- The water replacement order is terminated.

If a new well is drilled or an existing well is deepened or modified, the company should notify the DMLR as soon as the replacement is completed and operating, and provide copies of the:

- Well log/drilling report, with results of the pumping test;
- If a new well is drilled, a written statement (signed by the well driller) verifying that the old well was properly abandoned (plugged), or evidence that the landowner plans to use the old well.

Should a replacement water well be installed, the company should:

- Pay for all capital costs associated with installation of the replacement supply, including any additional materials and labor necessary to connect the replacement supply to the existing plumbing system.
- Be responsible for the purchase of a new pump if the existing pump is inadequately matched to the replacement or re-drilled well, if no pump existed, or if contamination or diminution of the well damaged the existing pump.
- If a water treatment system is necessary, bear all costs associated with the installation of an appropriate system capable of producing water that meets the quality and quantity requirements.
- Pay for the operation and maintenance costs of the treatment system in excess of the prior treatment system, or reach an agreement with the landowner to cover such costs. The terms and conditions would be a private matter between the company and complainant.

When connecting to a public water supply, the company should notify the DMLR as soon as the connection is completed and operating, and submit copies of:

- Written verification from the public water authority indicating connection was completed and acceptable.

Division of Mined Land Reclamation
A Guide to Water Replacement and Subsidence Repair

- If the supply is replacing a well, a written statement from the landowner either verifying that the old well was properly abandoned (plugged) or affirming that it will still be used (as another source of water).

The **quality** of a replacement water supply (i.e., well, spring, or other non-public supply):

- Should meet or exceed the pre-mining quality and not restrict or limit the pre-mining use.
- Should meet or exceed applicable water quality standards adopted by the Virginia Department of Health, or other appropriate agency, if no pre-mining data exists.

Appropriate water treatment systems may be installed on the replacement supply to achieve required quality, provided such systems do not restrict or limit the pre-mining use. However, wherever possible, the company should select and provide a replacement water supply that will minimize the type and extent of treatment and maintenance necessary to achieve the required quality.

The installation of a replacement water supply is preferred over long-term treatment of an impacted water supply, unless:

- The landowner and company are agreeable to such treatment, and
- Continued use of the existing supply would not result in contamination of other aquifers or surface water.

The **quantity** of a replacement water supply (i.e., well, spring, or other non-public supply):

- Should meet or exceed the pre-mining quantity used, and must not restrict or limit the pre-mining use. (Consideration should be given to peak daily use and peak use rate.)
- If the pre-mining quantity data is inadequate or non-existent for a domestic supply, the replacement supply should provide either:
 - ◆ A minimum of 35 gallons per person per day, or
 - ◆ A sufficient amount to accommodate the size and amenities of the residence (number of bathrooms, bedrooms, water using appliances). Selection of appropriate method to calculate minimum quantity should be based on the circumstances specific to each case.
- For other legitimate uses (e.g., agricultural use impacted by surface mining operations) where the pre-mining data is inadequate or nonexistent, the replacement choices should be based on appropriate sources of technical information and comparable uses in the surrounding area.

Appropriate supplemental storage systems may be installed to achieve the quantity requirements, provided such systems comply with all applicable local, state, and federal laws and regulations.

**Division of Mined Land Reclamation
A Guide to Water Replacement and Subsidence Repair**

Duration of Replacement Water Supplies – minimum of 20 years (unless by a private agreement between the citizen and company, a period of less than 20 years is agreed upon.)

In considering normal usage and routine maintenance performed by the landowner, the duration should be comparable to similar systems commonly installed in the surrounding area that have not been exposed to impacts from coal mining operations.

Costs and Responsibilities:

Reimbursement for permanent water supply replacement

- When required by the DMLR to provide permanent supply, the company should make immediate arrangements for installation of an appropriate replacement water supply and treatment system (including payment arrangements for all capital costs associated with such activities).
- If replacement involves connection to public water supply system or equivalent, the company should, in addition to the above, bear payment of initial tap-in fees and installation of a water metering device, where required by the public water authority.
- The company should address the significant costs that may be above the original and pre-impact operational and maintenance costs.
- The company and owner may enter into a private agreement concerning the water replacement.

