

**Columbia Gorge Community College ~ STEM Advisory Board
(Science, Technology, Engineering, and Mathematics)
November 9, 2011 ~ CGCC Board Room**

Present:

- Todd Brogna, enXco (Chair)
- Abby Brown, CGCC
- Suzanne Burd, Instruction, CGCC
- Jim Carlin, RET Faculty, CGCC
- Tim Clever, White Creek Wind Farm
- Dale Coyle, PGE, Bigelow Canyon
- Dan Dunham, Cardinal IG
- Gayle Hammitt, RET Admin. Assist., CGCC
- Bruce Hamilton, Navigant Consulting
- Tony Hill, GE
- Ken Hillen, Insitu
- Russ Johnson, U.S. Army Corps, The Dalles Dam
- Kristen Kane, Student Advisor, CGCC
- Michal Kawka, CGCC
- Gary Kelley, BPA
- Mary Kramer, CTE Director, CGCC
- Jared, Langdon, RET Inst. Assist., CGCC
- Tom Lieurance, RET Faculty, CGCC
- Jim Pytel, RET Faculty, CGCC
- Kyle Roselle, TD Wahtonka H.S.
- Chris Seibert, White Creek /Harvest Wind
- Dr. Susan Wolff, CAO, CGCC

Todd began with introductions and minutes from the last mtg. were approved.

Academic Master Plan update - Dr. Susan Wolff

- Susan is updating the Academic Master Plan she first developed in '04-'06. This helps guide CGCC's future, and though her goal was to update every 3 yrs, since Spring she's been meeting with focus groups, including Gorge Technology Alliance (GTA), STEM, OSU extension, local business reps, Google, Insitu, etc. to find areas of need/look for common themes. She'll also bring together a local food/beverage group, local community partners, 2 national guard units, and look at South county.
- CGCC recently conducted a phone survey to gather feedback on how folks view the college.
- We're looking at Strategic Enrollment Management, we've increased our enrollment, and we always need to think about how to keep our programs current, viable.

Robotics story: Thru these meetings/conversations, after attending a 'Robotics Day' in The Dalles (with robotics teams at the H.S. & grade school level), and after Google asked what CGCC is doing, we started conversations to develop a Robotics program. This is about embedded technologies. Insitu responded positively to the idea and Susan expects the same response from Google. This will provide another career avenue for young people, and allow transferrable options, for those moving on to engineering. She hopes this will help retain students who won't need to go away for some of the training. This will mean partnerships with other colleges, specifically OSU, others.

Comments/Questions:

- Ken Hillen – suggested we offer as much of a 1st yr engineering curriculum as we can. Look at the labs here. Get students to do their lab work at CGCC, to save them traveling to OSU, etc.
- Dan Dunham – candidly reflected that he didn't consider CGCC for his own children. He would have loved to save the \$\$, but he was unsure that for the advanced degree, CGCC has the facilities or would be the best place to start. From his viewpoint, if a community college has a good chance for training for the future, he's not sure what that looks like. He doesn't know if there's enough support at the community college. Also noted how important Programming is to know; e.g. SQL (Sequel), etc.
- Tom L.– has considered offering a programming class; it's more clear everything is software-based.
- There was agreement that programming classes would be useful; software applications are in everything.

AWEA WDET - Dr. Susan Wolff

AWEA developed a new group: the American Wind Energy Workforce Development & Education Technology group (WDET), after asking industry partners what else they can do. This is industry driven.

- AWEA is also starting work on the Safety training piece of the Seal of Approval. As soon as we receive information, folks will hear from us.
- Abby announced that CGCC was one of 5 colleges (she since learned it's actually 8) across the country to be asked to pilot an official AWEA student chapter. CGCC's DELTA energy club will pilot this group.

Questions:

- Todd – Is AWEA working on a seal of approval for the 2-yr program? Susan replied - we realized that compared to other programs, our curriculum covers their two-yr program in the 1st yr. Suzanne spoke with Annie (AWEA) who said they have to first create a process in order to create the 2-yr seal.

