Tri-State Utility, Inc 2580 State Highway 165, Branson, Missouri 65616 Phone 417-334-4189, Fax 417-336-6502

May 31, 2006

Colleen M. Dale, Secretary to the Commission Missouri Public Service Commission P.O. Box 360 Jefferson City, Missouri 65102

FILED JUN 0 1 2000

Missouri Public Service Commission

RE: Commission's Order in Case No. WA-2006-0241

Dear Commissioners,

Attached please find our completed revised tariff sheets which will comply with the Commission's Order in Case No. WA-2006-0241, whereas the Commission approved this Company to enlarge its service area on our certificate of convenience.

Also attached is copy of the Company's initial policy implementing the Cross Connection Control Program as was implemented in May 2006 under the direction and supervision of both the Commission and the Missouri Department of Natural Resources.

Should further be required, please contact our offices at the above listed address.

Respectfully,

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nold Harold I. Epps. Owner

ENCL:

CC: PSC WA-2006-0241 Tariff file.

	P.S.C. MO No11	stRevised	Sheet No. 3
Canceling	P.S.C. MO No1	Revised	Sheet No. 3

Name of Utility: Tri-State Utility, Inc

Service Area: Taney County, MO



	Canceling	P.S.C. MO No1 P.S.C. MO No1	1stRevised Revised	Sheet No. 4 Sheet No. 4
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ED BY Hunder Endy President	2580 State Highway	165, Branson, MO 65616
name of officer	title	address



Canceling

P.S.C. MO No. <u>1</u> 1st Revised P.S.C. MO No. <u>1</u> Original Sheet No. 4 Sheet No. 4

Name of Utility: Tri-State Utility, Inc.

Service Area: Taney County, MO

Water S	ervice
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ATE OF ISSUE Jul 25, 2004	DATE EFFECTIVE July 25, 2004
SUED BY Harold Epps President	2580 State Highway 165 Branson, MO 65616

Backflow Prevention Program Operations and Procedures Manual

March 2006

Tri-State Utility, Inc

2580 State Highway 165, Branson, Missouri 65616 Phone 417-334-4189, Fax 417-336-6502

1) GENERAL GUIDELINES

- A) Guidelines for Company Employees and customers concerning, Cross Connection (Backflow) Control Program. Herein referenced the word Company will directly refer to Tri-State Utility, Inc. The initials DNR will directly refer to Department of Natural Resources. DNR regulations regarding backflow prevention, found in 10 CSR 60-11.010, are referred to herein as the Backflow Rules.
- B) Tri-State Utility, Inc holds the right to refuse or disconnect water service at any time to protect the system it owns and services, and to meet the requirements of the Backflow Rules. It also reserves the right to supersede any part of the Backflow Rules with its own policy to further protect and safeguard its responsibilities as set forth under the Backflow Rules.
- C) Compliance with the Company's backflow prevention rules and policies may not protect an individual customer from backflow hazards within the premises, and additional internal backflow protection may be desirable. The Company assumes no liability from any such backflow within a customer's own premises.

2) NEW SERVICES: CLASS 1 OR CLASS II DEVICES REQUIRED

- A) The Company requires the installation of a State approved backflow prevention device on all service lines to commercial buildings or facilities with an actual or potential backflow hazard as outlined in the Backflow Rules, and on residential service lines with an identifiable backflow hazard including permanently installed lawn sprinkler systems.
- B) The Company has specifically determined that restaurant activity constitutes a Class I hazard under number 12 in the above mentioned list of 23.
- C) Designation of buildings or facilities as commercial is determined by the category assigned on the original building permit issued City of Branson and or Taney County building departments respectfully.
- D) The customer will advise the Company on the application for service as to whether the service is to be considered commercial or residential, and if commercial, the nature of the use of water service. Company criteria regarding residential vs commercial may differ from County Codes in certain cases such as 4-plex type apartment buildings and multiunit dwellings Condominiums
- E) Where the customer is identified as an actual or potential Class I backflow hazard, an approved air gap separation or Reduced Pressure Zone (RPZ) type backflow prevention device will be required For a device to be state approved, it must appear on the list of state approved devices issued at regular intervals by the Missouri Department of Natural Resources (DNR). RPZ devices shall be installed on the domestic service line inside the building wall, where the customer service line enters the building and before any branch.
- F) Where the customer is identified as an actual or potential Class II backflow hazard, an approved double check valve type backflow prevention device will be required For a device to be state approved, it must appear on the list of state approved devices issued at regular intervals by the Missouri Department of Natural Resources (DNR).

