REV 0421

Lay-Up of Demineralizer Units

The following steps are recommended for in-vessel storage of ion exchange resins in a demineralizer that will be off line for more than a month.

CATION UNITS

The cation resin is a very stable media and can be placed in stand-by with the resin in either the regenerated or exhausted form. The exhausted form would be the preferred form, however. A thorough backwash at the design rate prior to placing the vessel in stand-by is all that is generally necessary. If the demineralizer unit is susceptible to organic fouling, however, before taking the unit off line it should be regenerated exhausted with 5 to 10% brine, and then soaked with a 5% caustic soda solution for several hours. The caustic dosage should be between 5 to 8 pounds per cubic foot of resin. Thoroughly rinse down the unit after the resin has been dosed to be sure that no free caustic is present prior to placing the unit on stand-by.

ANION UNITS

Before putting the anion units into stand-by, regenerate the unit in the normal manner. After regeneration, drain the water level in the bed to about 2 to 3 inches above the resin bed. Prepare one bed volume of an alkaline brine solution composed of six pounds of NaCl and 1.25 pounds of NaOH per cubic foot of resin. The solution concentration applied to the bed should be as 10% salt and 2% caustic. Allow the prepared solution to percolate through the bed, and stop the solution flow when it reaches a level 2 to 3 inches above the resin surface. Allow the resin to soak in the solution for several hours, then slowly rinse with 2 bed volumes of demineralizer water. Use the design slow rinse flow rate and time. This procedure removes organics and silica and also converts the resin to the chloride form where it is much more chemically stable for storage.

GENERAL

The ion exchanger should be filled with water during the stand-by period. Check periodically for water loss.

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INNOVATIONS IN ION EXCHANGE

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