Harry Reid Center of Environmental Studies: Quality assurance program evaluation

Michael G. Herenick
University of Nevada - Reno

Stephanie C. Hill
University of Nevada, Las Vegas

Tya R. Mathis
University of Nevada - Reno

Greg Troutman
Southern University

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Harry Reid Center for Environmental Studies:
Quality Assurance Program Evaluation
December 2006 to May 2007

Michael G. Herenick
Master of Public Administration Candidate
Bachelor of Arts, Political Science
University of Nevada, Reno

Stephanie C. Hill
Master of Public Administration Candidate
Bachelor of Science, Work Force Education
University of Nevada, Las Vegas

Tya R. Mathis
Master of Public Administration Candidate
Bachelor of Arts, Political Science
University of Nevada, Reno

Greg Troutman
Master of Public Administration Candidate
Bachelor of Science, Accounting
Southern University

Visit the Quality Assurance Evaluation Website at:
http://webpages.charter.net/deanl/qeval/

University of Nevada, Las Vegas
PUA 791, Section 001
Dr. Christopher Stream
May 9, 2007
ACKNOWLEDGEMENT

The Quality Assurance Evaluation Team would like to thank the Quality Assurance staff of the Harry Reid Center for Environmental Studies (UNLV) for their invaluable support throughout this evaluation.

We would also like to thank all participating Principle Investigators and Researchers at UNLV, UNR, USD and DRI.

Dr. Frank DiPuma for his feedback during our presentation process.

The Faculty and Staff of the Department of Public Administration (UNLV).

Dr. Christopher Stream for his guidance and support over the course of this evaluation.

The evaluation team would like to dedicate our final evaluation to our family and friends whom have supported us throughout our pursuit of higher education.
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EXECUTIVE SUMMARY

The Quality Assurance (QA) Program is critical in the licensing of the Yucca Mountain Repository because it helps ensure that the information used to demonstrate the safety of the repository is defensible and well documented. Through audits and surveillances the QA staff identifies areas of non-compliance within each task. The QA Program at the Harry Reid Center (HRC) for Environmental Studies can increase compliance with Quality Assurance Procedures (QAPs) by improving the program's process.

Through qualitative and quantitative research it was determined that reasons for non-compliance revolved around three key areas: process, communication and training. Communication and training are key components of the process for ensuring compliance. Therefore, our recommendations focus on process improvements.

This evaluation contains recommendations related to improving processes within the QA Program. In particular, the QA Program should enhance its current training program by making it more hands on, utilizing pre/post-tests, requiring mandatory annual training, creating an easy to use reference manual and hiring a full time trainer. In addition, communication can be improved by increasing the number of meetings between PIs and researchers, having mandatory regularly scheduled meetings with QA staff in the Reno area, and creating and maintaining a database for all staff associated with every task. Finally, the QA Program should create incentives for compliance and consequences for non-compliance.
PurPOSE OF EVALUATION

The purpose of this evaluation was to determine the causes of non-compliance specifically in the area of inattention to detail within the Quality Assurance (QA) Program at the Harry Reid Center (HRC) for Environmental Studies at the University of Nevada, Las Vegas (UNLV). As defined by American National Standards Institute (ANSI) and American Society of Mechanical Engineers (ASME) non-compliance is a deficiency in characteristic, documentation, or procedure that renders the quality of an item, sample, or activity unacceptable or indeterminate. The evaluation team sought to determine the causes of non-compliance and offer recommendations to improve the program's process. This was achieved by completing a two stage process within the evaluation. Stage one was exploratory in nature utilizing qualitative data to develop a quantitative survey for stage two.

STAGE ONE OF EVALUATION

Stage 1 was the exploratory process of the QA evaluation. It consisted of the following five steps:

- Step 1: *Initial Meeting with QA staff* - The evaluation team met with QA staff to identify issues and or concerns within the Quality Assurance program.
- Step 2: *Training Observation* - The evaluation team observed the training that is provided to all researchers prior to them beginning work on their specific tasks.
- Step 3: *Documentation Review* - The evaluation team reviewed Government Accountability Office (GAO) reports on the Quality Assurance program in addition to non-conformance reports (NCRs), audits, trend reports and surveillances.
• Step 4: *Questionnaires* - Questionnaires were given to QA staff and Principle Investigators (PI's) to identify what they perceive to be the strengths and weaknesses of the QA Program procedures.

