

AMERICAN WATER WORKS ASSOCIATION
WEST VIRGINIA SECTION TAPPING COMPETITION
~ 2017 OFFICIAL RULES AND REGULATIONS ~

INTRODUCTION

I-1. A Tapping Team shall consist of no more than four (4) persons; three (3) workers and one (1) coach. The coach may also serve as the alternate worker whenever the Team shall deem appropriate and a new Coach appointed from the four original Team members for the next tap. No more than the three (3) workers and one (1) coach are permitted in the secured tapping area during the Team's preparation period and during the two (2) official taps. *All* persons on the team shall be AWWA members and members of the West Virginia Section of AWWA. This membership may be an individual membership, as an Active or Affiliate Member of AWWA, or team members may be regular employees of a Utility or Organization Member of AWWA. The sponsoring utility is responsible for verifying these membership requirements before entering the team in the contest.

I-2. A Utility may enter two (2) men's teams and two (2) female teams in the Preliminary Round of the Section Tapping Competition. Ladies' and Men's Teams will not be separated in conducting the Preliminaries. Additional Utility teams may enter the competitions on a space-available basis and *only* with the permission of the Tapping Contest Committee. A lottery will be held by the AWWA Tapping Committee to determine team positions.

I-3. The teams will be required to tap a water pressurized ductile iron pipe, install a corporation stop, cut and flare 3/4" copper tubing for installation of a water service line with a curb stop and connecting this line to a meter yoke.

I-4. Each team will be allowed to have two (2) Official Taps (turns), at their option, to complete the tapping event with the shortest time of the two taps to be their Official Time for the event.

I-5. A time period of 30 minutes shall be allowed for each team to complete their two (2) Official Taps.

I-6. A time period of 15 minutes shall be allowed for each team to prepare for the tapping event in a staging area (this may include a five (5) minute time period in a designated area between the staging and tapping carpet). This includes cutting copper and securing all parts and material needed to complete their two (2) Official Taps. No personnel bags will be allowed on the floor.

I-7. The team or teams with the fastest OFFICIAL TIME (fastest time of the two (2) taps plus penalty seconds assessed, if any) will be the winner of the Preliminary Tapping Round or the Final Round Tapping Competition.

I-8. The four (4) men's and two (2) women's teams from the Preliminary Tapping Contest with the fastest official times will advance to the Final Round to compete. The Preliminary times will be used only for qualifying for the Finals and to establish the starting schedule for the Finals, i.e., the slowest time of the qualifiers will be the first to tap and continuing to the team with the shortest preliminary round time, who will be who will be the final contestant to tap in the Finals. The starting times for the Finals will be assigned immediately following the conclusion of the Preliminaries.

I-9. The Annual Tapping Competition will take place in one day.

I-10. Each team may place a team banner, during their official tapping period that is not larger than four feet by six feet (4' X 6') in the area designated by the Head Judge. Placement of the banners will be reviewed at each event on a space-permitting basis. The banners will not display offensive language, slogans or graphics.

GENERAL

G-1. Pipe to be tapped shall be AWWA C151, Class 52, 6" Ductile Iron Pipe, cement lined, capped on each end, pressurized and regulated to a pressure of 40-45 psi, by a suitable connection to the water supply. The Team is responsible for insuring the water supply is turned on and the air has been bled from the Ductile Iron Pipe prior to each tap. The corporation stop shall be tapped into the pipe at approximately 45 degrees from the top of the pipe.

G-2. Pipe shall be securely fastened to support blocks at a height of 8 ½" to the bottom of the pipe above the ground or stage floor. Support blocks shall be of adequate construction so as to secure the pipe firmly in position suitable for the rough handling required.

G-3. Distance from the pipe to the meter yoke shall be approximately 10' and nearly perpendicular to the pipe as best will accommodate the use of two strain 6' lengths of copper service pipe. This meter yoke stand may be set by the team, under the supervision of the Judge(s), to any precise distance that will best accommodate their style of work. Angle meter yoke shall be approximately two (2) feet above the ground or stage floor; this includes the 1/2" plate attached to the bottom of the tripod.