Double check valve devices shall be installed on the domestic service line either outdoor in a pit, or inside the wall of the building where the customer service line enters the building, and before any branch.

- G) Any deviations from this must be approved in advance by the Company and/or DNR. If the RPZ device is installed outside of a building, it must be after the meter, must never be installed in a pit or vault, and must be protected from freezing.
- H) All backflow prevention devices must be accessible for inspection and testing. Additional installation criteria are described later in this document.

3) NEW COMMERCIAL FIRE LINES: CLASS I OR CLASS II DEVICES REQUIRED

- A) A State approved air gap separation or RPZ backflow prevention device is required on all new fire service lines including combination fire/domestic service lines using chemical additives. New fire protection lines not using chemical additives must have a State approved Class II double check valve assembly installed on the service line. In no case shall an RPZ be installed upstream from a fire pump.
- B) The Company shall require meters capable of registering full fire flow on combination lines that serve private hydrants or building sprinkler systems in addition to the domestic service. If no chemical additives are used, the fire flow meter must be installed in a pit just inside the property line with the double-check assembly installed in a separate pit immediately after the meter pit. If chemical additives to the fire line are used, there must be an RPZ inside the building.
- C) For dedicated service lines for private fire protection, where no chemical additives are used, the Company shall require a detector-check device, incorporating a meter to register low water flow and a double check valve type backflow prevention device, and which allows full free fire flow.

4) LAWN IRRIGATION SYSTEMS: CLASS 1 OR CLASS II DEVICES REQUIRED.

- A) Lawn irrigation systems with facilities for introduction of chemical additives or with equipment creating back pressure will require the installation of an approved air gap separation or an approved RPZ (Class 1 Device).
- B) Lawn irrigation systems without facilities for introduction of chemical additives and without provisions for creating back pressure will require the installation of an approved double-check valve (Class II) assembly,

TRI-STATE UTILITY INC., REQUIRES A CLASS 1 DEVICES ON ALL IRRIGATION SYSTEMS THAT ARE BUILT IN SYSTEMS, DUE TO THE CONDITON OF POOLING.

Example of Pooling: Your neighbor has chemical injections in his irrigations, you spray your yard with chemicals, it rains, puddles, pools form in low laying spots in your yard, you turn on your irrigation system, when it shuts off, then it back espionages all the chemical that leached into your yard from your neighbor or what was sprayed by you on the lawn. Therefore when it gets sucked back in, it can go backwards through the meter into the potable water supply.

5) EXISTING SERVICES WITHOUT BACKFLOW PREVENTION

- A) The Company will send out letters to any existing customers found without backflow prevention but meeting the Company's definition of being either a Class I or Class II backflow hazard, as defined and described in the Backflow Rules, informing the individuals or corporations that they must install a State approved backflow prevention device.
- B) The Company will identify and address commercial customer domestic-use service line backflow hazards during April 2006. Private fire protection service lines will be addressed by May 2006. All other existing customers with backflow hazards will be addressed as they are identified.
- C) In the case of existing fire lines, before a Modification permit is issued for the installation of a Class I or Class II backflow prevention device, the customer must obtain a written release from the local Fire Department Agency, to assure that the requirements and potential effects of pressure loss on the fire protection system caused by the installation of a double-check valve are not in direct conflict with the National Fire Safety Code for which it enforces. The customer will be responsible for any upgrades that may be necessary to meet fire flow requirements with the appropriate backflow prevention device installed.
- D) In every case, installation of a backflow prevention device on an existing service requires the use of a Modification Permit. Such work must be performed under a permit issued by the Company to a licensed master plumber, and subject to inspection by the Company. Proposed installations shall meet the same requirements for location as for new service to the extent practical.
- E) A letter from the Company will also be attached to the Modification Permit, informing the plumbers of their responsibilities to comply with applicable requirements governing customers' internal plumbing. At the end of each month, Modification Permits issued for retrofit of existing services for backflow prevention will be reviewed for compliance and inspection documentation.
- F) The Company will keep track of the letters being sent and follow up to make sure that the requirements for installation of backflow prevention devices are satisfied. Customers required to install a backflow prevention device shall be given sixty days (60 days) to obtain a Modification Permit and install a backflow device that meets all requirements.