• Step 5: *Interviews* - One-on-one interviews were conducted with the QA staff and participating PI's in an effort to further focus the evaluation.

**STAGE TWO OF EVALUATION**

The qualitative data produced from the exploratory process of Stage one established six themes that were then used to produce a survey and gather quantitative data for Stage two of the evaluation. The themes used to gauge the researchers' perception of problems, if any, with Quality Assurance Procedures (QAPs) were: process, communication, training, time, funding, and language barrier.

**QUALITY ASSURANCE PROGRAM BACKGROUND**

In 1982, the United States Congress enacted a law called the Nuclear Waste Policy Act. The Act established a comprehensive national program for the safe, permanent disposal of highly radioactive wastes. These materials are a result of nuclear power generation and national defense programs and are currently stored at 126 sites around the nation. Based on the principle that our society is responsible for safely disposing nuclear waste, the Act directed the United States Department of Energy (DOE) to study suitable sites for a geologic repository. The DOE began studying Yucca Mountain, Nevada, in 1978 to determine whether it would be suitable for the nation's first long-term geologic repository for spent nuclear fuel and high-level radioactive waste. Yucca Mountain is located in a remote desert on federally protected land within secure borders of the Nevada test Site in Nye County, Nevada (OCRWM, 2006).
In recent years, energy efficiency and renewable energy sources have steadily gained popularity in Nevada. Currently, ranking second in the Nation in the development and use of its geothermal resources, Nevada has considerable hydroelectric capacity. On July 23, 2002, after more than 15 years of scientific investigation, President Bush signed House Joint Resolution 87, approving the Yucca Mountain site in Nevada as a suitable location for the development of a long-term permanent repository for high-level nuclear waste.

The Office of Civilian Radioactive Waste Management (OCRWM) is a program of the DOE assigned to develop and manage a federal system for disposing of spent nuclear fuel from commercial nuclear reactors and high-level radioactive waste from national defense activities. The OCRWM is required to comply with regulations issued by the Nuclear Regulatory Commission (NRC) as delineated in Chapter 1 of Title 10 of the Code of Federal Regulations. These regulations require that a QA Program be implemented to ensure that activities performed and work related to the Yucca Mountain project be completed in a manner that protects the health and safety of the public. In addition, in order to ensure that the information submitted to the NRC is verifiable and well documented, the NRC requires nuclear facilities to develop a QA Program that includes a process to identify problems, develop corrective actions, and monitor the effectiveness of these actions. The DOE/OCRWM Yucca Mountain Site Characterization Office are responsible for directing the Yucca Mountain Site Characterization Project (YMP).

The principle mission of the HRC is to support multi-disciplinary research teams, provide expertise to solve complex environmental problems, and develop innovative environmental monitoring technology. In keeping with the principal mission, the QA group of the HRC for Environmental Studies at the University of Nevada, Las Vegas administers a five-year Cooperative Agreement between the Nevada System of Higher Education (NSHE)
(formerly the University and Community College System of Nevada) and the DOE/OCRWM. The cooperative agreement was signed in December 2003 and functions as the legal instrument reflecting the relationship between the United States Government and the state of Nevada with the principal purpose of transferring funds to the state to provide adequate confidence that the Yucca Mountain Geologic Repository and its subsystems will perform at satisfactory levels in service.

The cooperative agreement between NSHE and the DOE is entitled “Scientific & Engineering Studies of the Potential Yucca Mountain Repository.” Under this cooperative agreement, NSHE has been mandated to establish and effectively implement a QA Program. The QA Program is required to (1) train personnel in quality assurance; (2) inspect activities that affect quality; (3) establish controls over testing programs and test equipment, such as ensuring that the equipment is properly calibrated; (4) establish and maintain records, including records documenting the qualifications of personnel performing repository work; and (5) verify compliance with the rules and procedures of the quality assurance program to determine the effectiveness of the program.

