ADEQ
Arizona Department of Environmental Quality

BACKFLOW & CROSS CONNECTION PDH WORKBOOK

Completion of this workbook will count for 1 PDH

Arizona Department of Environmental Quality
Drinking Water Section-Programs Unit
Operator Certification Program
1110 West Washington Street
Phoenix, AZ 85007
www.azdeq.gov

NAME

OPCERT NUMBER OP0

DATE

DIRECTIONS

Answer the questions in the space provided with concise and accurate answers. Mail the completed booklet along with your renewal form at the time of renewal to the address provided. It is recommended that you keep a copy of the completed booklet for your records. Completion of this workbook will earn the operator one (1) PDH. Please print clearly. Workbooks that are illegible will not receive PDHs.

PDH means professional development hour.

A professional development hour is equal to one contact hour of continuing education. A total of 30 professional development hours are required for each 3-year renewal period regardless of the number of certificates that are held by an individual operator. Ten of the thirty PDHs must be directly related to an operator's job.

The type of PDH acceptable to the Department for certificate renewal include, but are not limited to: an approved college course, a course offered by a Certified Environmental Trainer, regulatory and tribal agency training, certain types of in-house training, technical conferences, correspondence courses, and manufacturer product training. An accredited college course is usually recorded in credit hours. In general, 1 college credit hour = 10 PDHs. If an operator has a question about a specific type of training, please contact the Operator Certification Program for approval before attending the training.

FOR MORE INFORMATION, CONTACT:

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1. Define the following terms and give examples:

A. Backflow

B. Cross-Connection

C. Backsiphonage

D. Backpressure

2. Describe the backflow assemblies below and give examples of when/how they would be used and installed.

A. Reduced Pressure Principal Backflow Preventer

B. Air Gap

C. Double Check Valve

D. Vacuum Breaker

3. What Title, Chapter and Section of the Arizona Administrative Code defines the general requirements for backflow prevention?

4. How many test cocks must an approved double check valve assembly have?

5. What is the pressure at the base of a 100 foot high standpipe filled with water?

A. 0.433 psi
B. 2.13 psi
C. 14.7 psi
D. 43.3 psi

6. List six waterborne diseases that are know to have occurred as a result of a cross-connection.

7. A public water system shall maintain records of backflow prevention assembly installations and tests performed on backflow prevention assemblies. What 5 things must be recorded for each assembly? How long do these records need to be kept by the public water system?

8. In Arizona the minimum level of backflow protection that is provided to protect the public water system shall be the level recommended in Section 7.2 of what Manual?

9. What is potentially dangerous about an unprotected sill cock?

10. What is the benefit of a strainer preceding a backflow preventer?

11. Describe the backsiphonage case that happened in 1991 with 2-4-D.

12. What is the difference between pollution and contamination of a water supply?

13. A column of water exerts pressure at the bottom of a column due to?

A. Atmospheric pressure
B. Temperature of the water
C. Weight of the water
D. Minerals in the water

14. Who is responsible for ensuring that contamination of the water supply because of a cross connection does not happen?

A. The Arizona Department of Environmental Quality
B. The water system owner
C. The U.S. Environmental Protection Agency
D. The Arizona Department of Health Services

15. How must a pressure vacuum breaker assembly be installed?

A. It must be at least 12 inches above the lowest downstream outlet
B. It must be 6 inches above the downstream outlet
C. It must be at least 12 inches above the highest downstream outlet
D. It must be installed as a barometric loop

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For additional training/PHDs click on the link below. This course provides 16 hours of PDH-approved training for drinking-water operators in the State of Arizona. These are available as individual lessons for credit or as a whole course.

http://www.waterhelp.org/index.php/client/arizona

SAVE