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- G) Failure to comply with the requirements to install a backflow prevention device after written notice has been given, except in cases of unusual circumstances deemed legitimate by the Company, the customer will be subject to discontinuance of water service. Discontinuance of service will follow the Company's PSC Tariff Rule No. 7.
- H)

6) EXISTING COMMERCIAL DOMESTIC SERVICES WITH INTERNAL CONNECTIONS TO BOILERS, LAWN IRRIGATION SYSTEMS AND ANTI-FREEZE LOOPS ON FIRE SPRINKLERS : (Class I device required)

- A) Existing commercial domestic service lines to buildings which contain boilers and/or internal connections to lawn irrigation systems and anti-freeze loops on fire lines will be treated differently from other cases, if such a connection is the only hazard on the premises.
- B) While these cases are still to be treated as high hazard cross connections to the public water supply, the Company will waive the requirement for an RPZ on the service line immediately upon entering the building if the customer agrees to install an RPZ on the internal line to the boiler, lawn irrigation system or anti-freeze loop itself, as an isolation device, and consider it as a containment device for purposes of protecting the public water supply. The requirements to obtain a modification permit and inspection still apply.
- C) If there are other factors which constitute a hazard, example; chillers or post mix machines, then the Company will require an RPZ device on the service line where it enters the building and after the meter.

7) EXEMPTIONS FOR EXISTING SERVICES

- A) If the Company determines that a customer is an actual or potential backflow hazard, but the customer objects to being classified as hazard, the customer may request that an inspection be performed by the Company to determine whether the particular location actually constitutes an actual or potential hazard. If, by inspection, the Company determines that no hazard exists, the property owner or the legal representative of the property owner will then be required to send a letter to the Company requesting an exemption. The letter must state that the particular address in question has been inspected by a Company representative and is not a hazard at this time. The customer must also state in the letter that the customer agrees to report to the Company any proposed change in process, plumbing or materials used or stored at the exempted facility at least fourteen days prior to making the change. The exemption will be valid for a maximum of three years.
- B) The Company will keep track of exemptions through a computerized database, and will require a new request for exemption when the three year period has expired. If the Company discovers that any change has occurred that could impact the level of hazard before the three year period has expired, the exemption shall become void and the Company shall require the installation of the proper backflow prevention device, unless upon re-inspection the Company can determine that a hazard in fact still does not exist.

8) COMPANY INSPECTIONS OF INSTALLATION OF BACKFLOW DEVICES

- A) Inspection of new service lines shall include checking for the necessity of and proper installation of approved backflow prevention devices. Determination of which type of device is required will be made during the permit process whenever possible. If the Company inspector in the field determines that the location, size, or type of device specified on the original permit is not correct, then the Company shall immediately review the situation and make a determination regarding what will be required.
- B) Plumbers must take out a Modification permit before the installation of a backflow device on an existing service. When the work is completed, the plumber is responsible to call the Company and request an inspection, and specify the types and sizes, locations, and the number of devices to be inspected.
- C) The Company will make its best effort to perform the inspection on the day requested, or the next business day.
- D) The Company inspector will check to see if the service line involved has a bypass and make sure that this information is noted on the inspection, for future reference.
- E) The following is a list of conditions and location detail that will be checked when performing one of these inspections. This may also be used as a reference by Company desk employees when answering questions received on the phone from plumbers and the public. The list is not all inclusive.
 - 1) Record the brand, model and serial number of the device on the inspection certificate, and that the information in the field matches the information submitted on the Test Certificate submitted by the plumber. (Attached - Page 30)
 - 2) Orientation of backflow device proper inlet-outlet connections, and backflow devices must be installed in a horizontal position. Vertical installation is not allowed except for very rare exceptions, and with prior approval (Ref 2 F and G)
 - 3) Check for general location of backflow device (Ref 2F, 2G, 3A, 3B, 6).
 - 4) Adequate accessibility for maintenance and testing

- 5) Pressure differential relief port no additional piping affixed to the pressure differential relief valve port, except for specifically-designed and properly installed funnel apparatus available from the manufacturer. The relief port may not be plugged, nor may the air gap to any approved funnel apparatus as described above be defeated.
- 6) Any Class I backflow device must be part of an assembly that includes two tightly closing resilient-seated shutoff valves, and fittings with properly located resilient-seated test cocks. Any existing valves in the meter setting shall not be counted as a valve on the backflow device assembly.
- 7) The backflow device must NEVER be bolted flange to flange to a Company-owned water meter.