Customized Training - Suzanne Burd

- Suzanne was pleased to report that the Customized Training subcommittee came together last spring! In previous STEM meetings, she'd discussed possibility of offering a customized training Electricity Basics/Trouble-shooting class, which was brought to completion last week. We even doubled enrollment, thanks to Gary Kelly at BPA! Dan Dunham (Cardinal IG), Jerry Carroll (US Army Corps), & Todd Brogna (EnXco) were involved. Bill Marsh, RET instructor, is teaching, and we have 16 students. Class covers Basic Electricity & Electronics. Thanks to enXco and Cardinal IG for financial support.
- This was a good way to assess employee skills. Assessments were conducted the first day, that didn't feel like assessments, to feel out student levels. We realized levels are higher than expected, so they're expected to finish well.
- Anyone interested in offering this class, e.g. your workers need this, should contact Suzanne. We're still in phase 1, which covers about half the curriculum, and they'll be a part two. Timing is uncertain, and she'll need to convince Bill Marsh to teach two sections.
- Dan D. - we're excited about this. There's a misconception that you need a license to work on electrical equipment, but it's not true. It's okay & safe to train without it.

Climb/Rescue Tower – Suzanne Burd

We have an RFP on the table for a climb tower. Proposals are due Nov 18th with 8 potential proposers.

- **Tower location:** in the SE corner by the sharp turn near Bldg. 11 (south east of Building 3).
- **Details:** 24 ft high. The bottom section will be used for confined space training, will handle HUB simulation, rescue simulation, on-ladder rescue, and come with an extra ladder.

CGCC is 'Open for Business': The tower will be available for rent to industry, for recertification purposes, etc. We hope it's flexible enough to meet everyone's needs, though designed for wind. Suzanne credited Todd Brogna for guidance & expertise on selecting a design, what to stay away from, what to look for. Susan W. thanked White Creek Wind for providing opportunities for students to climb test.

- On this note, Dale invited CGCC folks to come out to Bigelow Dec. 13, to watch a simulated rescue from a tower, involving Life Flight.

Funding Updates - Mary Kramer

- The tower was paid for out of DOL earmark dollars. We had \$350,00 congressionally-directed dollars. Funds will also be used to improve the safety training piece, so we decided to send Jim Pytel and Tom Lieurance to training Winter term 2012. Tom will take OSHA 10; Jim will train at Skylotec, on the tracktel system. Jim's training will be incorporated into the RET 101 class ('Intro to Wind Turbine Tech I'). Rather than just talking about concepts, he'll have hands-on experience. RET 101 is an intro class, but with the safety piece, it will be more intense.
 - Tony – noted that GE uses tracktel. It's good to get some good training.
 - Gary K. – In our world (BPA), compliance is the "monster at our door" as regards safety. The North American Transmission forum claims that Human Performance is the #1 issue for compliance.

Identify likely scenarios. In any safety program, you need to consider this. Tom L. asked Gary to point him in the right direction, so Gary agreed to talk to Tom afterward.

DOL Grant closing March 2012:

In forecasting the budget that ends March 2012, Faculty selected a nacelle trainer, which is a good addition to existing lab volt equipment. As the grant closes, we'll also lose several great folks whose positions were grant funded: Jim Carlin, RET Faculty (who also received the faculty Excellence Award in 2011!); Jared Langdon, RET Instructional Assistant; Gayle Hammitt, RET Administrative Assistant; and Abby Brown, RET Program Advisor. This is a huge loss for CGCC. Cake was served in their honor.

- Dan D. - are tuition/fees not enough to cover the need, or has the market slowed down to cause a 2nd co-hort to go away? Mary - it's partly a fiscal concern, but we wonder if the demand is there.
- Dan - is wind installation is slowing down? Todd B. - it's slowed down for now, but it's a cyclical thing.
- The Fall Term 2011 co-hort is full!
- Abby - the number of schools providing programs is increasing, as well.
- Tom L. - if we have 2 yrs with students, we should teach them subjects that cross over to other areas.
- Dale - There's a huge learning curve once they're hired.
- Tom L. - Gonzaga University contacted us re: a training program for substation operators. It demonstrates how a power line system works & allows students to bring down power lines in simulation. Another opportunity to enhance learning, which we can eventually bring to our campus.

