



Water Center of Excellence

Quarterly Progress Report

Reporting Period: October 1st to December 31st, 2015

January 30, 2016

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Project Purpose

The Nevada Center of Excellence (NvCOE) in Water aims to make Nevada a global water innovation hub and portal for investment by leveraging the state's leadership and expertise in water. The NvCOE business model involves a joint venture between academic, public, and private sectors. Each partner brings critical resources to create a mechanism to accelerate the economic cycle through applied research. These resources will lead to technology commercialization that will bring high-value, shared services to a broad range of public and private sector clients as well as an advanced workforce with core technology skills and domain expertise to meet employers' needs and attract technology-focused companies to Nevada. At the same time the NvCOE's efforts will enhance Nevada System of Higher Education's goal of strengthening public private partnerships to generate additional sources of nonfederal grants and contracts. By combining the domain expertise of the NSHE institutions, SNWA, and the LVGEA, the NvCOE will:

- Act as a portal for attracting, partnering with, and servicing national and international business in the water domain.
- Deliver high-value, shared services to public and private sector clients while building job skills and assisting DETR to grow Nevada's future workforce.
- Assist with commercializing and distributing the collective domain expertise in water sciences, technology, and management areas with NSHE & Water Utility Partners (SNWA, TMWA, etc).
- Provide additional sources of grants and contracts to NSHE faculty members

Section I: Proposal Progress

During the reporting quarter, the NvCOE has made significant progress toward meeting proposed metrics. Major accomplishments for the current reporting period include:

Major Accomplishment 1:

Signed Agreements with Two Companies – The NvCOE signed two agreements with Israeli companies for demonstration of technologies that support the needs of the Southern Nevada Water Authority.

- Ayyeka – After a successful installation of Ayyeka's "Wavelet" System was completed within SNWA's infrastructure during Quarter 3, the NvCOE, SNWA, and Ayyeka have identified future initiatives relating to larger-scale installations, research and development, public policy development and regulatory enforcement, public relations, and workshops. In return, Ayyeka has committed to establish a business entity in Las Vegas within the first year and will further develop physical operations for business development, marketing, product development, and manufacturing over the next 3 years.
- Outlocks (Knock N'Lock, Ltd.) – The NvCOE successfully facilitated an agreement between Outlocks and SNWA. Installations have begun at locations throughout SNWA facilities of the Outlocks unique locking system which has been designed to address the unique requirements of securing outdoor assets. In return, Outlocks has agreed to find a Nevada-based business to sell and distribute their products to water utilities within the United States.

Major Accomplishment 2:

Acquired 2 New Members – The NVCOE gained two new partners in the 3rd quarter, thereby providing additional opportunities for companies to demonstrate new technologies.

- Winnemucca Farms/Water Asset Management (WAM) – Winnemucca Farms, which is managed by Water Asset Management, LLC, will bring to the NVCOE innovative leadership in agriculture and water rights. The NVCOE will work with WAM to develop an agriculture innovation priority list and to coordinate the recruitment, testing, and demonstration of technologies utilizing Winnemucca Farms as a test-bed. As a member, WAM will gain the opportunity to participate in the selection committee for agriculture-related water technologies selected as part of the NVCOE commercialization fund program.
- MGM Resorts International– MGM Resorts International is an innovative leader in water conservation for commercial properties and brings value to the state and the NVCOE in both conserving water and the potential to create valuable employment opportunities. The NVCOE will work in partnership with MGM, One Drop and other MGM assets to create an innovation priority list, recruit and evaluate technology solutions, and develop opportunities for technology testing and demonstration projects.

Major Accomplishment 3:

Initiated Negotiations with Companies from Round 1 – In addition to obtaining 47 new leads this quarter, the NVCOE initiated negotiations with 3 UK-based companies selected from the 13 proposals submitted as part of Round 1 of the commercialization fund RFP process as well as an additional company that was introduced to the NVCOE during meetings that took place in London as part of the trade mission.

- Syrinx - Syrinix, created in 2004, focuses on developing monitoring technologies that detect leaks and potential pipe failures at a very early stage. Their sales have primarily been targeted to the UK market (Thames Water is their largest customer) but they anticipate that the greatest opportunity for growth will be a U.S. expansion. Because of the significant benefits from Syrinix technologies in the areas of break reduction, risk and asset management, and reduced water loss, the NVCOE and SNWA began negotiations to test and demonstrate PipeMinder at 10 locations within SNWA's infrastructure. PipeMinder monitors pipelines and networks for pressure transients traveling through the transmission and distribution networks. As Syrinix forecasts their U.S. expansion, they are including considerations for developing supply chains and manufacturing options for lithium batteries and other product components as well as a location for hosting their data servers.
- Ionex – Ionex is a UK-based water treatment company that has developed solutions for treating nitrates and hexavalent chromium. Ionex is the first investment in the U.S. market by the parent company Severn Glocon. Ionex is already incorporated in Nevada but has been working closely with UC Davis in California on research and development of their treatment technologies. Because of high costs in California, Ionex is eager to relocate and have plans to base their electrical equipment design and build elements in Nevada, along with recruiting 3 permanent staff to service their water treatment OEM needs across the southwest region. Ionex is

interested in piloting their nitrate treatment technology, which is a technical priority of SNWA, at no cost.