- 8) Any bypass that goes around a backflow device must have an identical type of backflow prevention device installed on it, conforming to the diameter of the bypass line.
- 9) The existing meter setting must not be altered to accommodate the backflow device in such a way as to render the meter setting in violation of Company rules and regulations. Some examples:
 - (a) Existing bypasses must not be removed.
 - (b) Existing flexible coupling (Smith-Blair) must not be removed.
 - (c) Existing inlet and outlet valves that are part of the original meter set must not be removed.
 - (d) Strainer for turbine meter setting must not be removed or moved.
- F) This list does not include all eventualities that may be encountered. Please refer to your Rules and Regulations when in doubt.

9) TESTING OF BACKFLOW PREVENTION DEVICES

- A) All backflow prevention devices shall be tested by a Backflow Prevention Assembly Tester, who is certified by DNR, upon initial installation. Upon finalizing the inspection process, the Company shall then establish an anniversary date for each device installed by a customer based on the initial test date, or in some cases based on a subsequent test date.
- B) Customers will be required to have a test performed by a certified tester annually, within thirty (30) days of the established anniversary date.
- C) Test reports will be provided by the certified tester to the customer, the Company, and if required or requested to DNR and local authorities, within 30 days after the test date.
- D) The Company will maintain a record of all tests for at least five (5) years, and will send courtesy reminders to customers thirty (30) days prior to the established anniversary date for each device.
- E) Failure to have tests timely performed within 30 days of the anniversary date, and have test reports properly and timely submitted, may result in disconnection of water service.
- F) If a malfunction of any backflow prevention device is discovered, the Customer shall take steps to repair or replace the assembly as soon as possible. The Company reserves the right to immediately disconnect a customer if an actual backflow and health hazard is occurring or is imminent.

Tri-State Utility, Inc

2580 State Highway 165, Branson, Missouri 65616 Phone 417-334-4189, Fax 417-336-6502

(Initial Notification Letter)

Date:		
Customer Name:	Account #:	
Mailing Address:		
Service Address:	Meter #:	
User Type:	Hazard Code:	
Dear Customer.		

Tri-State Utility, Inc is dedicated to helping its customers realize optimum valve from its water service. Tri-State Utility, Inc has developed and has implemented a cross-connection control program in order to comply with the Missouri Department of Natural Resources regulation governing the installation and testing of "backflow preventers" established January 12, 1997, (Missouri Code of State Regulations 10 SCR60-11 .010, et seq.)

As part of our efforts to keep your drinking water safe. This policy considers some of our customers' activities within their premises, or their plumbing systems, starting from the termination of the service pipe, downstream of the water meter, to pose a potential cross-connection hazard to the public water system. Our policy requires a backflow prevention assembly, commensurate with a degree of hazard, to be installed on the service line. The purpose of this backflow prevention assembly is to isolate your plumbing system from the water distribution system.

Based on our assessment of your service address, it has been determined that a cross-control, backflow assembly is required to be installed on your side of the meter to comply with the above state regulation. Therefore, as the customer, you will be required to make arrangements for the assembly to be installed:

1. Contract at your expense, a licensed plumber to install a cross-control, back-flow device on you the customer's service line.

2. The Contracted plumber will make application for a Modification Permit at the Tri-State Utility, Inc. offices, before work is to commence.

3. The Contracted Plumber can contact the Missouri Department of Natural Resource at 573-526-6925 or 573-751-4594 the Company's office, to obtain a list of approved backflow prevention devices that can be installed, as well as a list of certified backflow prevention device testers.

4. The Contracted Plumber will need to notify Tri-State Utility, Inc 24 - 48 hours in advance of installation and inspection, so that a Tri-State Utility, Inc representative can be present during the certification test if possible. In the event a Tri-State Utility, Inc inspector can not be present, the state certified tester will attach a copy of his inspection report to the device itself and a copy will be given to the property owner.

5. If Tri State cannot be present while the test takes place, the Contracted Plumber will then need to contact the office of Tri-State Utility, Inc to re-schedule the inspection by Tri-State Utility, Inc. (If the licensed inspectors report has been removed from the device, it will be rejected from acceptance DO NOT REMOVE IT).

6. Once all installations and acceptances have been completed, all documents and records will be maintained at the office of Tri-State Utility, Inc. for annual notifications and testing requirement that must be performed under this policy. Failure to comply with the annual assembly testing requirement will trigger an enforcement action by Tri State Utility, Inc. Enforcement could include a shut-off of your water service.

7. The customer is further required to notify the offices of Tri-State Utility, Inc when any modifications to any plumbing.

