



RCNET

**Regional Center for
Nuclear Education and Training**

**Year 4
Midyear Evaluation Report
December 2014**





RCNET Year 4 Midyear Evaluation Report

December 2014

Prepared for

Regional Center for Nuclear Education & Training
Headquartered at Indian River State College
National Science Foundation, Grant No. 1104238

Prepared by

Meÿetal Inc., Research and Evaluation
Benjamin Reid, Principal Consultant
evaluate@gonuke.org

Table of Contents

Executive Summary	...3
Subaward Recipients Midyear Reports	...4
Webinar Survey	...9
Evaluation Recap & Plan Update	...11
RCNET Mgmt & Evaluator Alignment	...12
References	...15
Appendix A: Energy Competency Model	...16
Appendix B: RCNET Mission and Goals	...17
Appendix C: RCNET Logic Model	...18

Executive Summary

The Regional Center for Nuclear Education & Training (RCNET) was established by the National Science Foundation (NSF) to make sure the demand for skilled nuclear technicians is met in a standardized and systematic way.

The purpose of this report is to provide a midyear formative evaluation to inform RCNET's management team for use in its decision making during the second half of the year. The forth year evaluation services to date have been recapped and the evaluation plan has been updated for the second half of the year according to RCNET's project uses, indicators of success, and data collection timing. RCNET's Management and Evaluator have aligned their knowledge by identifying and closing the gaps in up-to-date knowledge between them, which will be valuable for future reports and frame of reference.

Two new sets of information have been collected from RCNET's stakeholders. RCNET's Subaward Recipients submitted Midyear Reports. Chattanooga State Community College's RCNET Specialist has transitioned to another position and they have reported that their midyear report will be completed once the new person is onboarded, likely in January. Midlands Technical College submitted their midyear report and attention should be paid to Items 1 & 2 as they are recommended best practices for the entire RCNET community. Second, Columbia Basin's students' answers to a survey regarding what they would most like to gain from future webinars, included network tips and "secrets to landing the job" and that they would most benefit from a webinar from industry hiring or HR managers.

Subaward Recipients Midyear Reports

The Evaluator corresponded with RCNET's two subaward recipients, Chattanooga State Community College and Midlands Technical College.

Request were made that they, 1) express anything that is lacking or that they need or that RCNET could be doing better in order for each college to accomplish its deliverables; and 2) express anything that they've done that is exceptional or a good practice that could be applied to other RCNET academic partners.

The categories of deliverables from the subaward agreement were listed (**Curriculum, Professional Development, Marketing & Outreach, Career & Academic Pipeline, Assessment**). They were reminded that this information was for formative, developmental purposes ("a means to let RCNET know what is right and what needs adjustment") and that their answers didn't have to be exhaustive as that would come with the annual report.

Robert Pace of Chattanooga State Community College responded that he is no longer the RCNET Specialist, that another person is temporarily holding that position but will also be leaving in the near term and the College expects to hire another person for the position in January. That new hire will be introduced to the Evaluator and RCNET management once hired, and this midyear report will be completed once that person is onboarded.

Clint Chandler of Midlands Technical College submitted his midyear report on December 10, 2014, and is as follows (pay attention to Items 1 & 2 as they are recommended best practices):

Item 1: For three years we conducted PD events and site visits and invited faculty from more than 100 colleges in South Carolina and a few from North Carolina and Georgia. As time has passed the number of participants has dwindled to only a few. On the other hand we have college and high school faculty that are interested in helping MTC get the word out, but are not part of the RCNET “family.” These teachers do not have programs in nuclear science or anything directly related to it, but do believe the nuclear industry is a career avenue their students should consider. I would like to see us capitalize on the interest of these second echelon instructors by allowing the college and the high school teachers to be designated RCNET Associate or Affiliate Instructors. The cost of this would be little or nothing, but the MTC/RCNET staff could be available to assist them in local outreach efforts. In the best case scenario, MTC/RCNET people could work side-by-side with college and high school personnel to conduct outreach and RCNET information sessions. In an alternate mode we could provide information and training to the college/HS staff so they could conduct their own nuclear career information sessions. In January we hope to conduct at least one session of this kind outside the Columbia, S.C. area. This will give us a chance to see if this operating mode for outreach will actually work. We will report our findings in the spring. The bottom line: We would like to be able to designate faculty people as Associates and/or Affiliates and try to pull them into the effort as a part of RCNET.

