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FRWA WHITEPAPER

Color Coding of Piping for Drinking Water Piping and at Drinking Water Treatment Plants

Color Coding of Piping at Drinking Water Treatment Plants per FDEP Rule 62-555.520(4)(a) 12 and 62-555.320(10) is designed for complex systems like lime softening, coagulation & filtration plants or reverse osmosis treatment facilities. These are Category I or II or even Category III. Color-coding of Category IV or V plants have LITTLE practical use!

Water Treatment Plant Category & Classifications per 62-699(4)

Category I	Chemical Preparation	with filtration including lime softening, coagulation, direct filtration
Category II	Demineralization	including reverse osmosis, desalinization, electrodiolysis and ultra filtration
Category III	Filtration	(other than Category II) including primary treatment or ion exchange
Category IV	Primary Treatment	(includes aeration, stabilization, disinfection)
Category V	Disinfection Only	

Meaning of Color-Coding. Color-coding means that the piping shall be marked by placing blue tape or blue paint marker on the top of the pipe.

Further the rule requires color coding or marking the pipe per Ten States Standards, but does not mandate painting the pipe. Rule 62-555.520(4)(a) 12 in the same section *color coding of new or altered, aboveground piping at drinking water treatment plants.*

Misreading the Rule. Some operators and regulators have misread and misapplied rule 62-555.320(21)(b) 3. which applies to *all new water main pipe* (i.e. not Water Treatment Plants piping). Further, rule 62-555.520(4)(a) 9. b. clearly states that Rule 62-555.320(21)(b) 3 refers to *color coding or marking of new or relocated water main pipe that will convey finished water*.

Painting PVC or DIP pipe is NOT recommended; in fact painting interferes with placement of future fittings or piping alternations. Once the pipe is painted the outside diameter is changed and insertion of fittings requires removal of the paint by scraping or sanding. These new fittings do not fit properly -- joints don't fuse or form a watertight union. If the paint is left on the pipe the problems are greater.

Placement of blue tape or blue paint marker on the top of the pipe is allowed by rule 62-555.320(10) FAC, "*the tape or paint shall be applied in a continuous line that runs parallel to the axis of the pipe and that is located along the top of the pipe; for pipes with an internal diameter of 24 inches or greater, tape or paint shall be applied in continuous lines along each side of the pipe as well as along the top of the pipe."* [emphasis added].The piping will be color differentiated as follows.

Rule 62-555.320(10) FAC also references Ten States Standards "*Recommended Standards for Water Works*" section 2.14, Pipe Color Coding. Ten States Standards states:

---------- START of Ten States Standards, Section 2.14, PIPE COLOR CODING ----------

To facilitate the identification of piping in plants ad pumping stations it is recommended that the following color scheme be utilized:

Water Lines
Raw or Recycle -- Olive Green
Settled or Clarified -- Aqua
Finished or Potable -- Dark Blue

Chemical Lines
Alum or Primary Coagulant -- Orange
Ammonia -- White
Carbon Slurry -- Black
Caustic -- Yellow with Green Band
Chlorine (Gas or Solution) -- Yellow
Chlorine Dioxide -- Yellow with Violet Band
Fluoride -- Light Blue with Red Band
Lime Slurry -- Light Green
Ozone -- Yellow with Orange Band
Phosphate Compounds -- Light Green with Red Band
Polymers and Coagulant Aids -- Orange with Green Band
Soda Ash -- Light Green with Orange Band
Sulfuric Acid -- Yellow with Red Band
Back Wash Waste -- Light Brown
Sludge -- Dark Brown
Sewer -- Dark Gray

Other
Compressed Air -- Dark Green
Gas -- Red
Other Lines -- Light Gray

In situations where two colors do not have sufficient contrast to easily differentiate between them, a six-inch band of contrasting color should be on one of the pipes at approximately 30-inch intervals. The name of the liquid or gas should also be on the pipe. In some cases it may be advantageous to provide arrows indicating the direction of flow.

---------- END of Ten States Standards, Section 2.14, PIPE COLOR CODING ----------

Color Coding of Drinking Water Piping and Appurtenances. Underground plastic pipe shall conform to Rule 62-555.320(21)(b) 3. and be:

- Solid-Wall Blue Pipe (with a co-extruded blue external skin), **-or-**
- White or Black Pipe (with blue stripes on the pipe wall).

Any other aboveground pipe distribution system piping not related to the well and treatment plants shall be painted blue **-or-** shall be color coded or marked like underground pipe. White or Black Pipe (with blue stripes on the pipe wall) is acceptable and meets the letter and intent of the rule.