8. Installation and certified inspection must be competed by_____.

Note: Customers and regulatory agencies should be aware that Tri-State Utility, Inc requirement for this cross connection, back-flow prevention assembly on a service line does not constitute an approval of the customer's plumbing system; compliance of the customer's plumbing system with the Uniform Plumbing Code or an assurance of the absence of cross connection and possible contamination within in the customer's premises.

Tri-State Utility, Inc realizes that this expense was not anticipated, so if you are unable to comply with this deadline, please contact us to discuss an alternative date.

Should you require further information, please feel free to contact our offices.

Respectfully,

Harold I. Epps, Owner

CC : Customer Account file

FREQUENTLY ASKED QUESTIONS (Attach to customer letter)

When did the law go into effect?

There is a Missouri state regulation that went into effect in December, 1987. This state regulation has been formally placed in effect by the Water Department / Company in March 2006, per our annual review with the Missouri Department Natural Resources.

Who can install these devices?

A licensed master plumber must install the device. A Modification Permit must be taken out by the licensed plumber for installation on an existing service. An inspection of the installation is required as part of the permit process. This inspection performed by the Water Department is separate from the testing and certification performed by state certified testers as described in the next question.

Who can test these devices?

The device must be tested by a certified tester. A certified tester is one who has been certified by the Missouri Department of Natural Resources (DNR). The plumber who installed the device may or may not also be a certified tester.

A list of state certified testers can be obtained from the Missouri Department of Natural Resources. The telephone number for DNR is (573)751-4594 or 573-526-6925.

Which brand and model backflow prevention devices can be installed?

The Missouri Department of Natural Resources (DNR) publishes a list of "Approved Backflow Prevention Assemblies" quarterly. Any device which is included on the latest list is an approved device. Any device which is not on the latest list is not an approved device and may not be installed in Water Department / Company system.

To be included on the DNR list of approved devices, the device must have USC certification. Devices that have received certification from other bodies such as A.S.S.E. can not be used in Water Department / Company unless they have also been certified by USC and appear on the latest list published by DNR.

The notification letter mentioned installation requirements. What are they?

There are specific installation requirements all licensed plumber will be aware of these, and the Water Department will be glad to find out the exact requirement for you.

The following list is not all inclusive, but covers most of the important requirements.

- 1. The device should be installed on the service line, after the meter, on the line immediately after it enters the building. In all cases it must be installed before the first branch in the line. Any deviations from this must be approved in advance by the Department.
- 2. Reduced Pressure Zone (RPZ) devices must never be installed in a pit or vault. If the pressure differential relief port should stick open, the device itself can become an unprotected cross connection.

If an RPZ is installed outside (which requires prior approval as described in #1 above), it must be protected from freezing.

- 3. RPZ's must never be installed upstream from a fire pump.
- 4. All backflow devices, whether double-check or RPZ, must be installed in a horizontal position. Vertical installation is specifically forbidden by our policy, notwithstanding any manufacturer's claims or warranties.
- 5. The device must be installed in a location and in a manner in which the brand, model & serial number are readily accessible for recording by state certified testers and which allows for easy access for maintenance and testing.
- 6. RPZ's must be installed at least 12 inches above floor level. If the RPZ is in a basement, there should be adequate drainage to prevent the device from being submerged in the case of full venting from the pressure differential relief port. The RPZ should be installed in a location where leakage from the pressure differential relief port will be noticed. This precludes installations behind walls, above false ceilings etc.

Because of the possibility of occasional venting, the RPZ should not be installed too close to electrical circuit breaker boxes or any other location where the vented water might cause damage or become a hazard.

- 7. Our Water Department requires that any backflow device must be part of an assembly that includes two tightly closing resilient-seated shutoff valves and fittings with properly located resilient-seated test cocks. In other words, the device must include its own inlet and outlet valves. Any existing valves in the meter setting must not be counted as a valve in the backflow device assembly.
- 8. The Backflow device must NEVER be bolted flange to flange to our water meter.
- 9. Any bypass that goes around a backflow device must have an identical type of backflow prevention device installed on it, conforming to the diameter of the bypass line.

- 10. The existing meter setting must not be altered to accommodate the backflow device in such a way as to render the meter setting in violation of our rules and regulations. Some examples:
- a. Existing bypasses must not be removed.
- b. Existing flexible coupling (Smith-Blair) must not be removed.
- c. Existing inlet and outlet valves that are part of the original meter set should not be removed.
- d. Strainer for turbine meter setting must not be removed or moved.

My letter refers to possible problems with thermal expansion and pressure loss. What does that mean?