Item 2: As far best practices are concerned, we have implemented the online course (with an exam) for the *RCNET Academic and Careers Pathways*. Taking the course and passing the exam are required for graduation from the nuclear program.

MTC/RCNET has conducted a GAP analysis to compare the MTC/RCNET Operations curriculum with the GP Strategies material. This provides a baseline for comparison and some insight into how complete the new curriculum is and, perhaps, how it might be improved.

We feel that both of these activities are worth the effort to improve the program and should be considered by other participants.

Deliverables

Following is a summary of the main activities performed by Midlands Technical College for RCNET for the period August 1 to December 15, 2014.

- Slides were updated and enhanced for the NET 210 Thermal Sciences course. In particular, updates and enhancements to various slides were made for 13 of the lessons in NET 210. The revised materials were used during the fall 2014 NET 210 class.
- Slides on nuclear fuel and control rods were updated and enhanced for the NET 240 course on Nuclear Primary and Secondary Systems. In particular, 14 new or modified slides were developed for fuel and control rods.
- Information was prepared for the RCNET Curriculum Deliverables in Appendix A of the RCNET contract with Midlands Technical College. The Deliverables consist of three main items for each course: teaching materials, teaching module summaries, and test banks.
- The Midlands Technical College information that is currently on the RCNET web site gonuke.org was reviewed and compared to the material that is currently used for those classes to identify which materials need to be updated for the Curriculum Deliverables.
- A summary of the RCNET Curriculum Deliverables prepared for the courses are listed below.
 - New/updated sets of slides were assembled for four courses: NET 112, NET 210, NET 225, and NET 230
 - Teaching Module Summaries were developed for four courses: NET 112, NET 210, NET 225, and NET 230

- Test banks of examination questions were prepared or updated for three courses: NET 210, NET 225, and NET 230
- The book used by Midlands Technical College for NET 122 on Electrical Sciences was identified.
- The RCNET Curriculum Deliverables have basically been completed and are being assembled into a package for transmittal to RCNET. It is expected that this package will be sent to RCNET by mid-January 2015.

Professional Development

- MTC conducted a Professional Development Teleconference on October 31, 2014. Attendance consisted of nine participants from local colleges, six participants from SCE&G, and three students (grads) who talked to the group about their training experiences.
 - SCE&G discussed the importance of the industry partnership with attendees. There has been a problem in the past convincing colleges that working with an industry partner is necessary. Our SCE&G team made it clear that NUCP certification really necessitates such a partnership among other points.
 - The MTC team discussed the importance and methods for gap analysis with the participants. The MTC staff offered to assist those who were interested.
 - MTC staff discussed the incorporation of nuclear power plant simulations in the reactor theory course and how to use the simulator affectively in the Primary and Secondary Systems Course.

Marketing and Outreach

- MTC/RCNET personnel participated in the Midlands Utility Coordination Conference conducted in Columbia on November 20. This event hosted 125 participants. This was not exclusively a nuclear event, but it

did provide an opportunity to disseminate RCNET materials and “push” Gonuke.org to a larger than typical group.

- The MTC/RCNET group is scheduled to visit Blythewood middle School on Friday, December 12. The goal here is to develop a relationship with Blythewood and generate some interest in nuclear (fill the pipeline) with some of Columbia’s better students.

- The annual MTC/MEBA Teacher-Counselor STEM Day (an RCNET Event) was postponed until January due to the ABET visit to the Engineering Department in November.

Career and Academic Pipeline

- MTC is the only NUCP school for operations in South Carolina. One year ago we implemented a required “On-line” course for all Nuclear students. The focus (and topic) of this course is the RCNET Career & Academic Pathways Presentation, Job placement Assistance, Resumes, cover Letter etc... This year we have made participation mandatory for all scholarship applicants and is mandatory to graduate. We track participation by administering a test on-line. The participation is now 100% for all graduates.

Assessment

- MTC has participated in all RCNET-directed surveys this year.

- We have collected training and assessment metrics for MTC teaching modules only. MTC is the only SC School currently employing the Operations curriculum that we are aware of.

- We have not collected training and assessment metric for SC industry partners. None are using the RCNET teaching modules that we are aware of.

- Training and Assessment Metric will be detailed in the coming annual report.