RET Marketing and Outreach - Abby Brown

Abby handles RET marketing & recruiting, and updated us on what she's been doing since starting last May. She wrote a marketing plan that she hopes to incorporate into the program. Her goal is to revitalize collateral materials, which have mainly focused on wind (examples were passed around). We have the AWEA seal of approval, but she wants to reflect what we cover in 2nd yr as well. Industry feedback was welcomed. **Highlights of recruiting materials/activities:**

- RET Rack Cards - rack cards are coming into style and they're cheaper to print.
- We're trying to feature students more, taking from what Michal Kawka started. We're working on a poster series and have developed light-pole banners.
- The program has always had career fairs; Abby also attended a Sol West fair this summer (to showcase the program), and we run ads.
- 'H.S. Wind Challenge' - Michal and Abby are coordinating a program where students will have the chance to build a small wind turbine. CGCC provided local H.S.'s with lesson plans, students will learn in the classroom between January and March 2012, then, in the Spring, teams will come to campus to do the actual building. Local H.S.'s involved include White Salmon, The Dalles, and Hood River. Abby asked who we're missing. Russ named Goldendale H.S. Information is available on the Web site: www.cgcc.cc.or.us/windchallenge. The deadline to sign up is Nov. 30th
- Suzanne and Abby recently participated in a Women of Wind Energy webinar.
- Representative Johnston's office asked CGCC to provide information to Governor Kitzhaber and request that he visit the area.
- CGCC's Delta Energy Club sponsored a clean energy festival a couple weeks ago, at The Dalles Discovery Ct. CGCC was one of 5 sponsors and 75 folks showed up.
- A virtual tour of the program will soon to be available in a google map & posted on our web site.

Enrollment/Admissions Update - Kristen Kane, Michal Kawka

- Fall 2011 is our last term with 4 co-horts. 38 students were admitted this term. 27-29 students returned to yr 2 (which is a large turnout).
- Spring cohorts are traditionally smaller: there are 16 students in the 1st Spring cohort, 15 in the 2nd Spring cohort.
- We're gearing up for Fall 2012. Michal has received many inquiries; some folks are asking about solar.

Felonies/Misdemeanors - Kristen Kane

Kristen asked for advice on how to handle inquiries when folks have felonies or misdemeanors. These wouldn't inhibit anyone from entering the program, but what should she tell them re: employment?

Comments:

- Tony H. (GE)– tell them a background check is done. They won't get past Human Resources. We're not hiring folks with these issues. Drug screening is also conducted.
- Dale C. (PGE) – PGE doesn't background check until after the interview; hiring of candidate is contingent on passing background, drug test, and stress test.
- Dan D. (Cardinal IG) – we don't look that close. We have more problems w/folks failing a drug screen. Offenses too far back will probably be overlooked. DUI, other alcohol-related issues are the worst.
- Every employer here uses drug screening and insures applicants are legally in the country.
- Dale C. – driving is a requirement on the job on the wind farm. The driving record must be clean.
- Bruce H. - Passing a physical can be something we'll see as well.
- Re: credit reporting, they look for someone in financial trouble; it could mean they might miss work.
- Todd B. – Some employers look at social networks. What you post on Facebook in college may come back to bite you. It's important to get the right person the first time.

Employment Outlook - Abby/Suzanne/Jim Pytel

When Jim Pytel began teaching, he was curious to see which RET graduates were getting jobs, so he started checking casually, but Abby Brown took this on more formally after being hired in May. Jim noticed that many graduates worked at Siemens, Vestas, and Granite, but a slight change happened with the 1st Spring co-hort; we started seeing more employment by Sage-Tech, Cloud Cap, and other tech companies. It only took one hire by Sage-Tech, they inquired about where the person learned this, and more employment resulted. It's exciting! Abby now tracks employment and her goal is to compile data in one place, keep it updated, and follow up 6 months after graduation.

- Abby distributed a summary document spelling out employment for RET graduates (see attached). It only covers select years and some folks haven't been reachable, but we had a 77% response-rate, which is good. About ½ of former students work in wind, which is the largest group, but the 2nd largest area is technology. Siemens is the largest employer, with Sage-Tech coming in 2nd.

Comments:

- Ken H. - it'd be nice to know where, geographically, graduates ended up, locally or out of the area.
- Jim P.– some of these are great jobs. Students can also come back and talk about what they do!

Curriculum Updates - RET Faculty

- Jim P. – a former graduate commented that we need to offer a 'just-motors' class, so we're talking about adding a 3-credit motors class, likely to be offered the 3rd quarter of the 1st year. He's also working to enhance existing curriculum with more lab equipment. He plans to add ___ to the RET 101 class, which is a great hand's-on apparatus.
- Tom L. – has been using a Arduino board that allows you to create your own automation system. This has really helped learning, and it only costs \$30. He's seeing lights turning on with the students as they grasp what we've been teaching them. We're constantly looking at new ways to teach.