It is of utmost importance to the NSHE that the data produced under the Cooperative Agreement be usable by YMP. Continued funding of any scientific or engineering study for the Cooperative Agreement may be dependent on compliance with the NSHE Program. The QA group of the HRC has expressed strong concern with improving processes within the QA Program. They specifically expressed a concern with deficiencies in scientific investigation control and implementing documents. The contributing causes are believed to be “inattention to detail” and “lack of understanding” signifying that the task personnel are not grasping the requirements of the QA Program. Based on this information, this evaluation focused on the causes of non-compliance specifically inattention to detail.
DOCUMENT REVIEW

In order to grasp an understanding of how the Quality Assurance program operates and to help validate our evaluation recommendations, the evaluation team reviewed several documents. The documents reviewed were the NSHE Quality Assurance Annual Nonconformance Reports (NCRs), Trend Reports, and the Corrected During the Audit (CDAs), and Surveillance reports for the years 2003 through 2006. The purpose of the reports are to "summarize trend-related actions identified during the year and to determine if there are any trends that may be adverse to quality" (1) as defined by Nevada System of Higher Education (NSHE) QA Program. For all four years the majority of deficiencies were due to "inattention to detail".

Quality Assurance Surveillance Reports were examined from 2006. The QA surveillances are observations performed by the QA staff periodically. The overwhelming deficiency was inattention to detail. The following documents were also reviewed to help the evaluation team further understand how the QA program operates: personnel listings, QA Program Indoctrination and Scientific Notebook Training Video (used for training of personnel), training materials, and related websites.

GAO studies were examined to help our evaluation team determine and examine GAO findings for processes concerning the QA Program. GAO is a federal agency that works for Congress to study the programs and expenditures of the federal government. In their May 28, 2003 report they noted that

"DOE's track record of correcting problems with its quality assurance program is less than favorable. Reoccurring problems have persisted in the program despite DOE's numerous attempts to correct them. DOE evaluations and Nuclear Regulatory Commission (NRC) oversight activities have concluded that the program still falls short of expectations." (2)
Due to the nature, complexity, time restraints, and volume of information available for the evaluation, case studies and scholarly articles were read to help the evaluation team understand the challenges facing the QA Program. These documents had similar findings as noted by Diana R. Silimperi in her QA evaluation, "organizations must develop a framework that comprises defining quality, measuring quality, and improving quality to support the institutionalization of Quality Assurance." (3)
METHODOLOGY

Exploratory research was conducted, seeking to identify reasons for non-compliance with quality assurance procedures specifically inattention to detail. Two stages of data collection assisted in the evaluation. The first stage, exploration process, consisted of five steps of various methods of data collected which functioned to suggest further areas to measure; initial meeting with QA staff, QA training observation, document review, questionnaires, and interviews. The second stage incorporated six areas that were identified from the qualitative research to collect quantitative data through surveying; process, communication, training, time, funding, and language barrier.

STAGE ONE

Step 1: Initial Meeting with QA Staff

The exploration process began through the following methods of analysis: initial meeting with QA staff, observation of training, document review, questionnaires, and interviews. First, the evaluation team met with the QA staff of the HRC to identify problems and reasons for the evaluation. The eight member staff expressed concerns with non-compliance and a need for process improvement during the initial meeting with the evaluation team.

Step 2: QA Training Observation

In the second step, the QA Training Program was observed. The brief introduction and digital presentation were followed by questions for the trainer, Barbara Roosa, QA Specialist I.
Step 3: Document Review

Following the observation, documents were reviewed; non-conformance reports, audits, surveillances, and GAO reports. The document review was used to gather information specific to the deficiencies in compliance with the QAPs.

Step 4: Questionnaires

The information collected from the initial meetings, training, and document review was used to create questionnaires. It was determined that the questionnaire could be completed in approximately 20 minutes (Appendix I). The questionnaires were distributed to the QA staff to further identify areas of concern within the QA Program.