Webinar Survey

RCNET has a productive lineup of webinars this year for students and faculty. In November, Dr. Michael Johnson presented on Nuclear Leadership. The main audience was a group of students from Columbia Basin attending the webinar together with the Director of their program, Dawn Alford. Thus, to improve RCNET's student webinars, the Evaluator contacted Dawn Alford at Columbia Basin with the following survey request:

1. What would be most valuable to LEARN in a webinar?
2. WHO would you most like to lead a webinar (e.g. academic admissions officer, industry hiring manager, resume and interview expert, etc)
3. Regarding the Nuclear Leadership webinar with Dr. Johnson,
 1. What did you appreciate?
 2. What could have been better?

Dawn Alford's compiled and synthesized the answers from the students at Columbia Basin. They are as follows:

1. What would be most valuable to LEARN in a webinar?
 - (1) Networking – Explain what it is/what it's not, importance of networking, and how to be successful in this endeavor.
 - (2) “The Secrets to Landing the Job” - How and when to apply, how to get the inside track on jobs before they are made public, key interviewing techniques – For most students, this will be the first technical-related interview they are exposed to and they are not feeling confident in knowing when they can apply for positions (since they are still enrolled in college) or how to present themselves especially in a behavioral-based interview.
2. WHO would you most like to lead a webinar (e.g. academic admissions officer, industry hiring manager, resume and interview expert, etc)?
 - Industry hiring manager and industry HR manager

3. Regarding the Nuclear Leadership webinar with Dr. Johnson,

1. What did you appreciate?

- They appreciated being able to ask questions and have direct contact with the webinar leader.

2. What could have been better?

- N/A

Evaluation Recap and Plan Update

August to November 2015

- Detailed, Actionable Evaluation Plan and Timeline, including Evaluation Focus, Main Evaluation Deliverables and Project Uses, Data Collection Plan with Indicators, Data Sources, Timing, and Responsibility, and Analysis and Interpretation with Comparison Types and Measures of Success
- Stackable Credentials and Certifications Obtainable While Completing Nuclear Energy Programs at RCNET Academic Partners
[See Appendix A: Energy Competency Tier Model for Skilled Technicians, which visually illustrates the best recommendations from industry to focus on the energy specific credentials and leave the auxiliary performance based credentials as added information under RCNET’s goal, “Be a central point of contact for career assistance.”]
- Feasibility of Sustainability with Nuclear Medicine and Nuclear Pharmacy Partners
- Logic Model and Real Time Data System Development
[See Appendix C: RCNET Logic Model which updated as part of EvaluATE’s webinars “Logic Models” and “Connecting Logic Models to Data You Can Use”, and the FAS4ATE workshop “Moving toward Real Time Data for ATE Projects”]

January to May 2015

- Stakeholder Survey after Professional Development at CONTE
- Survey of Participants in Internships and Webinars
- Annual Subaward Recipients Progress Report
- Nuclear Ownership Capture and Secondary Education Courses
- Stakeholder feedback workshop for utility of evaluation findings
- RCNET End of Year Evaluation Report

RCNET Management and Evaluator Alignment

RCNET Management and its Evaluator identified the gaps in up-to-date knowledge between them valuable for future reports and frame of reference. The following were the outstanding questions from the Evaluator, with the answers in blue from RCNET management.

1. Has NEI completed its survey of NUCP schools?

The survey is upcoming in February and RCNET is also doing a survey to get the maximum results.

2. Which of RCNET's goals are "complete", which goals are "in progress", and of those which are "priorities" for the second half of this year?

[See Appendix A: RCNET Mission and Goals, for a complete description of the referenced goals; and Appendix B: RCNET Logic Model, for a visual representation of how those goals are being met and measured.]

- Standardized curriculum: Completed and on-going as dictated by industry
- Learning repository: Completed. Sent out form for any new or updates that are being used.
- Professional development: On-going, completing partner wide program in February 2015.
- Unique systems: On-going and new systems are being developed. Working to find a simulation program that will advance classroom training.

- Academic and career pathways: Completed. Looking at finding ways to expand breadth and knowledge so that career pathways are available in Nuclear fields other than energy.
- Marketing and outreach: On-going. Creating challenges that will be instituted in 9-12 classrooms that will increase awareness for minorities and females.
- Career assistance: Completed. Use two webinars a year to help improve softskills and updates on industry needs.

3. Which RCNET partners have active programs?

See below for list of active programs.

