	OFFICE OF DRINKING WATER AND MUNICIPAL ASSISTANCE POLICY AND PROCEDURE		DEPARTMENT OF ENVIRONMENTAL QUALITY
Original Effective Date: April 26, 1996	Subject: Drawdown Seals in Water Wells		Category:
Revised Date:	Program Name: Well Construction Program		<input type="checkbox"/> Internal/Administrative <input type="checkbox"/> External/Non-Interpretive <input checked="" type="checkbox"/> External/Interpretive
Reformatted Date: April 1, 2015	Number: ODWMA-368-127-002	Page: 1 of 3	Type: <input type="checkbox"/> Policy <input type="checkbox"/> Procedure <input checked="" type="checkbox"/> Policy and Procedure

A Department of Environmental Quality (DEQ) Policy and Procedure cannot establish regulatory requirements for parties outside of the DEQ. This document provides direction to DEQ staff regarding the implementation of rules and laws administered by the DEQ. It is merely explanatory; does not affect the rights of, or procedures and practices available to, the public; and does not have the force and effect of law.

ISSUE:

Drawdown seals are mechanical devices occasionally installed in water wells. They seal between the submersible pump drop pipe and the well casing and are designed to control lowering of the static water level within the well casing during pumping. When the pump is running, a low pressure or vacuum is created below the seal. They are also marketed as pollution barriers; to eliminate aeration and control iron precipitation; to increase well efficiency and yield; to protect submersible pumps from running dry; and to center the pump.

R 325.1632(4) of the Groundwater Quality Control Rules, promulgated pursuant to Part 127, Water Supply and Sewer Systems, of the Public Health Code, 1978 PA 368, as amended (Act 368), states that the top 25 feet of a well casing shall not be used as a suction line unless the well casing is protected by a standard weight or heavier outer casing. R 325.1657 requires that casing vents be provided. By creating a vacuum in the casing, the use of drawdown seals will result in violation of R 325.1632(4) and R 325.1657, in some cases.

This policy and procedure replaces Policy and Procedure No. 1996-3, dated April 26, 1996, established by the former DEQ, Drinking Water and Radiological Protection Division.

AUTHORITY:

Groundwater Quality Control Rules (Part 127 of Act 368)

STAKEHOLDER INVOLVEMENT:

The Ground Water Advisory Committee (GWAC) requested a policy be developed as a result of concerns raised by contractors. A draft was prepared and available for comment in late 1995/early 1996. The GWAC was in support of this policy and procedure, which was developed and implemented by the DEQ.

POLICY:

1. Drawdown seals are generally unnecessary in water wells where an adequate aquifer exists and proper well installation practices have been used.

OFFICE OF DRINKING WATER AND MUNICIPAL ASSISTANCE
POLICY AND PROCEDURE

Number: ODWMA-368-127-002

Subject: Drawdown Seals in Water Wells

Page 2 of 3

2. Drawdown seals should be installed to address specific known conditions only. Well drilling contractors and pump installers should not install them on a routine basis.
3. Drawdown seals should not be installed on new wells to compensate for:
 - (a) inadequate well depth,
 - (b) insufficient aquifer penetration,
 - (c) insufficient water submergence due to drilling rig depth limitations, or
 - (d) ineffective well screen development practices.

Where these conditions exist, appropriate steps should be taken to correct the cause of the problem.

4. Where a drawdown seal is deemed necessary and appropriate, it should be installed directly above the submersible pump, and shall not be within the upper 25 feet of well casing (except as noted below). Reference: Rule 132(4).
5. Single or multiple drawdown seals may be installed within 25 feet of the ground surface, if used to stop or control the discharge within a flowing artesian well.
6. Bentonite grout or other sealing materials should not be placed on top of a drawdown seal. These materials can make submersible pump removal difficult or impossible. Wells have become unrepairable because of bentonite being placed above drawdown seals.
7. The installation of a drawdown seal must be noted on the Water Well and Pump Record and the reason for its use should be stated. Reference: Rule 175.

PROCEDURES:

Step	Who	Does What
1	Registered Water Well Drilling Contractor	Installs or supervises the installation of drawdown seals where necessary as described in this policy and procedure.
2	Registered Water Well Drilling Contractor	Reports the installation of drawdown seals on the well record.
3	DEQ-Office of Drinking Water and Municipal Assistance Staff	Provides training for individuals who are taking the water well driller's registration exam that defines the issues described in this policy and procedure.
4	Local Health Department Staff	Ensures that the well construction and the Water Well and Pump Records are in compliance with Part 127.

OFFICE OF DRINKING WATER AND MUNICIPAL ASSISTANCE
POLICY AND PROCEDURE

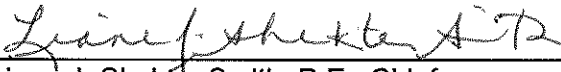
Number: ODWMA-368-127-002

Subject: Drawdown Seals in Water Wells

Page 3 of 3

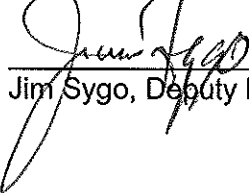
Compliance with Part 127 shall be based on the statute and rules promulgated under Part 127. Nothing in this policy and procedure shall be used in an enforcement action brought against a Registered Water Well Drilling Contractor or Pump Installer. This policy and procedure shall expire on December 31, 2016, unless superseded before that date.

OFFICE CHIEF APPROVAL:



Liane J. Shekter Smith, P.E., Chief
Office of Drinking Water and Municipal Assistance

DEPUTY DIRECTOR APPROVAL:



Jim Sygo, Deputy Director