

1.3.1 Environmental, Safety and Health (ES&H)

Para.	Award Fee Categories	Adjective Rating - Proposed	% Rating - Proposed	\$	% Weight
1.3.1	ENVIRONMENTAL, SAFETY, AND HEALTH (ES&H)	Very Good	89%	788,686	10.0%

1.3.1.1 Safety Management System (SMS)

Contractor will continually strive to prevent and eliminate unsafe conditions and at risk behaviors through the implementation of the MOX Services Safety Management System (SMS). Contractor will take action to resolve unsafe conditions/ acts and strive to ensure similar conditions or acts do not recur by adopting best industry practices as practicable.

1.3.1.1.1 SMS - MOX Services receives zero formal notices of violation or similar citations from a regulatory agency.

5%	Weighting	100%: MOX Services receives zero citations from OSHA. 0%: MOX Services receives two or more citations from OSHA.
100%	Rating	
\$44,308	Calculation	

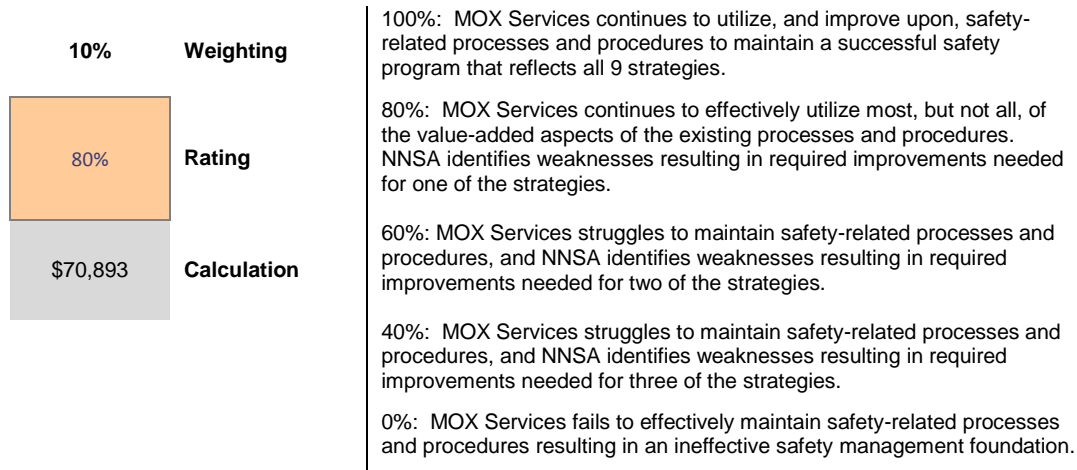
During FY15, MOX Services received zero OSHA citations. No OSHA inspections were performed during FY15.

1.3.1.1.2 SMS - MOX Services participates in weekly safety walk downs with NNSA and addresses identified issues.

10%	Weighting	100%: MOX Services participates in 100% of all scheduled walk downs and works to address all noted deficiencies. Zero deficiencies are found on a recurring basis. 80%: MOX Services participates in 100% of walk downs but a few recurring deficiencies are noted. 60%: MOX Services fails to participate in three (3) or fewer walk downs or recurring deficiencies are noted. 40%: MOX Services misses five (5) or fewer walk downs or a significant number of recurring deficiencies are found. 0%: MOX Services fails to participate in walk downs and/or numerous recurring deficiencies are found.
100%	Rating	
\$88,616	Calculation	

During FY15, MOX Services participated in 50 of 50 scheduled safety walkdowns. MOX Services Safety personnel were responsive to issues identified on the walkdowns. Attempts were made to correct identified issues on the spot rather than resolve them later. Reoccurring deficiencies were noted infrequently and without any identifiable trending.

1.3.1.1.3 According to the Construction Industry Institute, an effective foundation for safety management includes the following nine strategies: 1) demonstrated management commitment; 2) staffing for safety; 3) pre-task planning; 4) safety education and training; 5) employee involvement; 6) safety recognition and rewards; 7) accident/incident investigations; 8) drug testing; and 9) subcontractor management.



MOX Services demonstrated continuous improvement in Safety management throughout FY15. Most notable was the continued use of Accident/Incident Review boards, weekly safety topics and communications to entire project. A management commitment was seen when MOX Services initiated a special safety meeting as a result of an increased incident rate in March. Voluntary Protection Program (VPP) status was maintained during the year, and various safety committees continued to meet, including the Field Safety Committee, Office Safety Committee, the PROS team (Positive Reinforcement of Safety), and Behavior Based Safety team. During August and September 2015, NNSA assessed MOX Services compliance with Federal Fitness for Duty Guidelines, which are implemented via procedure PP7-27, Fitness for Duty. Federal Fitness for Duty Guidelines can be found within 10 CFR 707, Workplace Substance Abuse Programs at DOE Sites as well as 53 FR 11970 ‘Mandatory Guidelines for Federal Workplace Drug Testing Programs.’ During this assessment NNSA found that MOX Services is not implementing random drug testing in a manner that is compliant with the procedure and is therefore not appropriately providing assurance of a drug free workplace. NNSA found that the randomness of drug testing is not as random as it should be, as there is only one person authorized to administer testing and her work schedule is well known. This also results in no random tests being performed for workers on off-shifts such as night shift, weekends, holidays, or the test administrator's scheduled days off. NNSA also found there are too many allowable excuses for personnel to avoid being tested, such as failure by supervisors to notify personnel to be tested, employees located at the Barnwell warehouse and not required to report for testing, employees unable to locate the test administrator upon arrival, employees being away from the construction zone in a "Remote Worker" location though still on SRS property, to name but a

few. For the period January through September 2015, these allowable excuses have resulted in the failure to test approximately 1/2 of the personnel selected for random testing, but more importantly they provide known reasons for use by personnel using illegal drugs to avoid testing. NNSA also found that MOX Services had failed to implement specific Dept. of Transportation drug testing requirements for teamsters. These issues have resulted in MOX Services' failure to comply with 10 CFR 707 and 53 FR 11970.