- **Intelligent Modelling** – By utilizing satellite imagery in conjunction with their patent pending technology, Intelligent Modelling is able to map pluvial flood water pathways to predict and protect against flooding in urban and rural environments. Through discussions with the NVCOE, DRI faculty, and SNWA, two projects have been identified in the Las Vegas Valley to demonstrate the technology’s capabilities. Intelligent Modelling has committed to basing its U.S. operations in Nevada with a local employment projection of 3 employees in year 1, 5-10 in year 2, and 20-30 in year 3 as opportunities for commercial revenue are created.
- **OXEMS** – OXEMS has developed a technology for locating, identifying, and managing underground assets belonging to utilities. The U.S. is their top international target, therefore, they are seeking a partner to help facilitate market entry, overcome regulatory hurdles, and develop the business. SNWA has expressed significant interest in this technology and is currently circulating OXEMS’ project proposal through their management team.

Additional Accomplishments

- Round 2 Commercialization Fund Request for Proposals – GOED and the NVCOE distributed a second request for proposals in October to Israeli companies that demonstrated interest during WATECH (the annual Water and Wastewater Management Conference in Israel). Responses to the RFP were submitted by 18 Israeli companies interested in working with the NVCOE and establishing business activities in Nevada. In addition, the NVCOE received 13 proposals from companies that continued to submit their proposals even after the deadline date of the round 1 commercialization fund request through the assistance of Isle Utilities.
- Job Growth at Water Sharks – Water Sharks is a water treatment company that became a member of the NVCOE in August of 2015. Since working with the NVCOE and establishing their offices in North Las Vegas during Q1, Water Sharks has grown their staff to a total of 5 employees, which include UNLV graduates. The NVCOE assisted their growth by circulating position descriptions among the University faculty and the Lee Business School.

Commercialization / Partnering

- Israeli Activities – In addition to attending WATECH in October, the NVCOE has continued outlining and developing a partnership strategy with the Israeli Ministry of Economy. The agreement to be signed will provide opportunities for Israeli water technology companies to receive matching support from the Israeli government as a match to NVCOE funds awarded for technology innovation projects.
- Finland Joint Funding Initiative – During Round 1 of the RFP process, the NVCOE received a proposal from a consulting group called Gaia, in association with the Finnish Water Forum (Finland’s largest water industry association) and Environmental Financial Group (EFG, an international management consultant). Although this proposal did not fit the objectives of the commercialization program, the NVCOE recognized the potential opportunities for collaboration with Finland and have since initiated discussions to issue a joint RFP between the NVCOE and the Finnish Innovation Funding Agency to allow Finnish water technology companies to expand their businesses into Nevada.

- China – The NVCOE participated in the Governor’s trade mission to China. While in China, delegates visited Nanjing and met with a team from the University of Hohai, including water resource ministry officials. In addition, the Governor signed a MOU with the Jiangsu Province for collaboration on various water technologies. The NVCOE also had discussions with a Singapore-based company that is starting a water innovation center in Nanjing focusing on developing collaborations center around water technologies. This meeting was also attended by a representative from Isle Utilities.
- NVCOE member support in Germany - The NVCOE and a member technology company, Water Sharks, visited Germany to participate in a proposal development workshop organized by USAID. This collaboration has resulted in Water Sharks, with the assistance of NVCOE, submitting two proposals for potential projects with USAID.

Intellectual Property

NA

Programmatic & Project Changes

Beginning in Q2, NVCOE would like to bring on additional consulting services for recruiting, evaluating, and supporting water tech companies. Services for Booky Oren Global Water Technologies would add an additional \$10,000 per month to the Israeli Rep. budget. Proposed Metrics for this support include:

- Tech Scouting / Recruitment: 4 companies per month, 4 wins annually – focus on tech. for commercial buildings, mining, and agriculture
- Post Pilot Phase Support for NVCOE Technology Company Members: 12 tech. company support consultations annually – could include:
 - Opportunity Identification/Strategy Development
 - Strategic Introductions – client or partnership
- Strategic Partnerships: 2 annually – examples could include: other utilities, engineering firms, large water technology companies; partnerships would support: R&D, tech. testing, commercialization and start-up funding or membership support for NVCOE.