Note on Safety:

When Suzanne attended the NW Wind Operator's Conference, safety training needs came up and she was told to ensure we're covering these subjects in our safety classes: High voltage, Lock-out/Tag out, & Confined Space. She asked the group if anything was missing; no changes were noted.

Adjournment: The next meeting is tentatively scheduled for March 7th. We'll notify the group.

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March 12, 2012 ~ CGCC Board Room**

Present:

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- Abby Brown, CGCC
- Suzanne Burd, Instruction, CGCC
- Dale Coyle, PGE, Bigelow Canyon
- Dan Dunham, Cardinal IG
- Gayle Hammitt, RET Admin. Assist., CGCC
- Bruce Hamilton, Navigant Consulting
- Tony Hill, GE
- Kristen Kane, Student Advisor, CGCC
- Mary Kramer, CTE Director, CGCC
- Tom Lieurance, RET Faculty, CGCC
- Jim Pytel, RET Faculty, CGCC
- Scott Buehler, Iberdrola Renewables
- Abraham Martinez, CGCC
- Dr. Susan Wolff, CAO, CGCC
- Donald Sharp, RET Instructional Assistant

Todd Brogna began with introductions and minutes from the last meeting were approved.

RET Virtual Tour, Abby Brown

Abby's work to update the RET marketing materials spurred the creation of a RET Virtual Tour, which was recently completed. Abby gave a live demo.

Background: Thru her position as CGCC's RET program Advisor, Abby noticed virtual tours on other college websites, and decided to create one for CGCC's RET program. It utilizes Google Map functions and features video of RET students discussing various aspects to the program. The project was low budget and set up to allow adding additional 'stops' to what already exists. **To access,** go to the RET Careers web page: <http://www.renewableenergycareers.org/virtual-tour> & click on Virtual Tour. There are 5 stops to visit on CGCC's campus, each with a video pertaining to that location or lab. Click on video to view. She asked folks to pass the word!

Academic Master Plan Update, Dr. Susan Wolff

Dr. Wolff has been reviewing the feedback/comments gathered thru her AMP meetings. In the area of STEM, we're developing a program called "Embedded Technologies", which will have a focus on engineering principles, systems and process design, process management, computer systems, electronics, and other related topics to support multiple employers who use technology to design, use, and maintain systems through technology. Industry experts and faculty from OSU, PSU, and OIT will be involved in creating the curriculum and create articulation agreements for students to have a clear path to transfer into engineering programs.

RET students are interested in expanding to Solar and supporting hydro. The program is still well recognized, and the new program (Embedded Technologies) will fit in, allowing students other options.

- How do we work with entrepreneurs? How do we work with other colleges to create programs that allow folks to stay local? It's important to reach out to particular colleges and programs.
- Our ultimate goal is to provide what students need.
- Expect to hear more on this in the coming months.

RET Partners Summit, Suzanne Burd/Abby Brown

We're coordinating this event to include folks who have been with us since the beginning and those who will continue to be with us, i.e. those who can see where we were, where we are now, and where should we be going.

- Suzanne asked who should be at the table for this event. We'd like feedback from this group to guide us moving forward. The event will include a wind farm tour. If anyone has suggestions for who might

attend, please invite them or contact Suzanne, Abby, or Mary.

- Dr. Wolff added that in 2008, we hosted a Summer Wind Institute to start conversations related to necessary skills sets that led to the development of the AWEA Seal of Approval. That has been four years and it is time to check back in with industry at a deeper level. Suzanne - CGCC is also a sponsor for the Future Energy Conference, set for April 25-26.

Recent happenings/RET student opportunities:

CGCC held a Spring Career Fair March 9th with 13 organizations represented! GE and Siemens will be on campus to interview for internship positions, and enXco has hired our graduates.

Customized Training Update, Suzanne Burd

We recently finished electrical training courses and there will be a part two.

Feedback on the training:

- Dan Dunham (Cardinal IG) – those who attended were excited about the power labs. He didn't give their employees an option to attend (it was mandatory). There were some scheduling conflicts, but overall it was a useful, good training.

Climb/Rescue Tower Status

Suzanne demo-ed a 3-D computer image of the climb tower. We're selling time on this, so anyone interested should let us know. The tower will be stationed on the east corner, on the big curve near Bldg. 11. It'll definitely be visible. Companies have expressed interest in doing trainings on this. A confined space area allows for training & rescue simulation.