1.3.1.2 ES&H – Incident Rates

Contractor will collect injury/illness data and exposure hours for the integrated project team personnel, including prime and subcontractor employees working at the MOX FFF. Contractor will report injury/illness data in the following format. Contractor construction organization will strive to have Incident Rates equal to or better than the most recent rates published by the Bureau of Labor Statistics for Heavy and Civil Engineering Construction (NAICS Code 237). CY2011 data indicates this segment averaged a Total Recordable Cases (TRC) Rate of 3.2 per 200,000 hours of exposure and a Days away/Restricted (DART) Rate of 1.70 per 200,000 hours of exposure. Rates exceeding DOE construction contractors, as a group, would be considered substantially exceeding performance. DOE contractors, as a group, averaged a TRC Rate of 1.1 per 200,000 hours of exposure and a DART Rate of 0.4 per 200,000 hours of exposure for CY 2013.

40%	Weighting	100%: Both the TRC and DART rates are less than 3/4ths the DOE Construction Contractor average rate: TRC<=0.83 and DART<= 0.30. 90%: Both the TRC and DART rates are below the DOE Construction Contractor average rate: TRC<=1.1 and DART<= 0.40. 70%: Both the TRC and DART rates are below the noted Industry Averages, but one rate for the DOE Construction Contractor average rates does not meet the 90% sub-criterion definition. 40%: Both the TRC and DART rates are below the noted Industry Averages. 20%: At least one of the rates is higher than the Current Industry Average, and/or the project experiences a significant work-related injury or illness. 0%: The project experiences a fatality or other significant injury or illness.
90%	Rating	
\$319,019	Calculation	

Throughout the year, MOX Services had TRC and DART rates below the target rates. At the end of the year, the cumulative TRC rate was 0.64 (11 cases) and the cumulative DART rate was 0.35 (6 cases).

1.3.1.3 ES&H – Reporting

MOX Services will perform environment, safety, and health reporting as required by NNSA letter Cannon to Trice NA-APM-008 dated June 17, 2013 or subsequent revisions. Such notifications should normally be made within 2 hours of event discovery, and will be for events such as off-site transportation for work-related illness/injury, regulatory violations, near misses, excessive release of hazardous substances, or safety stand-downs. Contractor will effectively classify incidents and occurrences, notify NNSA of occurrences when required, and perform follow-up event analysis and reporting activities.

10%	Weighting	100%: All notifications made within 2 hours, unless the time of discovery prevented notification within 2 hours
69%	Rating	75%: Two (2) notifications fall outside the 2-hour time limit but are made within 24 hours
\$61,145	Calculation	50%: Four (4) notifications fall outside the 2-hour time limit, but are made within 24 hours 0%: Five (5) or more times MOX Services fails to implement NNSA requirements for incident reporting

MOX Services had three notifications that fell outside the 2 hour window, but within 24 hours. One notification was missed in December as a result of a chipped teeth and subsequent treatment. Two were missed in March, one for a cut 480VAC line, the second for the dropped NTM module. As a result of the missed notifications in March, MOX Services revised and updated the process.

1.3.1.4 ES&H – Emergency Preparedness

MOX Services will proactively identify and exercise measures that are intended to provide maximum protection for personnel in the event of an emergency. MOX Services shall ensure that personnel are trained in the types of evacuations to be used in emergency circumstances as required by 29 CFR 1926.35 and 1910.38. MOX Services may be impacted by emergencies that also affect other areas of SRS. These emergencies could include radiological releases, severe weather, or fires, as well as other events. The MOX Services will coordinate with the SRNS Emergency Management organization to ensure a seamless response to such emergencies. MOX Services will maintain a fully functional public address system for the portion of the PA system that is owned by MOX Services.

10%	Weighting	100%: MOX Services conducts at least one fire drill in each occupied office building (BAD, BTS, MAC, CAC, EEC, and PAF), maintains a fully functional public address system, and participates in the overall SRS emergency management program. Contractor successfully conducts at least one drill per year, which is the annual high wind event exercise. Deficiencies identified are rapidly resolved.
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81%	Rating	50%: MOX Services simply relies upon initial training for personnel awareness and only participates in one drill per year, the annual high wind event exercise. 0%: Contractor fails to maintain training, loses focus on emergency management requirements, or fails to perform its mission within the overall SRS emergency management program.
\$71,779	Calculation	

MOX Services completed 4 or 6 fire drills throughout the buildings of the project. Lessons learned from issues with the fire drills were incorporated in the next fire drill. The public address system was tested various times in the spring and summer to ensure adequate coverage throughout the MFFF building as a result of NNSA observation of inoperable speakers and inadequate coverage. MOX Services participated in the annual severe weather drill.

1.3.1.5 ES&H – Environmental Management Program

Contractor will maintain an environmental management program that complies with all applicable DOE Orders, laws, rules, and regulations. Contractor will promote continuous improvement through its Environmental Management System (EMS). Contractor will seek implementation of pollution prevention, waste minimization, and cost-effective sustainability opportunities.

1.3.1.5.1 ES&H – EMP – Notice of Violations

5%	Weighting	0 or 100%: Zero permit violations are enforced, nor are any Notices of Violation issued by EPA or SCDHEC.
100%	Rating	
\$44,308	Calculation	

There were zero permit violations or Notices of Violation issued in FY15.