Thermal expansion typically occurs when water is heated by a hot water heater or other device. The water expands from the heat and sometimes overcomes the normal pressure in the line and backs out through the service line into the public water supply.

When a backflow device is installed on the service line, the expanding heated water has nowhere to go and may rupture the plumbing in the building.

Therefore it is often wise to install a thermal expansion tank on the interior plumbing system to accommodate this expansion. All backflow devices introduce a certain amount of head loss (pressure loss) when installed. The effects of pressure loss should be discussed by the customer with the plumber performing the installation. The potential effects of head loss may have an effect on which brand and model of device are chosen for any particular installation.

I received a letter telling me that I must install a backflow prevention device, but I only have a restroom with a sink and toilet, why must I install this device that is supposed to protect against contamination?

If the customer believes that there is no hazard present in their building which would require backflow protection, they may request an inspection for exemption from the requirement. We will send an inspector or supervisor to their premises to conduct a cross connection investigation.

If no hazard is found, the owner of the building or the owner's attorney must send a letter to the Water Department reporting the results of the investigation and requesting an exemption. If the Water Department agrees that there is no hazard, then the owner will be granted an exemption that is good for three years. If conditions within the building change so that the level of hazard increases before the 3 year exemption has expired, then it is the duty of the owner to notify the Department of the change and install a backflow prevention device.

If the Department becomes aware of a change in the level of hazard before the 3 year exemption has expired, the exemption will be cancelled and the owner will be required to install the proper backflow prevention device. In any case, after the 3 year exemption has expired, the owner will be required to submit to another cross connection investigation and the process starts over again.

I received a letter stating that I must install a device on my domestic service line(s). I also have a fire protection line coming into my building. Must I also install a device on the fire protection line?

The Water Department requires a retrofit of existing fire protection lines under the same notification guidelines any other system or hazard threat listed. If the customer volunteers to install a device on their fire protection line(s), we encourage them to do so.

However, because of potential head loss already discussed, no water Modification permit will be issued without a release from the local Fire Department of Jurisdiction assuring that the fire protection system will operate properly regardless of the head loss introduced by the backflow device.

Tri-State Utility, Inc 2580 State Highway 165, Branson, Missouri 65616 Phone 417-334-4189, Fax 417-336-6502

(Letter of Termination for Non-Compliance)

Date:	
Customer Name:	Account #:
Mailing Address:	
Service Address:	Meter #:
User Type:	Hazard Code:

Dear Customer,

This is to advise that this Company has no record or documents of proof that a cross-control, backflow assembly as required on your side of the meter to comply with state regulations has been installed per our letter of: ______.

Therefore, if you do not contact this Company by _____, water service will be TERMINATED.

Once water service is terminated, the customer must then make all arraignments to have the cross-control back flow assembly installed by a contracted plumber of your choice and expense.

The Contracted plumber will make application for a Modification Permit at the offices of Tri-State Utility, Inc., before work is to commence.

The Contracted Plumber can contact the Missouri Department of Natural Resource at 573-526-6925 or 573-751-4594, or the Company's office, to obtain a list of approved backflow prevention devices that can be installed, as well as a list of certified backflow prevention device testers.

The Contracted Plumber will need to notify Tri-State Utility, Inc 24 - 48 hours in advance of installation and inspection, so that a Tri-State Utility, Inc representative can be present during the certification test if possible. In the event a Tri-State Utility, Inc inspector can not be present, the state certified tester will attach a copy of his inspection report to the device itself and a copy will be given to the property owner.

Once installed and inspected, a \$15.00 reconnect charge will be required.

Respectfully,

Tri-State Utility, Inc

CC: Customer Service Address File.

Internal Documents – Training Tools

DEFINITIONS OF BACKFLOW/CROSS CONNECTION TERMS

Cross Connection: A direct arrangement of a piping line which allows the potable water supply to be connected to a line which contains a contaminant. An example is the common garden hose attached to a sill cock with the end of the hose lying in a cesspool. Other examples are a garden hose attached to a service sink with the end of the hose submerged in a tub full of detergent or a water supply line connected to a bottom-fed tank or a water supply line to a boiler.

Backflow: The reversal of the normal direction of flow in water service lines. This reversal of flow can result in contamination of the public potable water supply if there is an unprotected cross connection in a customer's internal plumbing system. There are two causes of backflow; back-siphon age and backpressure.