G-4. Curb stop to be located approximately half way between the pipe and the meter yoke. End connectors will be inspected and attached, by a team member, to each end of the curb stop and to the meter yoke prior to the start of the event. The Judge(s) will then inspect the fitting to insure the end connectors are in the proper position, fully threaded, but not tight, prior to start.

G-5. The tubing representing the service line shall be ¾" type K copper, four straight 6' lengths, each team will cut and crimp the copper before the start of their team's official time under supervision of the Judge(s).

G-6. Curb stop position after connections to tubing shall be no more than 4" above the ground/floor to the top of the inlet tubing and shall be in a "near vertical" position, i.e., no more than 10 degrees left or right of vertical.

G-7. The tapping machine shall be Mueller B-101 and will be provided, including bits, for the contestants at the contest site. Tapping bits shall be new or reconditioned at the option of the sponsor(s). At the judge(s) option, each team may provide their own tapping machine meeting all requirements specified herein.

G-8. Each team will be allowed to inspect the available tapping bits and choose TWO bits, only. These TWO bits will be used by the Team, one for each tap. NOTICE! A broken bit will not be replaced with a new bit and a third tap will not be allowed. All tapping bits will be returned to a designated Judge or committee person.

G-9. All connections shall be flared and drip-tight. The Judge(s) will bleed air from the service line before checking for leaks.

G-10. The service line shall contain no crimps that would impede the normal flow of water through the pipe. Judges shall determine the severity of any crimp by disconnecting the nearest joint carefully without disturbing the crimped section of the pipe and passing a marble or sphere approximately ½" diameter through the pipe past the crimped section. If the marble passes through the crimp, the crimp is not damaging and there is no penalty. If the marble does not pass through, a penalty will be assessed to the event time.

G-11. An end connector will be utilized on the one end of the meter yoke, which will be connected to the service line. This connector will serve to protect the threads on the meter yoke. The competing team will examine the connector threads carefully prior to the start of the vent and request a new adapter from the Head Judge if the threads are damaged enough to impair their work.

G-12. The Tapping Team shall position themselves and all equipment, tools, and materials beside the pipe to be tapped prior to the start of the tap. At the start of the tap, team workers may be standing or kneeling on the floor, but shall not be touching any piece of equipment or tools.

a. The coach shall be positioned out of the way of the team and the Judge(s), and may be located anywhere in the area. The coach may lead the team by instructions and encouragement in any way, but shall not be allowed to physically assist the team or utilize in any way the tools or equipment during the tap.

b. The tapping machine may be inspected, cleaned, and lubricated as necessary by the team before starting either turn. The drill bit will be chosen by the team from a ready supply of bits provided and may be assembled in the tapping machine prior to the tap at the option of the team.

c. The corporation stop may be placed in the adapter prior to the tap at the option of the team. Joint compound may be applied to the threads of the corporation stop after time starts at the option of the team.

d. Saddles and rubbers for the tapping machine may be assembled and ready on the floor before the tap. Chain hooks may be in the chain yoke or on the floor, but the chain must be on the floor and not hooked to the chain hooks before the start of the tap.

e. The same bar shall be used to make the tap and insert the corporation stop. Two bars will not be allowed for a tap.

f. The tapping machine feed-nut-and-yoke shall be securely in place around the boring bar at all times while the pipe is being drilled, tapped, (*) and inserting the corporation stop. See P-4.1. If the feed-nut-and-yoke falls off and there is no attempt to continue inserting (turning ratchet) the drill or corporation stop, THE TEAM WILL NOT BE PENALIZED.

g. The corporation stop shall be securely inserted into the pipe with no more than four (4) threads showing when the tap is complete. A designated Judge will count threads. The threads are counted at the half-way point on both sides of the corporation. The Judge's(s') decision on this matter will be final. If more than four (4) threads are counted on both sides, THE TEAM WILL BE PENALIZED. See P-4.g. The Judge(s) decision on this matter will be final.