1.3.1.5.2 ES&H – EMS Performance

10%	Weighting	100%: MOX Services maintains EMS, enhances current program activities, and complies with DOE 450.1A, Environmental Protection Program. Activity assessments are conducted and result in improved performance. MOX Services maintains membership in the SC Environmental Excellence Program. 50%: MOX Services minimally maintains regulatory-compliant program and simply maintains EMS and continues current program activities. Waste management activities comply with existing procedures but do not effectively seek improvement.
100%	Rating	

\$88,616

Calculation

0%: MOX Services fails to maintain an effective EMS that complies with all applicable DOE Orders, laws, rules, and regulations. MOX Services also does not effectively promote continuous improvement nor seek improvement in pollution prevention, waste minimization, or cost-effective sustainability opportunities.

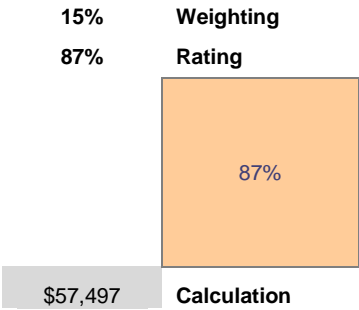
MOX Services maintained an effective EMS throughout FY15. MOX Services complied with DOE 450.1A, and continuously worked to improve programmatic activities. NNSA assessments did not identify any major issues. Membership in the SC Environmental Excellence Program was maintained.

1.3.2 Safeguards and Security

Para.	Award Fee Categories	Adjective Rating - Proposed	% Rating - Proposed	\$	% Weight
1.3.2	SAFEGUARDS AND SECURITY	Excellent	93%	412,066	5.0%

During the FY 2015 rating period, the S&S program performance measures indicated excellent performance in OPSEC reviews completed, Physical Security-Vulnerability Analysis, completion of scheduled self-assessments, and completion of Improvement/Corrective Actions/Findings. Also, during FY 2015, the S&S program performance measures indicated Very Good performance in Cyber Security Incidents and non- Cyber Security Incidents. Security Awareness - Computers found unlocked and unattended and documents found unsecured during reviews received a rating of Good.

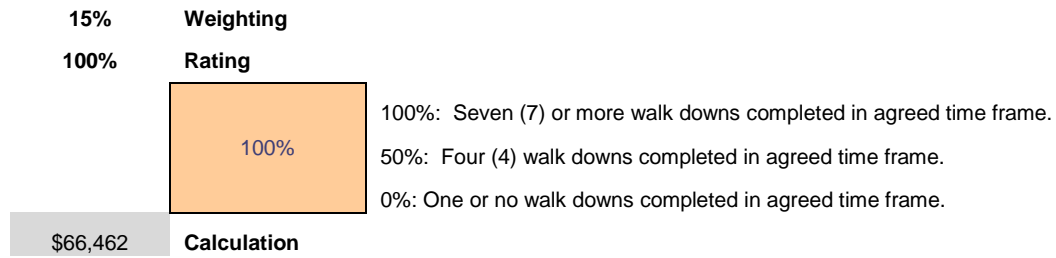
1.3.2.1 Cyber Security – Cyber Incidents



100%: There are no cyber incidents in the last 12 months (rolling sum), and there are no network penetrations, and no malware installations.
50%: There are seven (7) cyber incidents in the last 12 months (rolling sum), or one network penetration, or one malware installation.
0%: There are fourteen (14) cyber incidents in the last 12 months (rolling sum), or there are 2 network penetrations, or 2 malware installations.

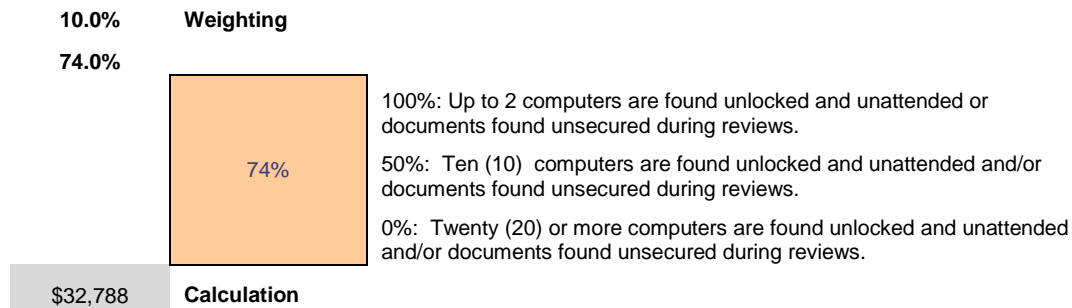
There were two (2) cyber security incidents in FY 2015 (improper hard drive storage and an email containing OOU transmitted unencrypted). There were zero (0) network penetrations, and zero (0) malware installations for FY 2015. This represents 87% performance for FY 2015.

1.3.2.2 Security Awareness – OPSEC Facility Reviews



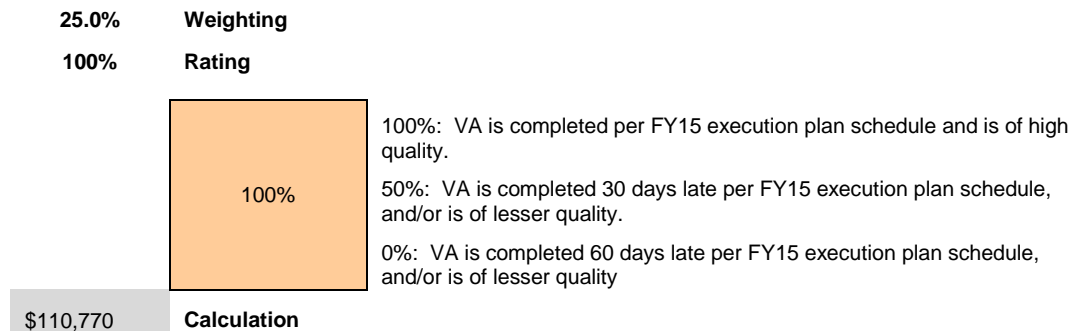
There were at least seven (7) planned OPSEC Facility walk downs performed in each of the agreed upon time frames (monthly) for FY 2015. This represents 100% performance for FY 2015.