Step 5: Interviews

The questionnaires were followed by personal interviews with QA staff and PIs; interviews were conducted within a 60 minute time frame (Appendix II). All staff members were asked to schedule an interview with the evaluation team (via email); seven of the eight agreed to meet for interviews. Of the twenty plus principle investigators asked, six agreed to meet for interviews and five were conducted. The interview questions had five areas of focus; communication, responsibility, training, funding, and process and procedures.

STAGE TWO

SURVEY

The six areas of concern, identified in stage one, that appeared to be causing non-compliance were process, communication, training, time, funding and language barrier. The qualitative data collected in the initial exploratory approach fostered the creation of a survey in stage two of the evaluation. In order to preview the situation a 25 question web-based survey was emailed to 65 researchers, which is believed to be the total population of researchers. However, since there was not a clear listing of researchers, there is a question of
measurement validity. The researchers surveyed conduct their research at; the Desert Research Institute (DRI) in Reno and Las Vegas, Nevada, University of Nevada, Las Vegas (UNLV), University of Nevada, Reno (UNR), and University of San Diego (USD).
FINDINGS

The qualitative data collected from meetings with the QA staff, observing the QA training program, reviewing documents, questionnaires, and interviews yielded six areas of focus for causes of non compliance. These six areas, process, communication, training, time, funding, language barrier were used as categorical areas within a 25 question web based survey. The survey was distributed via email to 65 researchers. After four different attempts 29 researchers responded to the survey. The education level of researchers varied from undergraduate students through post-doctoral.

The survey findings illustrated that the causes for non-compliance revolve around the process of ensuring compliance with QAPs. From the responses provided, there were significant issues within the categories; process, communication, and training. There was not a significant issue with time, funding, or that of a language barrier. However, it was found that communication and training fall under the category of process. As training and communication are elements within the process of ensuring compliance with QAP's the findings below will be illustrated under process.

PROCESS

When researchers were asked how many NCR's they had received, 16 responded to the question. Of the 16 responses, 43% received an NCR for deficiencies in implementing documents meaning they did not accurately document their research in accordance to the QAP's. The remaining response was distributed between deficiencies in scientific investigation control or other reasons than the two deficiencies offered. (Appendix III)

When the researchers were asked why it is difficult to comply with QAP's, 19 responded and they could select more than one answer. Of the options to choose from, too many QAP's received the largest response of 9 (Appendix IV).
Further, researchers were asked the source and frequency of that source in which they refer to QAP’s, 27 responded to the question. More than 65% refer to the QAP’s only on an as needed basis versus less than 10% refer to them on a daily basis. These findings identified that researchers refer to QAP’s online, with QA Staff, their PI’s and/or other researchers overwhelmingly on an as needed basis (Appendix V).

Researchers were asked how often their work is reviewed for compliance with QAP’s; 27 responded. PI’s were identified as the least involved in the process of reviewing the researchers work as opposed to an auditor, QA Staff, or the researcher. Also, the findings suggested that auditors or QA Staff are actively involved with the review of the researcher’s work. However, their involvement is at a high only during an audit or surveillance (Appendix VI).

TIME

When researchers were asked if they had enough time to comply with QA procedures, 25 responded. 56% selected the option that they always have enough time. While 32% said they sometimes have enough time, and 12% said they never have enough time. (Appendix VII)

FUNDING

When researchers were asked “if money were not an object what recommendations would they provide to make the QA process more effective,” responses varied. The question was open ended, 14 of the 15 responded that if money were not an issue they would make improvements in communication, training, and materials. However, one individual did respond that QA does need more money to spend on improving the process. Since the responses stated a need for improvement in the areas of
communication, training and materials the evaluation team concluded that funding is not a primary issue.

**LANGUAGE BARRIER**

Researchers were asked what their native language is, 23/29 responded to the question. 61% identified English as their native language while 39% identified something other than English. The 39% that identified their native language as something other than English; listed 6 different languages.