School

Paine College

Texas A&M University

Luzerne County Community College (Dissolved)

Orangeburg-Calhoun Technical College (NUCP)

Spartanburg Community College (NUCP)

West Kentucky Community & Technical College (Dissolved)

Salem Community College (NUCP)

Westchester Community College (NUCP)

University of Toledo

Gaston College

University of Massachusetts

A.B. Tech

Brazosport College (NUCP)

Catawaba Tech

Maine Maritime Academy

East Carolina University

Lowell

North Carolina State University

South Carolina State University

Idaho State University/ESTEC (NUCP)
Lake Michigan College (NUCP)
College of Southern Maryland (NUCP)
Texas State Technical College - Waco
Miami Date College (NUCP)
Florida International University
Onondaga Community College
St. Cloud Technical & Community College
University of Florida
Southeast Community College
Metropolitan Community College
Chattanooga State Community College
Lakeland Community College (NUCP)
Columbia Basin College
Excelsior College
University of Missouri
New Mexico Junior College
Estrella Mountain Community College
Dakota County Technical College
Bismark State College
Central Piedmont Community College
Augusta Technical College
Monroe County Community College (NUCP)
Indian River State College
Aiken Technical College
Midlands Technical College
Florence Darlington Technical College
Wallace Community College
Three Rivers Community College (NUCP)
Lakeshore Technical College
Wharton County Junior College
State Technical College of Missouri (NUCP)

References

"Criteria for Selection of High-Performing Indicators A Checklist to Inform Monitoring and Evaluation." *Evalu-ATE*. Web. 15 Aug. 2014.

"Electrical Distribution Technician Training System." *Evalu-ATE*. Pearl River Community College. Web. 1 Aug. 2014.

"FEEDBACK WORKSHOP CHECKLIST." *Evalu-ATE*. Web. 1 Aug. 2014.

Frechtling, J. (2010) The 2010 User-Friendly Handbook for Project Evaluation. NSF02-057. Arlington, VA: NSF.

Lewis, Eileen. "Comprehensive List of Possible Evaluation Components." *Evalu-ATE*. Web. 1 Aug. 2014

Lewis, Eileen. "Questions to Help Analyze an Evaluation Plan." *Evalu-ATE*. Web. 1 Aug. 2014.

"NARRATIVE NETWORKS EVALUATION PLAN 2012—2014." *Evalu-ATE*. Web. 1 Aug. 2014.

"Original Evaluation Plan (October 2008)." *Evalu-ATE*. Web. 1 Aug. 2014.

"POSTER: Meet Them Where They Are: Web-based Evaluation Capacity Building." *Evalu-ate*. 1 Oct. 2013. Web. 1 Aug. 2014.

"Webinars (EvaluATE) on EVALUATION PLANS." *Evalu-ATE*. Web. 1 Aug. 2014.

Wingate, Lori A. "ATE Evaluation Primer." *Evalu-ATE*. 1 Sept. 2013. Web. 1 Aug. 2014.

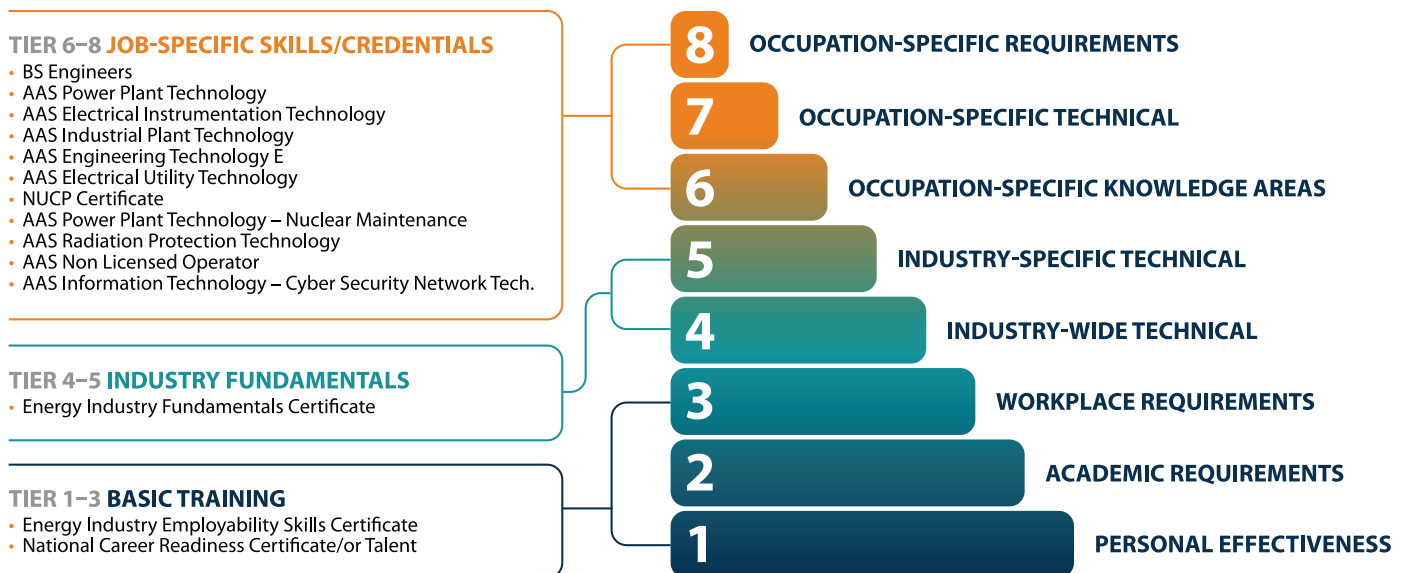
Wingate, Lori A. (2013). Logic Model Template for ATE Projects and Centers. Lastretrieved from: <http://www.evalu-ate.org/resources/logic-model-template-for-ate-projects-centers-2/> on October 11, 2014.