(**) Failure to follow this procedure will be considered to be a SAFETY VIOLATION and the team shall be penalized accordingly.

(*) When removing the boring bar from the tapping machine after threading has been completed, the yoke MUST be in place until the tap has disengaged from the pipe and the boring bar must be **FULLY** extended before the cap is removed from the cylinder.

(**) When inserting the corporation stop, the cap MUST be installed on the cylinder before the yoke is placed on the boring bar. The corporation stop will be considered to be inserted when the ratchet is reversed to disengage it from the corporation stop.

h. The corporation stop shall be securely inserted into the pipe with no more than four (4) threads showing when the tap is complete. The Judge's(s') decision on this matter will be final.

i. Pine tar or grip enhancers may be applied to gloves. Once the pine tar or grip enhancer has been applied, the gloves cannot be used to touch any portion of the equipment or materials until after the official start of the tap.

j. Only tools, equipment, and materials supplied by the contest sponsors can be used in preparation for, or during the official tap. AWWA does not endorse products manufactured by sponsors and takes no position concerning the adequacy of such products or their compliance with any AWWA Standard. Contestants shall bring only their personal protective equipment into the tapping area.

k. Teams will not be allowed to participate if they are wearing articles of clothing or using equipment plainly displaying offensive language, slogans, or graphics.

G-13. There is no such thing as equipment failure! This is a contest of skill and dexterity as well as speed. Only TWO taps allowed per team.

a. All equipment used in the Annual Tapping Contest is new or reconditioned and as such, is in new condition.

b. Any tools, equipment, or other supplied provided for this contest that are damaged will be considered to be damaged through the neglect of the team making the tap.

c. Broken bits are the result of neglect by the team and only two bits are allowed per team, one for each tap. A broken bit is the problem of the team with the broken bit and will NOT be replaced.

d. There is no time penalty for broken equipment or drill bit unless resulting from obvious malicious mishandling.

e. Malicious treatment of equipment may be considered a safety violation depending on the circumstances.

G-14. The timing for the event shall begin at the Head Judge's signal and end when the corporation stop is turned on by one of the workers and all work has ceased. At that time, the Head Judge shall shout STOP or sound a suitable signal announcing the end of the tap. All team members will back out of the immediate work area to permit the Judges to evaluate the work.

G-15. When a stage is utilized for the contest, suitable carpet shall be laid over the entire stage to present uniform footing for all contestants. Arrangements should be made to eliminate all water spilled during an event before the next even starting so as to provide the best possible working conditions for each team for both of their taps.

G-16. The area for the contest shall be large enough to accommodate the working team and the Judges. A minimum of 10' clear area shall be provided between the working area and the spectators to afford safety from accidental flying tools or materials during the contest.

OFFICIATING

O-1. The officiating of each event shall consist of three (3) persons with adequate experience in water utility work with one of the Judges designated as the Head Judge who has had experience in supervising tapping procedures in the field. The Head Judge shall be in charge of the complete contest and after consulting with the other Judges on any infraction of the rules shall make the ruling as required by the circumstances for any penalties.

O-2. The three Judges shall be responsible for timing the events with the Head Judge or appointee(s) being the one to announce the Start and STOP of each of the events. The times as recorded by the Judges shall be used to determine the Official Time of each of the two events (turns). The time for each event by a team shall be recorded and the lowest time of the two events shall be the official time for that event.

O-3. The Judges shall see that all tools, materials, and team members are in the required positions before starting the event. They shall also insure the work area is free from standing water before starting each event.

O-4. The Judges will watch for safety violations during the actual events and assess appropriate penalty times as required. During the time of the contest not taken up by the actual tapping events, the Judges shall see that all preparations for the events are accomplished in a safe manner with no penalties to be assessed.