Back-Siphon age The reversal of normal flow in a system caused by a negative pressure (vacuum or partial vacuum) in the supply piping. Back-siphon age can be created when there is stoppage of the water supply due to nearby fire-fighting, repairs or breaks on the Water Department mains, etc. The effect is similar to sipping soda by inhaling through a straw, which induces a flow in the opposite direction.

Backpressure The reversal of normal flow in a system due to an increase in the downstream pressure which is greater than the supply pressure. Backpressure is created whenever the downstream pressure exceeds the supply pressure. This is possible in installations such as heating systems, elevated tanks, pumps which malfunction by pumping backward, etc. An example would be a hot water space heating boiler operating less than 15-20 pounds of pressure at the same time that the pressure in the Water Department main was below such pressure. As water tends to flow in the direction of least resistance, a backpressure condition would be created and the contaminated boiler water would flow into the potable water supply.

Containment Protection of the public potable water supply by installation of an air gap separation or backflow prevention device in the customer's service line which would prevent the reversal of flow from the service line into the public water supply.

Our Water Department protects the public water supply by means of containment devices.

Isolation Protection of the customer's internal plumbing system by the installation of devices to prevent backflow from potentially hazardous cross connections. However, in the case of boiler lines, anti-freeze loops on fire protection systems and internal connections to lawn irrigation systems; the Water Department will consider an isolation device to count as a containment device.

Air Gap Separation The physical separation of the public potable water supply from the customer's internal plumbing by an air space. The vertical distance between the supply pipe and the flood level rim must be at least two times the diameter of the supply pipe, but never less than 1". It is relatively easy to defeat an air gap by attaching a hose or pipe to the supply pipe.

Double-check Valve Assembly An assembly of two independently operating spring loaded check valves with tightly closing, resilient seated shutoff valves on each side of the check valve, plus properly located test cocks for the testing of each check valve.

A double-check valve assembly may be used as protection from cross connections which may be subject to back-siphon age or backpressure where there is a possibility of contamination by materials in concentrations which would constitute a nuisance or be aesthetically objectionable(cloudy, bad taste, bad odor), but which do not actually constitute a health hazard.

The Water Department allows double-check valves only on fire lines or lawn sprinkler lines where there is no anti-freeze loop or provision for chemical injection. All other installations must use RPZ's. (Class 1 Device) <u>This requires clarifications, we have set standard that Class 1</u> <u>Devices are required on all OW Built in systems regardless if chemicals are injected or not.</u> <u>Unless there is existing BFP in place at time policy was adopted in March 2006, then existing</u> <u>devices will be grandfathered, if the existing device ever fails inspection, then at that time the</u> <u>Class 1 device upgrade to RPZ will be required.</u>

RPZ (Reduced Pressure Zone) Assembly: An assembly consisting of two independently operating spring loaded check valves with a mechanically operated differential relief valve located between the two check valves, tightly closing resilient seated shutoff valves on each side of the check valve, plus properly located test cocks for the testing of the check valves and the relief valve. RPZ's should be used as protection from cross connections which may be subject to back-siphon age or backpressure, and where there is a possibility of contamination by material that constitutes an actual or potential health hazard.

The Water Department backflow prevention policy requires the installation of RPZ's in all cases except as noted above with the additional provision that no RPZ shall be installed on a fire line upstream of a fire pump. The reason for this is that if the differential relief port on an RPZ opens, there will be no pressure available to supply water to the fire protection system.

Degree of Hazard a commonly used phrase utilized in cross connection control and backflow prevention programs. It is simply a determination on whether the substance in the customer's internal plumbing system is actually or potentially high hazard meaning toxic (health hazard) or low hazard meaning non-toxic (not a health hazard). In general high hazard cross connections are protected by RPZ's and low hazard connections are protected by double-check valves.

Internal Documents – Training Tools

Procedural Flowcharts for Backflow Program:

- April 2006 Start initial mailing to notify customers of policy and program implementation and <u>60 days to comply</u>. All accounts targeted under this rule will have a May anniversary date entered on the account to generate an annual report for the mailing.
- Example April 2006 Mail first notice, 60 day to comply. (June 30 days) 2007 May report- will be the mailing list for all who have until June (30 days) Anniversary date, to get inspected to stay in compliance.

Customer that are not OW (Irrigation Accounts) will have to be searched out. Once the degree of hazard and service location has been determined. The Letter to Comply can be sent, anniversary date entered in billing software adding them to the annual report.

Anniversary Date: In Softwater this date is the date you want the customer account to come up on the mailing list notification report. The actual due date of compliance is 30 days from Softwater Anniversary Date.