1.3.2.3 Security Awareness – Computers found unlocked and unattended and documents found unsecured during reviews (per month)



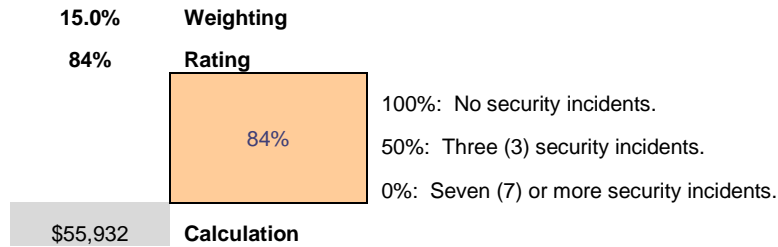
This performance indicator varied widely from month to month during FY 2015 from a score of zero (0) % for one (1) month to a high of one hundred (100) % for two (2) months being above eighty five (85) % for most months. This represents 74% performance for FY 2015.

1.3.2.4 Physical Security – Complete Vulnerability Assessment (VA) enough to scope required upgrades



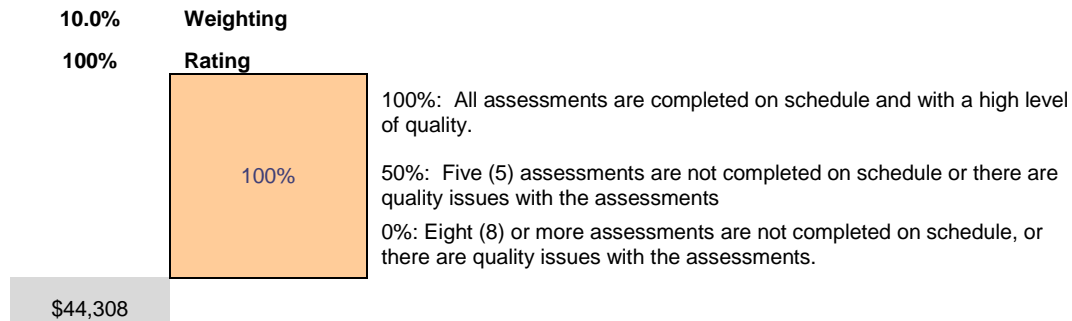
Work on the VA progressed well during FY 2015 with the identification of recommended upgrades milestone being met per the FY 2015 execution plan schedule. This represents 100% performance for FY 2015.

1.3.2.5 Security Program – Incident Rate



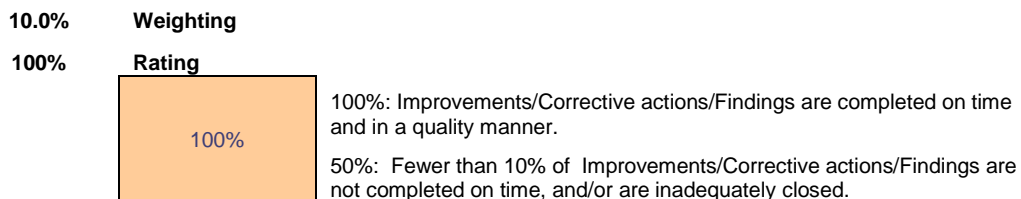
There were two (2) non-cyber security incidents in FY 2015, involving hard drive storage and possession of a cell phone in a Limited Area. This represents 84% performance for FY 2015.

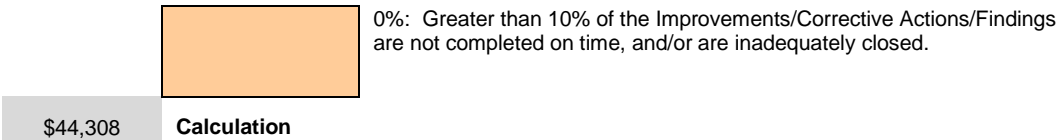
1.3.2.6 Security Program – Self Assessments (S/A)



A total of 16 self-assessments were scheduled for the reporting period. All FY 2015 self-assessments were completed on schedule and with a high level of quality. This represents 100% performance for FY 2015.

1.3.2.7 Security Program – Improvement/Corrective Actions/Findings





All FY 2015 Improvements/Corrective actions/Findings were completed on time and all were completed in a quality manner. This represents 100% performance for FY 2015.

1.3.3 Quality Assurance

Para.	Award Fee Categories	Adjective Rating - Proposed	% Rating - Proposed	\$	% Weight
1.3.3.1.6	QUALITY ASSURANCE (Compliance) - Performance Scoring	Excellent	94%	416,497	5.0%

While this section of QA is defined within the Award Fee Plan as being objectively rated per the table in 1.3.3.1.6, the following narrative is provided as a roll-up of Project Assurance and Quality considerations that affect the Project Management section of the award fee feedback, and this also helps support the Contractor's roles and responsibilities under the Project Assurance organization.

