We are pleased to submit our proposal covering the subject CINCINNATI Autoform Touchscreen PC Control Upgrade.

Rising labor rates and changing work skills require equipment that is fast, productive and easy to operate. Industry has recognized the need to reduce setup times to successfully implement low lot production techniques.

The Autoform Touchscreen PC Control features touchscreen operator interface, industrial PC-based HMI control with Windows operating system, large capacity hard drive for storing repeat jobs and Ethernet port for network communications. Part programs are created on the machine control or on a remote PC using the optional offline Cincinnati Bend Simulation Software Module.

New part programs are created through manual data entry or by drawing the part in a cross-section or flat pattern view. Parts are displayed in 3D views. Repeat jobs are recalled from a large capacity hard drive, USB drive or network. Each program contains a Job Setup page that displays tool names, segment lengths and tool locations. Detailed setup notes are stored to insure important instructions are displayed each time the job is recalled.

The Cincinnati Autoform Touchscreen PC Control is compatible with American and European style tooling. The tool length and maximum number of tons per foot that the tool can safely accept are stored in the Tool Library. These two values are used to calculate a maximum tonnage to protect the tool against overload.

We quote as follows:

One (1) - Autoform Touchscreen PC Control Upgrade including the following equipment and services.

Standard Equipment

Programmable multi-axis control, mounted on existing pendant arm, for controlling ram positions, tonnage and backgage positions. Includes the following features:

- Industrial PC-Based control with Windows operating system
- 15" TFT LCD flat panel color display
- Touchscreen operator interface
- Hard Drive
- USB Convenience Outlet
- Communications - Built in Ethernet
- Inch or Metric unit display
- Mode Selector – (SETUP/STROKE/OFF)
- Operator/Manager level password control
- Operator Adjustable Ram Control Inputs
  - Multiple step and repeat
  - Forming mode (angle, position, tonnage, absolute position, Dynamic Thickness Compensation)
  - Ram Opening
  - Guard Mute Position
  - Programmable forming and return speeds
  - Tool selection for each step
  - Speed change position (up and down)
  - Ram tilt
  - Ram dwell time at bottom of stroke
  - Up and down stroke stops (ON/OFF)
- Operator Adjustable Gage Control Inputs (backgage optional)
  - Flange dimension
  - Gage allowance – Automatic calculation or operator input
  - Incremental gage move
  - Retract distance
  - Pause time
  - Gage finger offset
  - Clamp Stop (ON, OFF, PAUSE)
  - Automatic Z-axis gage position calculation (with optional 4 or 6-axis gage)
- Graphical Tool Library (American and European style)
- Tool Segment Length Auto Calculation
- Automatic tool load tonnage calculation
- Tonnage Display
- Tonnage Mode Automatic Calculate Reversal Tonnage

- Save Default Program
- Part Orientation
- Printout Setup Sheet Capability
- Convert File Utility
- Quick Bend Mode
- CAD functions
  - Part Design by cross section or flat pattern
  - Flat blank size calculation
  - Manual Bend Sequencing
  - 3D part view
  - CINCINNATI Bend Simulation Software (control)

Job Data screen with Setup Note and Tool List fields
Batch Mode
Management Display Information
- Machine strokes
- Parts counter
- Batch counter
- Power on time
- Total cycle time
- Main drive on time
- Parts per minute
- Cycle time per part

Maintenance Messages
Diagnostic Display Information
- Control diagnostics
- Machine diagnostics

Web Enabled control for remote monitoring
Dual English/Metric Rule on Ram Nose