O-5. Squirting, continuous leaking connection spraying water on any other connection of the service line shall be covered appropriately with a towel or something to deter the water away from another connection while judging the next connection for leaks. If such measures are insufficient to block the flow of water to allow proper judging of the next joint, the connection may be tightened by the Judges, at the Head Judge's option, during the inspection, so that other joints will not be doused with water.

SAFETY

S-1. Standard water utility safety practices will be observed at all times during the Tapping Competition.

S-2. Safety equipment required for all participants shall be:

a. Head protection for ALL team members shall be worn during the event. The head protection (hard hats) shall conform to American National Standard Safety Requirements for Industrial head Protection Z89.1-1969. If a hard hat falls or is knocked off of a team members, the hat must be replaced on the team members head as soon as possible or a safety violation will be imposed. Head protection must be worn in accordance with manufacturer's recommendations, **and is not to be worn backwards.**

b. Eye protection (glasses or goggles) is required to be worn by ALL team members, including the coach, during the tapping event. Eye protection must conform to American National Standard for Occupational and Education Eye and Face Protection Z87.1-1968.

c. Gloves are required to be worn by all three workers. The Coach is exempt while performing coaching duties. Gloves shall be full-fingered and suitable for construction related tasks. Lab type gloves such as latex material and gloves without complete fingers are not acceptable for the contest. Sport gloves with full fingers are allowed.

- d. Foot protection shall be required to be worn by ALL team members, including the coach, and shall conform to American national Standard for Men's Safety Toe Foot Wear, Z41.1-1967. Sneakers or dress type shoes meeting ANSI Z41.1-1967 area also allowed.
- e. The host will provide hard hats and safety glasses for any competing team that did not bring their own equipment, however each teams is encouraged to provide their own personal hard hats and glasses. Gloves and boots/shoes will be required to be provided by each team member.
- f. Short-sleeved shirts and long legged trousers are required to be worn by the three workers during the event.

S-3. During this contest, an ordinary task (tapping a distribution Pipe) is performed in an extraordinary manner. Therefore, for this contest to be conducted safely, it is necessary for the yoke to be in place at all times during the use of the drilling, tapping, and inserting procedure as outlined in paragraph G-12, F., of these rules. Failure to follow this procedure will be considered a safety violation PLUS TWO (2) PROCEDURAL VIOLATIONS (10+10+10=30 SECOND VIOLATION) AT THE DISCRETION OF THE HEAD JUDGE.

EQUIPMENT & MATERIALS (to be provided by the West Virginia Section AWWA, or host utility, for each tap)

- E-1. Mueller B-101 tapping machines (not B-100), completely outfitted including new style ratchet, old style ratchet may be allowed in competition if available. Bicycle-type chain is not allowed.
- E-2. Brass corporation stops, Mueller Co. (H-15000N), and curb stops, Mueller (H-1502-2N), 3/4", new, one each, to be provided for each tap.
- E-3. Flaring nuts shall be provided for all connections to stops and meter yoke and shall be as manufactured by Mueller Co. (H-15430N).
- E-4. Type K copper tubing, 3/4", 6' lengths, two (2) lengths for each tap.
- E-5. Meter yoke, Mueller Co. (H-14180), 5/8" x 3/4", secured firmly to a portable stand.
- E-6. End connector, Mueller Co. H-15460N, 90 degree female connector, 3/4", shall be provided to allow the service line to be connected to the meter yoke. This connector is utilized to protect the threads of the meter yoke from the service line connections.
- E-7. Pipe wrenches, four (4), 14", REED Manufacturing Company (RW-14).
- E-8. Hammers, two (2), shall be a brass, 3 lb hammer for flaring, Mueller Co. (H-18025) or Reed Manufacturing Company (HAM3, 3lb, 06088).