Reimbursement for interim water supply costs

- The company may decide to either pay for the interim (temporary) supply costs up front or to reimburse the owner. The costs would include the reasonable expenditures in excess of those of the original water supply system. Examples include costs of ordinary bottled water, hauled water, temporary storage tanks and associated plumbing, laundromat costs for washing clothes (not to include detergent or automatic dryer costs), transportation of hauled water, not to exceed the reimbursement rate of \$.25 per mile, and temporary connection to a neighboring water supply.
- The landowner should maintain accurate records of interim water supply costs including dated invoices, cash register receipts, etc. The landowner should provide a legible copy of all documents, invoices, and receipts for reasonable costs to the company and to the DMLR's inspector. Monthly notification of costs is recommended.
- The company should reimburse the landowner within 45 days of receipt of bona fide documents, invoices, and receipts for reasonable costs and send a photocopy of the reimbursement check to the DMLR's inspector.

Reimbursement for self initiated permanent supply replacement costs

- The DMLR may order the company to reimburse the landowner for the reasonable costs of obtaining the permanent supply.

**Division of Mined Land Reclamation
A Guide to Water Replacement and Subsidence Repair**

Responsibility for abandonment of wells

- If a well supply contaminated or diminished by mining operations will no longer be used by the landowner, the company should arrange and pay for all costs associated with proper abandonment of the well.

Reclamation of disturbed areas

- Areas disturbed during construction and installation of replacement supplies should be graded, seeded, fertilized and mulched consistent with the existing land use. Maintenance of the reclaimed areas is a private matter between the company and landowner.

Termination of Water Replacement Order

The order may be terminated when the:

- water replacement supply is successfully completed and operating, and all quality, quantity, duration, reimbursement, abandonment and reclamation requirements have been achieved;
- when the company and complainant have entered into a settlement agreement; or
- at any point that the complainant withdraws the water loss/diminution complaint.

II. Subsidence Damage Repair

Whenever a company notifies an owner/occupant of a structure that underground mining operations will be occurring (4 VAC 25-130-817.122), it is to both parties' benefit that a pre-mining survey be conducted of the structure. The property owner/occupant may refuse the survey; however, while this could be detrimental to a future claim for subsidence damages, the refusal to grant the survey would not constitute a waiver of liability.

The company may be deemed in violation when it fails to repair the damage or compensate the owner for the damage, as required by the regulations. DMLR does not regard subsidence, or subsidence damage itself, as a violation of a performance standard.

If the DMLR's technical investigation determines that a company's mining operation may have caused subsidence damage to covered structures, water supplies, or surface lands, it may issue a subsidence repair notice to the company.

The company should submit the following information to the DMLR within 30 days of receipt of the subsidence repair notice:

- A written description of measures to be taken or plans for the repair or mitigation of such damage, including a time schedule for the completion of the repair or mitigation; or,
- A written statement that the operator will compensate the landowner for the full amount of the diminution in value of the property caused by subsidence damage (up

**Division of Mined Land Reclamation
A Guide to Water Replacement and Subsidence Repair**

- to full value of the property if it is rendered totally worthless by the subsidence damage) in lieu of repair or mitigation; or,
- A request for additional time to prepare such plans; or,
 - A written statement from the structure's owner that repair or restoration of the structure is not desired or a written notice from the operator that the structure/facility owner has refused to permit access to the property or has otherwise not afforded cooperation sufficient to enable repair, restoration, or compensation measures to be implemented; or,
 - A written statement that the structures identified as damaged by subsidence are included in an operator/landowner subsidence agreement, which are the structures to be repaired or compensated per the terms of such agreement.

The company, through its liability insurance carrier or appropriate independent contractor, should provide the land/dwelling owner with an appraisal to repair or compensate for the subsidence damage. The appraisal should establish the fair market value and/or reasonable repair estimate. A copy of the appraisal should be submitted to the DMLR, if the company and complainant are unable to reach a settlement agreement.

