Northland Pioneer College Welding Advisory Committee

March 20, 2013

SCC Campus

Von Stradling, SRP; John Weber, Lincoln Electric; Randy Hoskins, Curt Casey, Frank Pinnell, Ann Hilliard, Howard Nobles, James McLaughhlin, NPC; Judy Bratcher, Navajo/Apache County Workforce Investment Act (WIA)

Curtis reviewed the minutes from our last meeting. Minutes accepted unanimously.

There will be a four-week welding summer course beginning June 1 in the Show Low shop –evening classes 6-10 Monday through Thursday; taught as a multi-course lab. Students will be able to sign up for six or eight credits with a variety of course options.

One-week workshop for high school teachers in May; sponsored by John Weber from Lincoln; Alex from Miller. Praxair will be donating gases, consumables, steel; Lincoln donating electrodes, consumables, wire. Thanks so much to our wonderful Advisory Team for their support of NPC Welding!!!

Frank: SKILLS regional competition; for the first time we had a welding fab team; three students from Show Low had to make a table within time constraints using steel without wasting. NPC won by 1 point.

* NPC Welding placed all our students in the top ½ of the competition
* NPC Fire Science students swept the FRS portion of the competition
* Fire Science, Welding, Cosmetology, and Welding NPC students attending Arizona State Skills USA next week
* Action skills competition on Tuesday, March 25
* Individual skills competition on Wednesday; some students are doing job demos, some are competing in the job interview portion

Curtis – NPC students have typically had good success with SKILLS, not only in winning awards, but also in the citizenship and the way students represent the college. We typically try to represent SKILLS activities as simply a continuation of how we do things in the shop on the daily basis.

New Skills Center building at Holbrook PDC Campus. Current move-in date is 8/12, but we hope we can begin to move the Holbrook welding shop in earlier in the summer. If it is delayed we will start welding classes at the old location for a few weeks.

Welding booths for the Skills Center – we have the steel in shop; we will have them built by the end of the Fall 2013 semester by the students.

Relocate one of the fans to pull smoke up to the 8 foot level and vent it outside of the shop. Architect says additional ventilation up above can be opened up.

John -- 45 cfm fan would be enough if you had a hood. Lincoln hood has a small curtain; about $5,000.

Curtis and Randy will be helping with the move-in this summer.

Howard Nobles & James McLaughlin from NPC Metal Arts program demonstrated items made by students, starting from simple ladles and metal roses, proceeding to armor and advanced metal-crafted decorative items. We do most of the work hot with hammers. Advanced Metal Arts – an amazing copper Desert Bighorn ram’s head was shown, which won a first place award in the NPC art show. Listed at $1800.Probably $300 in materials, 180 hours of work. The most desirable copper comes from Bisbee; has a variety of color ranges. Students learn to work in brass, copper, repousse, etching, etc.

James – been blacksmithing for about 20 years. Students start by making nails; by end of first semester make single-piece items like bottle openers. In intermediate courses they make items with moving parts, such as tongs. We do mostly forged welding and shaping. 90% of work they do is done with hammers. One of the nice things is that best students tend to assist others who are having difficulties. Most advanced piece is a fused and twisted fireplace poker. One recent student was a disabled vet for whom the class was helpful with making progress in recovering from PTSD, as he could see his own progress and focus on creating items.

We are trying to help students gain skills which can be widely used. In future would like to get back into casting. A foundry will be coming in with up to 100 lbs. capacity. Hopefully in the future if we have an operating foundry in Show Low we can contract out excess capacity to local artists. Will help support local art scene.

Will be bringing the Damascus steel work back in. Start with 5 to 7 layers of metal, heat to near-melting, flux with borax, and strike with hammer. That fuses the layers. Then we fold it several times. Yields 256 layers which can be forges, carved, and made into a variety of objects. Can change patterns on surfaces between folds; put in clover, saguaro effects.

We are looking at enhancing the Metal Arts facility with some upgrades, not too expensive but that will expand our capabilities. Also looking to do more plasma cutting work. I see our program as a bridge between welding and the arts.

