Addendum #1
ITB #14-12
Lincoln Electric VRTEX 360
Or better

Addendum Issue Date: **July 3, 2014**
ITB Due Date: **July 9, 2014 at 4:00 p.m.**

The following revisions are hereby incorporated into the ITB Documents:

Page	Description
9	Replace with the following 1. New 2. Lincoln Electric VRTEX 360 K3962-1 including Upgrade 2, 3, 4, 5, New Lessons in Arc Welding Simulator Curriculum with spiral bound guide and DVD's, and Training Based Lesson Workbook with 15 lesson plans. – or better **To include the following unique features:** **a) Joint configurations: Flat plate, Tee joint, Groove joint, 6 inch diameter schedule 40 pipe and 2 inch diameter XXS pipe** **b) Multiple welding processes including SMAW (E6010, E 6013, E7018), GMAW (Short arc, Axial Spray, Pulse and STT®) and FCAW (Gas-shielded and Self-shielded)** **c) Support for multi-positions (2F, 3F, 4F, 1G, 2G, 3G, 4G, 5G, 6G)** **d) Multi-position, full function welding stand** **e) Retractable SMAW device that will retract at the rate of a real stick electrode and will melt off to simulate melting of real electrodes.** **f) Realistic and differentiated welding puddle per welding process and electrode types** **g) Equipment interaction and set-up.** **h) AWS Virtual Bend Test for multi pass pipe and groove welds and a virtual bend test certificate upon successful completion.** **i) Scoring modules based on AWS D1.1 or ASME codes** j) Multiple virtual reality welding environments. k) Instructor panning view function. **l) Video Replay, Demo Welding for students to view welding techniques prior to welding.**

	m) Provide a score on a welding pad for to provide a numerical assessment of welding skill. **n) Provide coupons for lap, flat plate, tee joints, groove welds, 6" pipe and 2" pipe.** **The virtual reality arc welding system needs to be a stand-alone system that uses virtual reality technology to simulate the welding processes for training purposes.** **The virtual welding system must include realistic simulation of welding mild steel, aluminum and stainless steel material with electrodes matching the material.** **The simulator must combine the physical props, welding helmet, Mig gun and stick electrode holder with virtual reality to create a one of a kind experience that includes tactile, visual, and auditory cues in an easy to use format.** **The simulator must be a multi-process focused piece of equipment with a variety of joint configurations including pipe and flat plate.** **The simulator must also cover multiple welding positions, while providing an augmented reality experience including tactile, visual, and audio feedback.** **The simulator must combine hardware with physics modeling to create a welding experience that looks, sounds, and feels real.** **Further, the simulator must provide a variety of instructor tools that allow the instructor to customize the system to match welding curriculum. This includes an 'instructor cam' to provide real time visual inspection of the weld and the student's technique while the student is welding and afterwards for inspection.** **The instructor tools must allow the instructor to use the simulator to teach techniques and processes that are mission critical.** **The simulator must include a written project based SMAW curriculum manual with DVD videos.** **The simulator must include a simulator workbook with at least 15 lessons to be used to enhance the welding curriculum**

Acknowledgement of Addendum #1:

Company Name	**Signature**

Include this signed page with your response.