**LIMITATIONS**

We acknowledge that there are limitations that exist within this evaluation. Since there was not a clear list of the PIs or researchers it is unclear if the total population was reached for questions and survey. However, the lack of obtaining an accurate personnel list (researchers/PIs, staff) highlights the need for improvement in communication with those directly related to the QA Program.

The low response rate, 44.6% (29/65 researchers) to the researcher survey, renders an issue with the measurement validity. After four attempts over a three week period of time, the lack of response limits the validity of the findings. However, the limitation also highlights the lack of oversight within the process of ensuring compliance with QAPs as the researchers were contacted twice by the QA staff on the importance of responding to the survey.
STAGE ONE

Step 1: Initial Meeting with QA staff

Stage one of our research included the initial interview with the Quality Assurance Staff which occurred in December of 2006. From the initial meeting issues of concern were identified. After meeting with the QA staff it was concluded that training was an issue. Issues that were discussed by the staff included but were not limited to their opinions on why researchers do not comply with QAPs.

Step 2: Training Observation

Following the initial staff questionnaires, members of the evaluation team completed the QA training. The trainer provided a shortened version of the standard two hour training for the evaluation team. After attending the training the evaluation team had several questions for the QA Staff and researchers alike. It was concluded that the training was not as detailed as it should have been since the training was shortened. In fact the training left most of us confused and with several follow-up questions. The evaluation team concluded that the training would leave a new employee with questions and or concerns and that they would not be able to properly complete a scientific notebook or the QAPs. At this point the primary focus for non-compliance was thought to be training. By making the training program more effective the evaluation team felt that the problems surrounding the QAPs would be completely corrected.

Step 3: Document Review

NCRs, surveillance reports, and trend reports provided by the QA Staff were reviewed. The evaluation team wanted to answer the question 'why are procedures not being followed?' From the document review step we concluded that researchers were not
complying with the QAPs because (1) there are too many QAPs (2) old habits (3) requires too much attention to detail or (4) maybe they just don't understand the QAPs.

**Step 4: Questionnaires**

Next, we provided the QA Staff with a set of questions that they could answer individually. During the initial staff interview they were all present and many opinions and suggestions could have been skewed based on the opinions of other staff members (Appendix I). All members of the QA Staff submitted answers to these questions.

**Step 5: Interviews**

The final step in stage one was to complete PI interviews. It was difficult getting in contact with these individuals and confirming appointments with the local PIs as well as the ones in Reno. After several attempts we were able to have in person interviews with three PIs and we conducted one over the phone interview. All of the PIs were in agreement that without the guidance and support of the QA staff the tasks would not be in compliance. They also agreed that the QAPs took some getting use to and required very detailed training.

**STAGE TWO**

**The Survey**

Stage two interpretations focus on communication, training and oversight because it has been determined that the other three issues which were funding, language barrier and time were not primary issues and will no longer be discussed in this evaluation. When we asked researchers why they receive NCRs 16 of the 29 responded to this question (Appendix III). 43% of researchers responded that they receive NCRs for ‘deficiencies in implementing documents’. This means that they are not correctly completing scientific notebooks and other documents that they are turning into the QA Staff regarding their tasks. It could be something as simple and putting information on the wrong line or something
more complex like leaving and entire step out of the scientific notebook. Either way the QAPs are not being followed.

Throughout this evaluation QA staff and PIs have given their opinions as to why researchers do not comply with the QAPs. In the survey we finally had the opportunity to ask the ones responsible why is it difficult for them to comply with the QAPs (Appendix IV). Unfortunately, only 19 of the 29 responded to this question, but respondents could select multiple answers as to why they do not comply; 9 out of 19 responded that there are just 'too many QAPs' and 6 out of 19 felt that the QAPs require 'too much attention to detail'. The QA staff and PIs not being available for questions/concerns is not at all a reason why researchers are not responding. Those researchers who do not understand the QAPs should attempt to communicate better with their PI to make sure that they are in compliance.

When asked how often researchers refer to their QAPs, 27 of the 29 responded. More than 65% of the researchers refer to the QAPs only on an as needed basis versus less than 10% who refer to them on a daily basis. If researchers were referring to these documents more frequently we believe that they would be in compliance at a greater rate. Even if the researchers began referring to the QAPs on a weekly basis the compliance issues may decrease significantly.