III. Replacement/Repair Agreements

If a company and owner of an affected water supply/structure enter into an agreement to resolve the situation, a statement that a settlement agreement has been reached, with confirmation of the citizen's acceptance, may be submitted to the DMLR. As long as the owner of the water supply/structure is satisfied with the agreement, the agency does not need to know the specific terms of the agreement. In the event the parties are unable to reach an agreement, the DMLR would need to know what remedial action was attempted or whether an offer was tendered to the property owner to correct and/or compensate for the problem.

The Inspector and appropriate DMLR technical staff will attempt to assist the citizen and company in their efforts to reach an agreement that is reasonable and in accordance with the regulations. However, the DMLR will not mediate or arbitrate the dispute between the parties. If the parties cannot agree on the compensation of damages, the matter may be resolved through civil litigation. The water replacement or subsidence notice may be placed in a pending status until the matter is finally resolved between the parties.

The DMLR may require the company to comply with certain temporary measures until an agreement is reached or the DMLR determines that the company has met its obligations under the regulations and approved permit.

Water Replacement or Subsidence Repair Order:

The Inspector will terminate the order when the company and citizen are able to reach an agreement on the replacement/repair or on compensation for the:

- diminution/loss/contamination of the eligible water supply.

Division of Mined Land Reclamation
A Guide to Water Replacement and Subsidence Repair

- damage to the structure(s) attributed to subsidence from the underground mining operation (conducted after October 24, 1992).

However, if the **parties are unable to reach an agreement** on replacement of the water supply or repair of the alleged subsidence damage, the agency must determine whether the water replacement or subsidence order should be kept open, deemed complied with, or if further enforcement action should be taken.

Compensation Offers

Should the parties be unable to reach an agreement, the company should construct an offer that complies with the “*Replacement of water supply*” definition (found at 4 VAC 25-130.700.5); or the regulatory requirements for subsidence related damage (under 4 VAC 25-130-817.121(c)).

A subsidence compensation offer should compensate the owner of the structure for the full amount of decrease in fair market value of the property, resulting from the subsidence-related damage.

The company’s offer to replace the **water supply** or compensate the complainant:

- Could guarantee payment or compliance over a period of time (i.e., twenty years, thirty years or another appropriate term).
- May be an annuity that pays monthly payments, as well as any one-time capital costs (such as, but not limited to well drilling, public water hookups, one-time pump replacement, etc.).
- Should allow for inflation.
- Should include documentation that the projected costs are verified by an independent party. (Examples - a local Public Service Authority could provide monthly water usage costs and hookup charges; an electric utility company could provide electric usage rates; and a contractor could provide cost estimates on well drilling and construction.)
- May be a lump sum option (However, it should be noted that water replacement may not be a discounted present worth offer³.)

³ 4 VAC 25-130-700.5 Definitions : “*Replacement of water supply*” includes provision of an equivalent water delivery system and payment of operation and maintenance costs in excess of customary and reasonable delivery costs for premining water supplies.

(a) Upon agreement by the permittee and the water supply owner, the obligation to pay such operation and maintenance costs may be satisfied by a one-time payment in an amount which covers the present worth of the increased annual operation and maintenance costs for a period agreed to by the permittee and the water supply owner.

Division of Mined Land Reclamation
A Guide to Water Replacement and Subsidence Repair

Payment should be in the form of an annuity to be paid by a financial institution, or an insurance policy that has the appropriate payout provisions. (DMLR may consider other payout options proposed by the company.)

DMLR will review the company's offer to ensure it meets the requirements of the water replacement or subsidence repair regulations. Once the offer meets the regulatory requirements (costs are verifiable and the offer has guaranteed payment provisions), the DMLR would notify the citizen (by follow-up complaint investigation report) that the offer would satisfy the water replacement or subsidence order. The Inspector would:

- Deem the order complied with.
- Provide the complainant with a copy of the DMLR's conclusion.
- Inform the complainant of the right to request administrative review of the DMLR's decision under 4 VAC 25-130-842.15 of the regulations.