Looking Forward


In the First Quarter of 2016 is expecting to accomplish the following:

- Finalizing agreements and implementing projects with the four companies selected from Round 1, as described above. This will include an estimate total of \$120,000 of funds used from the commercialization fund to support projects with the above mentioned companies. See the included Sales Pipeline doc for more detail.
- World Water Tech Investment Conference - Nate Allen has been invited to present to an international conference on water technology investment in London in late February. The presentation will be part of a panel discussion on public-private-partnerships where Nate will highlight NVCOE’s model and its successes. Meeting with a number of the companies and organizations with opportunities to collaborate further, will also use this visit to London to follow up on the Governor’s Trade Mission this past summer.

- Moving forward in identifying projects with companies selected from Round 2. This will most likely include projects with 2 companies that could begin within Q1 2016. Two other companies have been identified as more longer-term opportunities.
- Launch new organization name along with a revamped marketing platform including new website, marketing collateral and social media platforms.

Section II: Performance

Table 2: Progress Toward Metrics



Nevada Center of Excellence Progress Dashboard

Metrics as defined by Knowledge Fund	Current Status/Target Status		
	Actual Q4 2015	Estimated By June 30, 2016	Estimated By June 30, 2017
Companies Moved to Nevada	2	10	15
Start-up Companies	-	-	-
Jobs Created	4	90	180
IP Licenses	-	-	-
IP Revenue	-	-	-
Grants Received	-	\$530,000	\$890,000
Sponsored Research:			
# of Contracts	-		
Total \$ Committed	-	\$210,000	\$250,000
Patents:			
Filed	-		
Awarded	-	4	6
Students placed with Companies	1		
Faculty Hired	-	4	2
Gifts/Donations/Memberships	\$100,000	\$725,000	\$1.025M
Student Internships	-		

Notes:

Color Key:

n/a or target of	Too early to	Goal not met	Close to	Goal
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Project Scorecard Narrative

Companies Moved to Nevada: See Major Accomplishment 1

Start-up Companies:

Jobs Created: 4 positions have been filled at Water Sharks, a member of the NVCOE since August 2015.

IP Licenses:

IP Revenue:

Grants Received:

Sponsored Research:

Patents:

Students Placed with Companies: One of the 4 hires by Water Sharks is a UNLV graduate.

Impact Faculty Hired:

Gifts/Donations: Received 2 new memberships from companies (MGM Resorts International, Winnemucca/WAM).

Student Internships:

Section III: Budget

In the fourth quarter of 2015, the second quarter of the Phase 2 grant from the Knowledge Fund, the total expenses of the Water Center of Excellence were under the projected budget. Total Salary & Benefits expenses were under the projected amount primarily due to the time needed for filling the Administrative Assistant positions. The Admin position has since been filled beginning January 4, 2016. Travel expenses were over the projected levels primarily as a result of increase activity to get TMWA and Winnemucca Farms involved in NVCOE. No significant purchases were made or are projected to be made. The Water Center of Excellence does not anticipate directly funding Graduate Tuition.

Water Center of Excellence Expenditures			
For Reporting Period			
Oct 1 – Dec 31, 2015			
	Q4 Actuals	Q4 Budget	Year to Date Jul 1-Sep 31, 2015
Total Salary & Benefits	\$ 107,086.72	\$ 126,500.00	\$ 186,356.14
Equipment	\$	\$	\$
Travel	\$ 11,822.88	\$ 7,500.00	\$ 30,246.28
Other Direct Costs	\$ 88,752.77	\$ 126,000.00	\$ 117,678.54
Graduate Tuition	\$	\$ -	\$
Total	\$ 207,662.37	\$ 260,000.00	\$ 334,280.96

In the fourth quarter of 2015, the second quarter of the Phase 2 grant from the Knowledge Fund, the total income of the Water Center of Excellence was under budget. The total grants & contracts awarded equaled \$50,000. This was a received from a single industry funded research project. No funds from gifts or Cont. ED/Outreach was projected and no income was received. Other contributions made through membership dues to the Water Center of Excellence were over what was budgeted. The total to be billed to the Knowledge Fund for this past quarter is again under the projected funding amount for this past quarter.

Water Center of Excellence Income			
For Reporting Period			
Oct 1 – Dec 31, 2015			
	Actuals	Budget	Year to Date Jul 1-Sep 30, 2015
Grants / Contracts*	\$ 50,000.00	\$ 160,000.00	\$ 131,080.00
Gifts	\$	\$	\$ -
Cont. ED/ Outreach	\$	\$	\$ -
Other Contributions*	\$ 90,000.00	\$ 80,000.00	\$ 145,000.00
Knowledge Fund	\$ 197,662.37	\$ 200,000.00	\$ 334,281.96
Total	\$ 337,662.37	\$ 440,000.00	\$ 610,361.96

Section V: Appendix

Appendix 1 – Sales Pipeline

See Attached table