Auto-Clean Turbidity Monitoring System

___(Quantity)___ Auto-Clean Turbidity Monitors shall be supplied for continuous monitoring of turbidity in __(Specify Application and Location)___ . The turbidity monitoring system shall consist of an electronic monitor, sensor and accessories listed below. The Turbidity Monitoring System shall be ATI Series D15/76 as described below.

Turbidity Monitor

The Turbidity Monitor shall be supplied in a NEMA 4X enclosure with a clear hinged door to allow tool-less access of controls and for viewing the LCD display. The display shall be alphanumeric LCD and capable of indicating turbidity in NTU's (Nephelometric Turbidity Units) in a range up to 4000 or selectable in mg/l to a range up to 9999. Alarm condition, setpoints and all configuration information shall be programmable through a front keypad and supplied with a code accessed software lock protecting configuration programming.

The monitor shall provide two independently programmable alarm/control relays assignable over the entire measuring range of the instrument as either low or high alarm. In addition, both relays shall be programmable for variable deadband and variable time delay. A third independent alarm relay shall be provided for the timing and control of the sensor Auto-Clean feature.

The monitor shall provide sensor diagnostic functions to warn of conditions that cause inaccurate or invalid readings such as a dry sensor resulting from loss of sample and is to continuously monitor the sensor for optical fouling. The sensors optical sensitivity shall be expressed in % and viewable on the display when accessed.

An isolated 4-20 mA analog signal shall be provided, adjustable to any range within the display scale and suitable for loads up to 600 ohms.

A complete high pressure air cleaning system shall be integrated into the Turbidity Monitor enclosure. The air supply shall include as a minimum a compressor, pressure relief valve, check valve, air accumulator, and solenoid valve. To activate the automatic sensor cleaning function, a relay with variable contact duration shall be supplied and operate automatically at the cleaning interval programmed by the operator.

Auto-Clean Turbidity Sensor

The turbidity sensor shall employ a bright LED light source producing an infrared light beam and to be located behind a smooth optical lens focused into the process at a 45° angle with a photo receiver behind a second smooth lens also focused at 45°. The light is then scattered at a 90° angle by the particles. Sensor shall be available for direct immersion with built-in air nozzle focused at both optical lenses for self-cleaning. Sensor shall be made of Delrin and have clear Acrylic optical windows.