Basic Materials Joining course: forging, MIG, oxyacetylene welding, blades course

We have around 20 students in Metal Arts. Would like to keep it at that level. Frank Pinnell’s St. Johns shop has sent five students to the Thursday night class.

Howard has been taking top students to art shows with their creations. They take their crafted items, hand out cards, and take orders.

One key feature of our program is that we show students how to re-purpose scrap into useful tools and products. Sucker rods, leaf springs can be turned into useful tools, tomahawks, axes, cleavers, hammers. The other thing is that materials are free; can make functional items with hammer and grinding. In future would like to offer one-weekend class called Forge Building where they build their own personal basic forges inexpensively.

Leaf springs from automobiles are the best raw materials. Students learn to heat the metal, observe changes in color, and handle metal so it doesn’t overstress or break.

Patina finishes -- We can finish metal in 8 – 10 different surface colors.

Question: are there any tests in Metal Arts curriculum? Yes, we test on terminology, metal characteristics, history of armor, analysis of failures, explain a process.

We are also grooming students to compete in SKILLS USA, hopefully next year.

Class just for veterans might be useful. Seem to be a somewhat isolated group; more comfortable with other vets.

Will be going to ABQ, Alpine, Flagstaff, Grand Canyon Renaissance Festival, other venues to promote NPC program.

Howard passed out flyer for Welding and Industrial Maintenance Career Fair, May 22, 2013, at the Silver Creek Campus.

Is there any other objective we should look at to increase the success of this Career Fair event? We plan to invite power plants, shops from down in the Valley, as well as local welding shops.

John Weber suggests: bring samples of welding like you have posted in your shops. Potential employers need to see one of the shops and get a view of the NPC program.

Invite employers to use either the Holbrook or Show Low shop for skills testing for potential employees.

Current invitees are: Schuff, Cade, ironworkers, boilermakers, Kiewit, Zachry, Empire, TIC, Sundt

Lincoln – Dolson, Feist, Gestamp in Surprise.

John -- Get robot into Show Low shop for pre-show. Everyone is pushing on robots. No-one in Arizona is training robot programmers.

Curtis – we are running a Taste of Welding Workshop in June, for high school Ag teachers who need intro to welding. Sam Colton from Arizona Western College will be participating, sponsored by AZ Department of Ed. We have limited enrollment right now but plan to promote it to the teachers on the Navajo Reservation.

Judy – WIA is trying to find a program to utilize grant dollars which we received for staff performance. Our summer program for high school students is planned again this year – trying to focus on medical, industrial maintenance, safety, work readiness.

Von – NAVIT/NPC/CGS open house April 4, 6 – 8 p.m. Targeted St. Johns & Round Valley high schools. Interest is out there; people are starting to respond that they’re coming. Six new folks hired end of December. They are in training for another three months and we already need them in the operation. So hope we are able to hire some more folks.

Most of SRP’s new hires come from our operations folks; we lose people out of operations into our fabrication and welding apprenticeships.

John – industry needs are robotic programming knowledge; automation seems to growing fast. Would be nice to have a Welding automation class – plasma cam, automated cutting table, submerged arc line, build-up, robotics (Vernon Tool pipe cutting system), orbital TIG or MIG (for pipe trades). Need knowledge both of welding and robotics. Even boilermakers are using orbital welders up at Page.

John – there will be a TorchMate & PlasmaCam seminar at Highland High School in Phoenix. April 18 & 19. Randy -- We have some alumni that love the automation equipment and would be interested in learning more.

Welding and Industrial Maintenance Career Fair, May – Von – says SRP, APS, and TEP might be interested in participating. The SRP NPC operations training is maxed out – we are hunting for more instructors so we can split some of the classes. Students need to be patient while waiting to be hired, and to understand that SRP has a high standard, need to get 80% and above in classes.

Tentative schedule for next meeting – Wednesday, September 11, 2013.