Another thing that would eliminate NCRs and the lack of compliance is if other people besides the researchers were reviewing their work. So we asked the researchers how often their work is reviewed for compliance and by whom. PIs do not take an active role in the process and throughout this evaluation we have noticed that the QA staff have taken on many of the responsibilities that belong to the PI.
When the researchers have questions or needs regarding QAPs they go to the QA staff members over their PI. According to 4.3.2 under QAP-1.0 it is the responsibility of the PI to, "(2) assign and train personnel as necessary to provide acceptable submittals, (6) review and approve documents as specified in the applicable procedures and (7) identify quality related issues in accordance with applicable procedures." This evaluation found that these responsibilities are not completed by most PIs. Since the PIs are not playing an active role in ensuring compliance with QAPs, perhaps this position should be redefined or limited to the grant writing and research process. The researchers' work is getting reviewed by all parties mainly during surveillances and audits and not on a daily, weekly or monthly basis. If the work of the researcher is reviewed on a more consistent basis compliance may improve.

The survey contained 25 questions. The survey and the results can be found in the Appendix of this document. The information that was collected and reviewed by the evaluation team during stage one and stage two was informative yet, excessive. After reviewing the information we have several recommendations for the QA Staff at the HRC.
RECOMMENDATIONS

After completing this evaluation we conclude that the work of the QA staff at the HRC is much more complicated than originally thought. The evaluation team hopes that the information found will benefit the QA staff and the Yucca Mountain tasks for years to come. The recommendations fall into three categories: training, communication, and oversight. It is the expectation of the evaluation team that the following recommendations will assist in improving processes within the QA Program.

TRAINING

After completing the training provided by the QA staff and receiving suggestions from staff members, PIs, and researchers, the team concluded that the current training program should be enhanced. It needs to provide individuals with more hands-on assignments so that they can work through procedures during the actual training. Also suggested is a pre and post test so that you know there has been a transfer of knowledge during the training process.

Training should be completed at least once a year. Regardless of the length of time employed or experience a researcher may have, a training should be completed annually. This will help to ensure that the QAPs are continually refreshed. After the annual training a competency test or demonstration to make sure that each researcher and each PI understands the QAPs should be administered.

A training manual or resource guide should also be created for easy reference. Since there are so many QAPs and some can be very complex, a user-friendly reference manual that includes a check list would be beneficial. This document should be reviewed during training to ensure that researchers and PIs understand how to use it. This quick reference sheet should eliminate some of the smaller problems in completing the scientific notebook.
Finally, make training a priority. Training is such a significant part of the Quality Assurance Program. Perhaps, a full time trainer should be hired to assist with the day to day activities that training requires. Training should never be a one time event, it must be continuous and it must be hands on in order to be effective.

COMMUNICATION

It would be beneficial to increase the number of meetings between PIs and the researchers. As stated earlier the PI role is not currently being utilized to the best of its ability. The PIs should serve as a resource for the researcher and currently they are only communicating when it is required. Although, increased oversight by QA staff would cause an increase in NCRs issued, the evaluation team recommends an increase in task oversight by PIs. This will in turn highlight deficiencies within each task prior to an audit or surveillance by QA staff, resulting in a decrease of NCRs.

The evaluation team also suggests mandatory regularly scheduled meetings with the QA Staff in Reno, NV. Currently, there is not a staff member located in Reno and having meetings more frequently between all parties would increase the communication.

Finally, create and maintain a database with the contact information for all staff, researchers and PIs. It is difficult to communicate with all parties if the contact information is not up to date and easy to access.

OVERSIGHT

Creating incentives for compliance and consequences for non-compliance is recommended. Perhaps, creating a demerit system so that researchers receive demerits or citations each time they do not comply. Funding should never be used as a consequence for non-compliance. However, the evaluation team suggests that the QA staff provide reports to
DOE on a periodic basis highlighting tasks that are both in compliance and out of compliance with QAPs.

