SECTION 11034 - ADJUSTABLE BELT DRIVES

City of San Diego, CWP Guidelines

PART 1 - GENERAL

1.1 WORK OF THIS SECTION

A. The WORK of this Section includes providing variable speed, adjustable belt drives with drive motor, speed control unit, connections, supports, housings, and accessories.

1.2 RELATED SECTIONS

A. The WORK of the following Section applies to the WORK of this Section. Other Sections of the Specifications, not referenced below, shall also apply to the extent required for proper performance of the WORK.

1. Section 11030 Variable Speed Drives, General

1.3 SERVICES OF MANUFACTURER

A. **Inspection, Startup, and Field Adjustment:** An authorized service representative of the manufacturer shall visit the site for not less than [ ] days.

PART 2 - PRODUCTS

2.1 DESIGN AND CONSTRUCTION

A. **Design:** The drives shall be of the horizontal or vertical type, as indicated, and shall comply with the following:

1. The drives shall be able to vary speed on demand with smooth acceleration and deceleration, without vibration or shock.

2. The unit shall be pre-assembled and shall consist of motor and belt case, additional gearing (if any) and shall be designed to obtain the proper speed range.

3. The drive shall be sized to meet the operating conditions of the equipment without overloading and overheating.

B. **Construction:** The belt case and reducer housing shall be fabricated corrosion-resistant cast iron or steel construction with mounting base and access plate. The discs shall be fabricated of hardened steel or cast iron and shall be mounted on steel or stainless steel shafts. Anti-friction bearings shall comply with AFBMA standards for an L-10 life of not less than [ ] [50,000] hours at maximum speed. The belt shall be of a heavy duty tensile cord construction, static conducting and heat and oil resistant. The unit shall include a local speed indicator. The cooling system shall consist of an integral fan designed for proper cooling.

C. **Controls:** The control system shall be of the [manual] [automatic] type. [The manual control shall include operating crank and speed indicator with built-in friction brake designed to hold the set speed.] [The motor control system shall be capable of accepting a [3-15 psi

pressure signal] [4-20 mA signal] corresponding to [liquid level] [flow] [pressure] [temperature] of the process and automatically varying the output speed in proportion to the signal. [The motor control system shall be designed for a power supply of 115-volts, 60-Hz, single-phase.] The controls shall be housed in a NEMA [ ] enclosure and shall include running lights and plastic name plates.

D. **Controls and Indicators:** Each controller shall be equipped with the following door-mounted controls and indicators:

1. Local speed indicator.
[2. Manual-off-automatic speed control mode selector.]
3. Local manual speed adjusting potentiometer.
4. Local on-off switch.
5. Control circuit breaker.
6. Alarm horn and silence pushbutton.

2.2 SPARE PARTS

A. **Spare Parts:** The WORK includes [1] set of the following spare parts for each adjustable belt drive: lubricants, belts, seals, and rings. Spare parts shall be packaged and labelled in metal tool boxes.

2.3 SCHEDULE OF ADJUSTABLE BELT DRIVES

A. Adjustable belt drives shall comply with the following:

Equip. No.	Type of Equipment	Service	Motor hp	Motor rpm	Speed Range rpm
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]

2.4 MANUFACTURERS:

A. Products of the series indicated shall be manufactured by one of the following (or equal):

1. Dresser Industries, Inc., "Electra Motors"
2. Lewellen Manufacturing Co., "Speed Control"
3. Reliance Electric Company, "Reeves Motodrive"
4. U.S. Electrical Motors, "Varidrive"

PART 3 - EXECUTION

3.1 INSTALLATION

A. Conduit stub-ups for interconnected cables and remote cables shall be located and terminated in accordance with the manufacturer's recommendations.

B. Adjustable belt drives shall be installed and aligned.

** END OF SECTION **