- There was a suggestion to add this to the virtual tour!

RET Funding, Mary Kramer

We're winding down the federal grant and this was the last piece (ear marks dollars that funded the tower), but now have another federal grant, the CASE Grant, which is structured to allow support to RET students. The first year is especially important, to have a 1-year degree in place. We'll be expected to complete more students in the program, so we're focusing on this for the CASE grant. These funds allowed hiring Abraham Martinez, CGCC's new Career Pathways Coordinator. Abraham will work with students one-on-one and take on a lot of Abby's responsibilities, including arranging Career Fairs, maintaining the RET website, working with students and helping meet needs of local employers.

After March, we'll fund RET primarily with general fund dollars and the CASE grant. The Partners Summit will allow us to see where we are and where we need to go.

- Dan D. – Asked if we lose money on each student? Mary – student fees will help defer costs.
- Dr. Wolff – we're very equipped at this point, but we may not be able to respond to faculty supply requests as readily as in the past. We've seen quite a drop in money coming to the college, so how do we continue to provide top-notch programs for our students? If students are successful in the program, job opportunities are brighter.
- Mary – announced that we still have an RET 122 (Mechanical Power II) instructor opening for Spring term, if anyone knows of leads or possibilities.
- Suzanne – we also need to upgrade equipment and can't always find budget for it.

Enrollment/Admissions, Kristen Kane

Kristen reported that we have 29 students enrolled in the 2nd yr RET program and 33 students in 1st yr. RET Admissions for Fall open June 20th for veteran's; the 21st for everyone else. We hope for 40

students. We're holding an open house on May 23rd.

Comments:

- Susan asked industry if our expectations too high (in hoping for 40).
- Jim Pytel – noted that 40 is rather high to manage labs, suggesting we lower to 32 or 36. Kristen added that given our last admissions experience, this is more realistic.
- Abby - Re: Job placement, a lot of schools do wind training and put out graduates on a frequent basis, but CGCC offers more advanced (electrical) training, so employers come to us for that reason. We're well-known for what we've done with RET (AWEA Seal of Approval, etc). We've seen a decrease in RET applicants due to an increase in overall training opportunities in the country. There are now over 100-140 wind training programs in the nation.
- Susan - We were one of 3 wind related programs in the country when we started it in 2006. Quite a change has occurred since.
- Dale C. – folks like the 2-yr program we offer because it's not fully wind (gives students flexibility)
- Dan D./Todd B. – noted they're seeing more growth out there as solar is being added.

Wind Challenge, Abby Brown

Abby discussed the upcoming H.S. Wind Challenge. This will take place in April. It's essentially a program for H.S. teams to learn about Wind Energy and Renewable Energy. 8 teams will come from various counties in the area (each team is 3-6 students). The curriculum was developed by a former RET faculty, and students do lesson plans in the H.S. classroom prior to the event, then on April 14th, visit the college, where they're presented w/a packet to construct a mini-wind turbine, design gear boxes, etc. They'll be tested on mechanical power, kinetics, and electric power and awards will be given.

Tom Lieurance and Jim Pytel (CGCC faculty) will be judging.

Date: April 14, 12: 30 pm. For details, go to: www.cgcc.cc.or.us/windchallenge

Lab Equipment, Jim Pytel

- Jim P. – we're working on getting lab inventory set up. Tom and he attended a training at Clark Technology Center on LabVolt equipment. Trainers now have greater functionality to meet our purposes. We can tailor the equipment to align with what we want to teach students. We also have the V27, but we don't really have a functional wind turbine here at CGCC, so are looking at other modules to provide training. We just need to pay for it.
- Tom – we've needed a crane for Bldg 11 (Bailey hall), and he stumbled on a piece of equipment (forklift) big enough to suit us, needed for rigging, to teach safety and teach what they can do. We're looking at purchasing more rigging equipment than we had prior.

National Guard Training Facility, Dr. Wolff

Dr. Wolff – A National Guard Training Facility is slated to be built on the east side of campus. We have an \$8 million capital construction bond, but we need to match it. There may be shared space in the NG building that we can use as match. One conversation is use the matched money to build an industrial skills lab, to house RET and also have a welding lab. A second conversation involves having Student Services move to the potential shared space as a 'front door' to the college. There will be a large drill floor with capacity for large events. Stay tuned for more information on this.