One primary mission of the Project Assurance organization is to perform Quality Control (QC) inspections of in-process work activities. During this award fee period NNSA noted, and MOX Services recognized, a significant trend in which Quality Control inspectors were often failing to meet a self-imposed 2-hour time limit for performing inspections in the field. While failing to routinely meet the self-imposed 2-hour time limit to initiate inspection activities, MOX Services should strive to not only meet this limit but also seek improvements in QC efficiency and perform exceedingly better than the 2-hour limit. MOX Services noted the same concern and attempted to implement corrective actions, such as enhanced recruiting efforts and using subcontract support. During this award fee period the QC organization continued to struggle to perform timely inspections and avoid creating delays in construction activities. However, limited efforts were made to enhance efficiency of inspection activities or reduce the total number of inspections required to be performed by qualified QC inspectors.

MOX Services Assessment CY14-A-QA-010, *Contractor Assurance System (CAS)*, issued in August 2014, concluded there were some areas that could be strengthened to be more in line with the intent of DOE Order 226.1B, *Implementation of DOE Oversight Policy*. Recommendation #4 of this report was to identify gaps in independent assessments within organizations not regulated by the NRC, EPA, or OSHA, and to develop an annual project inspection plan to incorporate assessments covering these gaps. As of June 30, 2015, NNSA noted that organizational self-assessments are being performed by most organizations, though there exists a varying array of levels of quality of the self-assessment reports. NNSA also noted that

improvement items resulting from these reports were not always resolved effectively and in a timely manner.

Near the end of the award fee period NNSA conducted an assessment of the CAS and concluded that a well-defined and comprehensive MOX Services CAS had not been developed by MOX Services and submitted to DOE for approval as required by the Order. This condition was initially identified by NNSA in June of 2014 and, while there have been correspondence exchanges on the matter, the bottom line in terms of the submittal of a detailed and comprehensive CAS for DOE review and approval has not been met. That being said, and with a few exceptions, existing MOX Services policies and procedures basically address all of the elements of a CAS defined in the Order. However, the collection of policies and procedures that specifically address the elements and recognize commitment to the Order are not identified within a CAS document. As a result the CAS is not comprehensively defined for submittal to DOE for review and approval.

The assessment report identified that considerable improvement had been made in that self-assessments are being performed as scheduled, metrics established, and action trackers generated to address shortcomings in the interest of integrated project execution and continuous process improvement. There remains work to be done as is evident in the issues presented in the report.

The overarching concern is that MOX Services did not continually strive to successfully achieve full compliance with DOE Order 226.1B by the end of FY15 or even CY15, which would have included the submittal and NNSA review and approval of the MOX Services CAS description document. More importantly, many organizations within MOX Services did not put forth any heartfelt effort to attempt significant improvement.

1.3.3.1 Quality Assurance (Compliance)

The Contractor will effectively maintain and implement a disciplined QUALITY ASSURANCE PROGRAM from a Compliance perspective and fully execute QA infrastructure that provides a solid basis for the completion of the full spectrum of project scope/requirements that delivers a project with the earned reputation for being quality-driven, execution-oriented, and budget-conscious. Quality Assurance (Compliance) definitions follow:

1.3.3.1.1 Maintaining Quality Assurance Program

Maintain the MPQAP, source of MOX Services regulatory commitment, submitting revisions to the Nuclear Regulatory Commission (NRC) as necessary. MOX Services shall maintain Quality Assurance (QA) Program project procedures in order to implement MPQAP, NQA-1-1994 and applicable NRC Regulatory Guides. MOX Services shall instill a culture which ensures each employee understands their responsibility for the quality of their work. MOX Services QA will make timely, well composed 10CFR21, Reporting of Defects and Noncompliance filings as needed. MOX Services shall maintain a proactive and corroborative relationship with the NRC seeking guidance and approval as appropriate. MOX Services shall provide timely responses to effectively address quality issues identified by the NRC and NNSA.

Responses will be accurate and in sufficient detail, including the identification of corrective actions as appropriate for the issue or concern identified.

NNSA Assessment Report MOX-AR-15-126, issued April 8, 2015, Commercial Graded Dedication Program, Finding 2.2.1 regarding a lack of evidence that appropriate steps were taken to process the change in MOX Project Quality Assurance Plan (MPQAP) commitment from NQA-1-1994 as revised by NQA-1a-1995 to ASME NQA-1a-2009 to maintain MPQAP and Licensing basis configuration management. Application of NQA-1a-2009, Part II, Subpart 2.14 is indicated in CR 14-100 and currently used during the Commercial Grade Item Evaluation process.

1.3.3.1.2 QA – Corrective Action Program

MOX Services shall implement and maintain a comprehensive corrective action program tool to identify and track all project deficiencies and areas for improvement in a centralized repository. The corrective action program shall assign appropriate significance level and assign a responsible individual to drive complete and timely resolution on behalf of the project. Trend analysis shall be rigorous and shall contain comprehensive project data including, but not limited to: non-conformances, inspection reports, audit results, surveillance reports, and condition reports. Trend codes shall be of appropriate definition and granularity to support issue identification. Action items resulting from the review of Trend Analysis reports shall be tracked and closed in a prompt and comprehensive manner consistent with their significance. The Management Review Committee (MRC) shall code Condition Reports (CR) commensurate with reoccurrence and risk to ensure the proper level of rigor is achieved in regards to cause and extent of condition. Condition reports shall be closed promptly.

Assessment MOX-AR-15-0004, issued January 23, 2015, identified one (1) finding directly related to Quality Assurance Program procedure adequacy as follows: Finding 2.2.1 indicates that Contrary to the MPQAP, Section 16 Corrective Action, MOX Services Procedure PP3-6, Corrective Action Process does not accurately and consistently flow down the MPQAP requirement that deficiencies, repetitive in nature, related to an activity or item subject to the MPQAP are significant conditions adverse to quality and Root Cause Analysis.