Appendix A: Energy Competency Tier Model for Skilled Technicians



ARIZONA SUN CORRIDOR CONSORTIUM

Arizona Stackable Credentials



ENERGY COMPETENCY TIER MODEL FOR SKILLED TECHNICIAN POSITIONS IN ENERGY EFFICIENCY, ENERGY GENERATION AND ENERGY TRANSMISSION AND DISTRIBUTION

Appendix B: RCNET Mission and Goals

Regional Center for Nuclear Education and Training (RCNET)

Background

In August of 2011, the National Science Foundation (NSF) established the Regional Center for Nuclear Education and Training (RCNET) to address the workforce demands of nuclear energy technicians in a unified and systematic way. RCNET is located at Indian River State College (IRSC) in Fort Pierce, FL and is a consortium of 46 colleges and universities, 35 industry partners, and multiple agency and other partners.

RCNET's primary focus is on two-year college training and it involves partnerships between academic institutions and employers to promote improvement in the education of nuclear technicians at the undergraduate and secondary school levels. RCNET is also responsible for curriculum development, professional development of college faculty and secondary school teachers, career pathways to two-year colleges from secondary schools and from two-year colleges to four-year institutions, and providing standardized quality resources to schools across the region.

Mission Statement and Goals

RCNET was established to make sure the demand for skilled nuclear technicians is met in a standardized and systematic way. The seven key goals of RCNET are:

1. Provide standardized curriculum, human performance, PBL, PBR and hands-on labs for nuclear technicians.
2. Develop, categorize, and maintain a learning repository for nuclear curriculum.
3. Provide professional development for secondary, post-secondary, and industry trainers.
4. Provide remote access and lesson plans to embed unique training systems.
5. Provide career and academic pathways for students and technicians.
6. Promote marketing and outreach efforts to target under-represented women and minority groups in the nuclear industry.
7. Be a central point of contact for career assistance.

Appendix C: RCNET Working Logic Model

Inputs	Activities	Outputs	Short-Term Outcomes	Mid-Term Outcomes	Long-Term Outcomes
NSF Funding	Standardized Nuclear Curriculum	1,102 ACAD learning objectives determined	Faculty learn to use teaching toolkits	Faculty improve instruction	Industry and regulatory more assured of nuclear employees' education and training
In-kind Contributions		Curriculum Review Committees established	RCNET students' interest in higher academic degrees increases	INPO adopts RCNET's curriculum	
RCNET Senior and Support Staff		Curriculum material purchased		Nuclear culture created in partner colleges	Increased diversity in the technical workforce
Advisory Committee		Curriculum Material developed	RCNET reputation with industry increases		
Industry Partners	Learning Repository	Best in class material collected		More higher academic degrees sought	A more highly skilled and adaptable workforce
Academic Partners		Web based database built	Nuclear industry and profession gain higher recognition		
External Evaluator	Professional Development	Events, courses, and webinars		Students gain skills on unique systems	
	Unique Systems Training	Academic and Industry Partnerships	Industry and job seekers' awareness of central job repository increases	www.gonuke.org becomes a central job tool for industry and job seekers	
	Academic and Career Pathways	Articulation agreements			
	Career Assistance	Job repository on website			
	Secondary Outreach and Diversity Recruitment	Promotional material developed and disseminated			
		Partnerships			
	Nuclear Outreach	Public relations and events			