- Report Date: 1 day after billing and MONTHLY CLOSING of BILLING CYCLE. Then by the next billing cycle you should have received the majority of the inspections.
 - A. SoftWater Cross-Connection Report: Report writer has the report built. The report is set up based on the anniversary date, it will run in the following order: (legal size) (all accounts, active including empty location records)
 - 1. Book number books print in numerical order
 - 2. Walk number (this changes as meters are installed-don't rely on it –use it as an aid in file sequence order only) walk sequence by way book is read during billing.
 - 3. Meter number- actual meter number assigned to location, meter are sacred to location unless changed out.
 - 4. Type user if OW appears is Irrigation meter, others will be assigned later when programming allows, and currently it will define it as a Domestic, Commercial, Residential, Irrigation, service line.
 - 5. Meter Size- actual size of meter will determine part of what has to be inspected and or installed.
 - 6. Account number is sacred to the service address
 - 7. Service Address- physical address of meter location
 - 8. Customer Name- current customer under legal obligation
 - 9. Mailing Address , City/State, Zip Code
 - 10. Date of inspection letter mailed: date mailing went out.
 - 11. Inspection due date for compliance
 - 12. Inspection report received (certified inspection & company)
 - 13. Service Terminated Termination Action will be noted in the customer account notes.

2. Set annual anniversary date for notification of customer:

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New meters-give anniversary date when meter is installed if BFP is required per use or design.

A. Customer Mailing:	Run Monthly Mailing List. Mail -Notification of inspection due. (First Letter) 30 days to comply with Tariff Rule 5 (j) and 10 SCR60- 11.010
B. Follow-up date:	After Mailing, as Modification Application are made, file copy in file, file inspection reports as received. Flag all accounts pending receipt of document.
C. 2 nd Notice:	31 days after first mailing notice, send Second notice to customer in non-compliance with set termination date for non-compliance. (Tariff Rule 5 (j) and 10 SCR60-11.010)
	This notice will conform to Tariff Rule 7, (A) 3, 4, 5, 6) Tariff Rule 7 (b) outlines under mailing by first class mail, 10 days prior to termination.
D. Terminations:	Set Termination date on the same date as Monthly Disconnect for Non-Pay list- Draft special list for Disconnection for NON-COMPLIANCE OF CROSS CONTROL CONNECTION PROGRAM.
	a. Blue Note -24 hour notes, this will be one added notice to customer to call and make arrangements to comply with (Tariff Rule 5 (j) and 10 SCR60-11.010).
	b. If customer fails to contact company within 24 hours, of Blue Note, termination will proceed for shut off for Non-Compliance under Tariff Rule 5 (j) and 10 SCR60-11.010 and this policy.
	c. Reinstatement of service: Customer must follow rules outlined in policy to make application for modification, install, inspection of device, submittal of inspection reports, pay reconnection fee as required.



Tri-State Utility, Inc

2580 State Highway 165, Branson, Missouri 65616 Phone 417-334-4189, Fax 417-336-6502

APPLICATION FOR MODIFICATION TO INSTALL BFPD

Issued Date:		Received Back in Fil	e:
Plumbing Company:		Phone:	<u> </u>
Business Address:			
Water Customer Name:	<u></u>	Contact Name:	
Mailing Address:	,		,,
Meter #: A	Account #:	Wa	lk#:
Service Address:		Type User:	
Hazard Code:			
PLUMBER/INSTALL	<u>ER TO SUPPLY FO</u>	LLOWING INFORM	IATION
New Install Repair existing	Replacement	Old Ser#	Mfg
Make of Assembly:	Model	Size:	
Serial #:	Location of Ass	embly:	

Approximate date of installation and inspection by Certified Inspector:

The Contracted Plumber can contact the Missouri Department of Natural Resource at 573-526-6925 or <u>573-751-4594</u>, or the Company's office, to obtain a list of approved backflow prevention devices that can be installed, as well as a list of certified backflow prevention device testers.

The Contracted Plumber will need to notify Tri-State Utility, Inc 24 - 48 hours in advance of installation and inspection, so that a Tri-State Utility, Inc representative can be present during the certification test if possible. In the event a Tri-State Utility, Inc inspector can not be present, the state certified tester will attach a copy of his inspection report to the device itself and a copy will be given to the property owner. If the licensed inspectors report has been removed from the device, it will be rejected from acceptance DO NOT REMOVE IT).

ORIG-PLUMBER

COPY-SERVICE ADDRESS FILE

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