1.3.3.1.3 QA – Procurement and Supplier Quality

Establish and execute a vendor audits and evaluations group to qualify and retain vendors. Effectively monitor subcontractor performance to ensure effective implementation of quality assurance requirements through shop inspections and surveillances, technical/project management oversight and final inspections prior to shipment. Vendor needed improvements

are documented on Supplier Deficiency Reports which are resolved in a timely manner. Receipt inspections are performed to verify items received meet procurement requirements. Unsatisfactory conditions are documented and resolved in a timely manner. Risk assessments are performed in a rigorous manner.

MOX Services continued to struggle with quality issues associated with various suppliers providing engineered items to the project. Throughout FY15, multiple issues with HEPA housings delivered by Flanders have been noted. These issues include, but are not limited to, inadequate welds on lifting lugs and damage to the frame housing. Petersen Inc. has also identified new issues related to trapped foreign fluids, metal shavings inside tube steel and out-of-tolerance frames that were initially fabricated by Flanders. Also during this period MOX Services initiated action to investigate the potential that ledger angles fabricated by SMCI were not properly fabricated, inspected, and accepted, which could bring into question the ability of these ledger angles to perform as structurally intended. This comes in the wake of increased supplier oversight in general to include resident inspection personnel assigned to represent the project's interests in early identification/remedy of quality issues.

As of the end of this award fee period, there remained an open issue within the NRC in which the resident inspector discovered undersized welds on ledger angle plates in BAP. These plates were procured from SMCI in 2007 and 2008, and the plates were installed in 2009. While the NRC resident inspector discovered the issue in January 2015, the NRC did not issue a determination of level of violation during this period, choosing instead to wait on MOX Services' response to the issue.

MOX Services' defenses-in-depth (i.e., inspection programs, assessment programs, supplier QC/QA review/evaluation/audits, resident inspection, receipt inspection, etc.) have proven less than effective in assuring defects are caught/remedied prior to product delivery and acceptance. Towards the end of FY15, NNSA conducted an assessment with a focus on the contractor's process of qualifying the suppliers delivering products to the project. This assessment focused not only on the process of a supplier being qualified and brought onto the project's Approved Suppliers List (ASL) but also focused on the periodic reviews performed by MOX Services of the suppliers and their performance, which should influence decisions necessary to maintain suppliers on the project's ASL. The assessment found reasonable assurance that, although there continue to be on-going struggles with past mistakes, MOX Services is currently providing adequate control of vendor qualification process, ASL management, in-process inspection, and management of open items initiated by vendors or identified by MOX Services during source inspection, shipping release and receipt inspection activities.

1.3.3.1.4 QA – Training and Certification

Inspectors and auditors shall receive and maintain training and qualifications certifying them in the scope of work in which they are to perform inspections or audits. MOX Services shall

maintain a training and/or certification program sufficient enough to satisfy project needs in an efficient manner. MOX Services shall ensure personnel maintain the physical requirements necessary to perform QA/QC work through examinations. QA/QC personnel shall have appropriate training, experience and education for their job tasks. On-the-job, classroom and continuing training/examinations shall be rigorous enough to assure readiness.

MOX Services maintained a properly trained and certified cadre of inspectors and auditors during this reporting period. NNSA did not conduct any focused assessment of this criterion during this period. No NOVs, NCVs or NNSA Identified Concerns or Findings during the period.

1.3.3.1.5 QA – Field and Receipt Inspections

Inspectors shall be knowledgeable in: requirements, specifications, criteria/attributes, suspect/counterfeit parts and measurements in scope of work. Receipt and field inspections shall be prioritized and performed in manner supporting the project schedule. Receipt inspection attribute matrices shall be thorough, appropriate and maintained current. Vendor and supplier furnished equipment and parts shall receive proper inspections and reports. Inspectors shall use appropriate, qualified and calibrated tools or devices to perform inspections when required.

Assessment MOX AR-15-0131, Electrolyzer KDD GB1000 Receipt Status, issued January 21, 2015, conducted to identify the receipt and commercial grade dedication status of the electrolyzers, identified one (1) Finding related to the implementation of receipt inspection and commercial grade dedication for electrolyze KDD GB1000. (Reference Finding 2.2.1) MOX Services responded to this assessment report via DCS-DOE-004826, dated February 16, 2015. In the response, MOX Services took exception to the Finding, stating a position that performance of QC receipt inspections using shop inspection reports and vendor record packages is not contrary to normal inspection processes. NNSA letter NA-APM-15-0091, Cannon to Del Vecchio, April 30, 2015 provided additional clarification on this matter and the Finding remained as an open item.

In May 2015 NNSA performed an assessment of MOX Services' performance of QC Inspections in recently closed Non-Legacy Work Packages. The scope included looking into the ASME B31.3 required 5% Non-Destructive Evaluation (NDE) inspections of piping welds for proper implementation of the “Progressive Inspection” requirement. The purpose of this assessment was to, 1) Determine if all required QC inspections have been performed and documented in recently closed, non-Legacy work packages, and 2) Evaluate the implementation of Progressive Inspections and the 5% NDE piping program. 2.1.1 One Observation was noted in which several instances were noted on QL-2 work packages where Post-Requisite QC sign-offs were noted as N/A with the note: “N/A per QC Management”. Similarly, final QC sign-offs on Weld Data

Sheets were noted as N/A with the note: “N/A per PP11-64E.” Several Material issue Tickets were noted “QC verified” with an initial and date, while others were noted as “verified by” with no indication of whether the person initialing was QC or otherwise. These were discussed with the QC Manager and he subsequently resolved the discrepancy.

During this award fee period, QC inspectors struggled to prioritize and perform field inspections in a manner supporting timely completion of activities within the project schedule. Issues with QC inspectors’ inability to complete inspections in a timely manner have been documented routinely within NNSA weekly reports.