The evaluation team suggests additional training as a possible consequence for non-compliance. For example, if you receive three NCRs for the same problem with your scientific notebook. The PI and researcher should be required to attend a training session focused specifically on that area of the scientific notebook. Incentives and rewards are just as important. If a researcher is consistently doing well, reward them for compliance. All three areas, training, communication and oversight go hand in hand. The evaluation team is hoping that these recommendations will benefit the overall Quality Assurance Program, and assist all associated staff in not only meeting but exceeding QA standards.
REFERENCES


DATE: May 7, 2007

TO: E. Lee Bernick, PhD, Chair, Department of Public Administration
    Christopher Stream, PhD, Professor, Department of Public Administration

CC: Amy Smiecinski, NSHE Quality Assurance Manager
    Quality Assurance Staff, Harry Reid Center (UNLV)

FROM: UNLV Quality Assurance Evaluation Team:
      Michael Hernick, Stephanie Hill, Tya Mathis and Greg Troutman

SUBJECT: Quality Assurance Program at the Harry Reid Center for Environmental Studies, Client Evaluation

Introduction
The Quality Assurance (QA) evaluation was a two semester project within the Department of Public Administration at the University of Nevada, Las Vegas. The courses taken were PUA 726 and PUA 791. This memorandum is a client evaluation based on meetings, interviews, questions, a survey and feedback from the Quality Assurance staff at the Harry Reid Center (HRC) from December of 2006 through May of 2007.

At our initial meeting in December of 2006 we gathered general information about the QA Program. The QA staff was very helpful in giving the evaluation team information on the QA Program that would help focus the evaluation.

The purpose of this client evaluation is to provide a summary of our relationship with the Quality Assurance staff over the last few months. Their feedback has been invaluable to the completion of this final evaluation.

Project Meetings
Since the initial meeting with Amy Smiecinski and the QA staff the evaluation team felt at ease. The staff was very friendly and eager to assist in this evaluation. Throughout the program evaluation the evaluation team had monthly meetings and kept the QA staff up to
date on the evaluation's progress through the evaluation website (http://webpages.charter.net/dean/qaeval/). The staff offered feedback and made suggestions on ways to improve future presentations.

Overall, the relationship between the evaluation team and the QA staff was positive. The QA staff was always there to answer questions and taught the evaluation team a lot about a very complex program. The QA Staff and their cooperation was essential to the success of this evaluation.

Responses
On December 1, 2006 the evaluation team had its initial meeting with the QA staff. At this meeting the staff and the evaluation team talked about the goals for the evaluation. At the second meeting on December 15, 2006 the evaluation team met with the QA staff and discussed the purpose, a timeline, and the focus of the evaluation. During the second meeting, the evaluation team set up a time to attend a mock training session. The QA staff shared their concerns with the current program and answered questions asked of the evaluation team.

On January 23, 2007 the evaluation team conducted individual interviews with the QA staff with the hopes of getting different perspectives about the strengths and weaknesses of the QA Program. The next couple of meetings between the evaluation team and the QA staff were informal. The evaluation team explained the team's website and its purpose to the QA staff. The QA staff was advised to go on the website and make any corrections or suggestions to the most up to date presentation throughout the remainder of the evaluation period. The QA staff offered continued feedback and new ideas.

Feedback from Final Presentation
3/2/07- Preliminary Presentation: At this time the evaluation team introduced the purpose of the QA evaluation to the PUA Faculty for the first time. The PUA Faculty offered feedback about the direction that the evaluation should take.

3/30/07-Secondary Presentation: At this time the evaluation team presented the status of the evaluation to the PUA Faculty. The suggestions made about the findings were helpful when preparing the final presentation.

4/20/07- Final Presentation: The PUA Faculty along with Amy Smieciniski and two members of the QA staff were present. The staff seemed very satisfied and appreciative of the information that was presented in the final presentation. They made a few suggestions regarding the recommendations and those were considered by the evaluation team prior to completing the final paper.

Overall, the feedback received by the QA evaluation team from both the PUA Faculty and the QA staff was beneficial to the final evaluation.