- E-9. Adjustable (Crescent-type) wrenches, two (2) , 12", Reed Manufacturing Company (CW 12).
- E-10. Tubing cutters, two (2) heavy duty, Reed Manufacturing Company (T-20). The team shall examine the cutting wheels before each tap to determine their condition and ask the Judges for a replacement if necessary. THESE ARE THE ONLY CUTTERS ALLOWED.
- E-11. Flaring tools, two (2), Mueller Company (H-18000), Reed Manufacturing Company (HF 3/4).
- E-12. Cutting grease (Mueller 88366) shall be supplied for all teams to utilize in the contest.
- E-13. ONLY lubricating grease from Mueller Company, light machine oil in spray or liquid and WD-40 lubricant shall be provided for teams to lubricate the equipment and tools. No lubrication of any type will be allowed on the end connectors, threads, or flair tool prior to the start of the tap.
- E-14. Combined drill-and-tap tools will be supplied for each Team with the Team allowed to use ONLY TWO BITS of their choice, one for each tap. This tool shall be as manufactured by Mueller Co. (#680539), Decatur, IL, (217) 254-7000; Salser Co. (Super-Tuff 3/4" cc), Ocala, FL, (800) 782-5268; Reed Manufacturing Co. (DT 75,3/4"-cc), Erie, PA, (814) 452-3691.
- E-15. Pipe to be tapped shall be AWWA C151, Class 52, 6" Ductile Iron Pipe, cement lined, capped on each end, pressurized by a suitable connection to a water supply.

PENTALTIES

- P-1. Various penalties will be assessed by the Head Judge or designee for any infraction of the rules as described herein or for any flagrant violation of normal safety practices.
- P-2. The penalties will be in the form of a predetermined number of seconds added to the total time of the team's event that will then be the OFFICIAL TIME of that event. Each of the team's two events will be considered separate for penalty points.
- P-3. Teams without proper personal safety apparel as prescribed above will not be allowed to compete until they have obtained the proper apparel in a reasonable amount of time during the contest.
- P-4. Penalties shall be (in seconds):
- a. Leaking connection, barely oozing water and just discernable to the Judges, +4 each.
 - b. Slow, obviously dripping connection, +6 each.
 - c. Squirting, continuous leaking connection, +8 each
 - d. Curb stop too high above ground/floor and/or not vertical, (4", + or - 10 degrees, see Sec. G-62) +4 each

- e. Crimp in service line that will not pass ½" marble, +10 each
- f. Safety violation +10 each
- g. More than four (4) threads showing or inserted corp. +10
- h. Procedural Violation by any member of the Team. +10 Caution! This is a general penalty for action of the Team that may not specifically be covered in these rules, but are of sufficient gravity to the Judges as to warrant a penalty.
- i. YOKE PENALTY, as described in Par. S-3, shall be 10+10=10=30 (or less at the discretion of the Judges depending on the nature of the violation). Having the yoke slip off the bar accidentally and a member of the team immediately places the Yoke back on the bar DOES NOT constitute of violation.

P-5. If the corporation stop blows out of pipe or any connection blows apart after time is stopped, the team is DISQUALIFIED for that tap.

P-6. For any disagreement with a penalty decision, the Head Judge's decision is final.

P-7. There will be NO INSTANT REPLAY allowed for reversing any decision after the Head Judge has made a final determination on any infraction in these rules.

NOTE: This contest is officiated by very competent Judges and human judgment must enter into the contest at various times. All Judges strive for fairness, in their judging duties so that all teams are judged as equally as possible. FIAR AND EQUAL TREATMENT FOR EACH AND EVERY TEAM is the goal of this contest. There is no intention to provide anyone with an advantage over some other team. This contest is for FUN and ENJOYMENT of the participants and spectators. Let's keep it that way!

Disclaimer: AWWA and the WV Section of AWWA specifically does not endorse products manufactured by sponsors and takes no position concerning the adequacy of such products or their compliance with any AWWA Standard.