1.3.3.1.6 Quality Assurance (Compliance) – Performance Scoring

*Using the prior QA (Compliance) definitions, the following spreadsheet will be used for determining the annual performance for QA (Compliance). Each of the seven criteria elements is worth 20%. The Weight column is one divided by 5 criteria, or 20%. The Score is the multiplication of Performance (calculated) times Weight. Any combination of the Column 1 through 4 values times the Relative Weights which results in total of 10 or more provides a ZERO score for that criteria element. The Performance (calculated) column uses this formula: $= (1 - (((10 * B6) + (3 * C6) + (D6 + E6)) / 10)) * 100$. The columns are depicted as follows: Column B=Levels I-III NOVs; Column C=Level IV NOV; Column D= NCVs; and Column E=NNSA Findings. If any of the following four (4) conditions apply to the FY15 rating period, ZERO award fee will be awarded under QA (Compliance):*

- 1) Any Level I-III NOVs, or
- 2) More than 5 Level IV NOVs, or
- 3) More than 15 NCVs, or
- 4) More than 15 NNSA Identified Deficiencies.

Attributes	Compliance	Compliance	Compliance	Performance			
Relative Weights	10	3	1	1			
Category	Levels I-III NOVs	Level IV NOV	NCVs	NNSA Identified Deficiencies	Perf	Weight	Score
1.3.3.1.1 QAP	0	0	0	1	90.0	0.2000	18.00
1.3.3.1.2 CAP	0	0	0	1	90.0	0.2000	18.00
1.3.3.1.3 Supplier QA	0	0	0	0	100.0	0.2000	20.00
1.3.3.1.4 Training & Certifications	0	0	0	0	100.0	0.2000	20.00
1.3.3.1.5 Inspections	0	0	0	1	90.0	0.2000	18.00

94.0

1.3.4 Project Management (PM)

Para.	Award Fee Categories	Adjective Rating - Proposed	% Rating - Proposed	\$	% Weight
1.3.4	PROJECT MANAGEMENT (PM)	Satisfactory	40%	886,164	25.0%

The Contractor will effectively implement disciplined PROJECT MANAGEMENT and fully execute the MFFF Project FY15 execution baseline for cost, schedule and scope in a responsive and cooperative manner. There are several performance sub-elements captured under Project Management. The weightings for these sub-elements is at the discretion of the government in its fee determination. To achieve “Satisfactory” performance for this criterion, the Contractor will establish, maintain and report against a project organization that implements a disciplined conduct of project management set of requirements, systems, processes and procedures in accordance with DOE O 413.3B and industry standards within the established budget for the work. It is expected the contractor’s project management system, processes, procedures, personnel and organization be competent, rigorous, appropriately integrated, and agile for large, complex and long duration projects. The contractor’s project management shall demonstrate leadership within the organization, coordination and control of the large workforce, equipment and material undertakings, by working to quality standards, optimizing the schedule, and integrating the supply chain while minimizing costs. The contractor shall demonstrate competent project management by minimizing cost/schedule/scope project and contract changes while reducing costs through more efficient work sequences and higher productivity causing shorter activity durations.

In FY15, factors such as: 1) political, programmatic and contractual uncertainty, 2) transition of new contractor key personnel and changing organizational and roles, responsibilities, authorities, accountabilities, and 3) performance issues, have continued to influence the contractor’s execution of the project in FY15. Coming into FY15, NNSA’s Award fee plan concentrated on objectives and criteria to improve the integrated project execution and performance during the on-going bulk commodity built-out construction phase. The approved project execution criteria and associated weights were allocated towards 70% of the \$8.6 available fee pool. There were five subjective performance areas linked to effective project execution and three objective areas associated with maintaining the very good to excellent performance in ES&H, security and nuclear quality compliance. Also, tied to the contractor’s performance success were the key FPD requested deliverables for; revision of the rules of credit, joint assessment of the bulk commodities installed (kick & count), re-evaluation of the Level of Effort activities, resource loaded Integrated Project Schedule tied to the system turnovers, revised Estimated At Completion and implementation of a Contractor Assurance System.

In FY15, the contractor appointed a new President/Project Manager and Construction VP whom has distilled a set of core values, vision and open integrated project culture better aligning with

NNSA. The new leadership has stressed the importance of a project performance driven culture and has empowered personnel to execute and openly identify issues and opportunities for project improvement. The Contractor's project management team continues to evolve and make improvements within the project management systems, processes, procedures and personnel. Even though the trend is positive, the overall implementation of the project initiatives and improvements have taken longer and cost more to implement than planned. Many of the improvements have influenced positive behaviors and performance trends; however, most have yet to produce sustained verifiable cost and schedule performance results. With continued program uncertainty and more disciplined Government contract administration, the contractor has applied increased internal legal oversight and corporate positioning within the project deliverables and activities. The guarded corporate positioning and behaviors have caused increased project inefficiencies and unnecessary adversarial environment at the field office level, restraining the rate of improvement required for project re-baselining and completion of construction activities in an efficient manner.

As of Aug/Sept 2015, the Contractor organizational changes have settled and roles, responsibilities, authorities and accountabilities are defined. The new construction Area Project Manager sub-teams (APMs) are to provide the contractor better capability to manage, execute and control the build-out of the commodities. Early indications are promising. Focused efforts to reduce project risks associated with open work packages on completed work have exceeded the objective, closing 662 legacy QL-1 work packages (against the goal of 600) and 453 legacy QL-4 work packages (against the goal of 100) for a total of 1115. By September 30, 2015, the contractor had submitted 1078 work packages to Documentum (Document Control Management System), officially closing the project's first 1078 work packages. Work planning and control has continued to improve through implementation and closure of smaller scopes of work "packets" but further integrated project effort is needed to achieve the effectiveness required to start and finish planned work activities on schedule and within budget.

