

## **City of Portland—Bull Run Site**

**Objective:** Due to the unsafe nature of chlorine liquid or gas under pressure, the city wanted to eliminate or significantly reduce the amount of piping that contained chlorine liquid or gas under pressure.

**Requirements:** Safe system  
Uncomplicated operation and maintenance

**Process:** Vacuum regulators were installed that mount directly on the chlorine ton container valves.

This resulted in an issue of unequal feeding from the tanks and the tanks not emptying at the same time. To solve this problem an Equa-Draw system was installed.

The Primary system includes 2 independent banks of 6 ton containers each with a Series 510M 500 PPD vacuum regulator mounted with individual rotameter indication. The bank's feed is controlled by a remote non-isolating Model 55-400 switchover unit which is designed to allow continuous feed from one bank (the other isolated) until vacuum level reaches ~100" of water. The stand-by bank is then placed in operation while maintaining some continued withdrawal from the exhausted supply (as available).

The Secondary system is almost identical to the Primary system. The only difference is that to maintain operation status of the 2 evaporators, one bank has only 4 containers instead of 6. This allows 2 containers to feed the evaporators and prevent the need to place the evaporators in long-term shut down condition.

The systems were placed into operation in July, 2008 and have been reliably feeding approximately equal feed rates and having ton container that are weighing empty upon removal.

**Manufacturer:** Siemens/Wallace & Tiernan