The increased focus on finishing work, organizational changes, improvement initiatives, and un-planned delays/rework have further increased the bulk commodity installation unit rates in FY15. This continued increase in unit rates was further compounded during the 3rd and 4th periods by the "suspension of work in the affected areas" and identification of non-conforming structure Ledger Plates. Once the contractor acknowledged the ledger plate issue, the contractor took prudent actions outlining an action plan and proactively communicating with NRC & NNSA. The contractor continued to work through the 4th period on the ledger plate corrective action plan with direct costs exceeding \$1M. Continued execution process analysis, controls and focused integrated project improvements are necessary moving forward.

In FY15 the Contractor created and staffed an integrated planning organization within the construction organization responsible for the MOX IPS and Work Planning & Control.

The Contractor continues to reinforce detailed integrated planning and proper sequencing of work focusing on or near the current critical path work. Although NNSA confirmed the contractor's IPS development process in May 2015, the contractor did not deliver the IPS on schedule or as committed to NNSA. The incomplete IPS continues to impose project inefficiencies and cost/schedule risks onto the project.

There continue to be examples of a lack of functional integration and ownership of planning, analysis, control and reporting of the performance data within the Contractor's organizations resulting in incomplete, optimistic inputs and outputs across project processes. Project performance data, analysis and reporting have continued to improve; however, there continue to be many inaccuracies, inconsistencies and uncertainties in the planning, analysis and reporting of the labor, materials, and equipment. Until a project re-baselining decision is made, a better annual integrated resource loaded time phased plan needs to be established, functionally and individually accountable to performance analysis and reporting with disciplined transparent integrated project change control.

The functional support organizations of construction management, project management, engineering, quality assurance, contract/procurement management have put new processes and realigned personnel to better support the work in the field. Some of these improvements include independent quantity verifications, assigned engineering support by area, pre-determined engineering resolutions of typical construction issues, increased QA by Construction engineering and co-locating construction supply room near the work forces. These improvements are having positive impacts, but scheduled work continues to take longer than planned and cost more than the established budget. One apparent factor continues to be associated with having the right skill level and mix of employees to support the project in the most effective manner. Specifically, although project funding remained flat, CPSG non-manual staff grew by 101 positions (13.2%), while AREVA non-manual staff grew by 27 positions (15.6%). The contractor has not justified the increase, and has not shown the relationship between human capital needs and current spend levels and project phase.

1.3.4.1 PM – Leadership and Cooperative Working Relationships

The Contractor will provide effective leadership that produces verifiable results. The Contractor establishes a right-sized integrated organization and encourages/reinforces an open and questioning attitude within the project organization. This leadership results in responsiveness both vertically and horizontally within Contractor's chain-of-command to execute quality, timely, and cost effective completion of prioritized work scope of the project. Personnel throughout the Contractor organization are appropriately empowered to lead change to effect positive performance outcomes and complete work. Principles outlined in the MOX Project Quality Assurance Plan (MPQAP) and in a culture of a "Learning Organization

and Continuous Improvement” are flowed down to all organizations, work products, processes, fabrications, installations, etc. Metrics are utilized to drive and accelerate positive performance with completion of activities while doing it right the first time.

During the fiscal year, the new members of the MOX Services’ management team drove their organization towards process improvements in project management, integrated planning, execution support, control, and reporting with an underlying expectation of functionally accountable performance. Several organizational changes were made during the year which led to a redefinition of contractor roles, responsibilities, authorities and accountability. Two of the organizational changes (Project Manager and VP of Project Assurance) were announced publicly prior to obtaining NNSA approval as required by the prime contract. The replacement of the VP of Construction resulted in a complete realignment of roles and responsibilities as well as a revision to Project Procedure.

Although the processes and procedures to attract and retain a high-performing workforce improved during the year; there is concern about the right level and mix of employees to support the project. Specifically, although project funding remained flat, CPSG non-manual staff grew by 101 positions (13.2%), while AREVA non-manual staff grew by 27 positions (15.6%). MOX Services has provided no justification for the increases, and has not shown the relationship between human capital needs and current spend levels and project phase.

Overall, project data collection, analysis and reporting improved; however, there were inaccuracies and uncertainties in the collection and reporting of the labor, materials, and equipment installed to date. On June 29, 2015, MOX Services communicated the results of the nine month effort to “kick & count” commodities installed in the building which identified pipe and electrical commodities being over-reported. Improving these inaccuracies, conducting transparent analyses, and change control (including accounting and reporting of discrete and level of effort activities) have been initiated and need to be a focus moving forward. Work planning and control exceeded the planned rate for closing legacy work packages. 662 legacy QL-1 work packages (against the goal of 600) and 453 legacy QL-4 work packages (against the goal of 100) for a total of 1115 work packages were closed. MOX Services had also submitted 1078 of the 1115 closed legacy work packages to Documentum by September 30, 2015. Re-packaging and closure of new work control process “packets” improved efficiency; however, continued contractor focus is needed with-in the integrated project team regarding work control planning and reasonable timely closure through the document management system.

Many improvement initiatives and key deliverables continue to be finalized and are not implemented or have recently been implemented, and therefore do not have sustained results nor validation and/or acceptance of effectiveness. Additionally, the increased focus on finishing work, on-going improvements and un-planned delays/rework continue to contribute to the continued negative trend for the commodity installation unit rates. This negative trend was compounded during the period by the “suspension of work in the affected areas” and

identification of non-conforming structural Ledger Plates. After taking time to acknowledge the issue, MOX Services took prudent actions, outlining an action plan and communicated to NRC & NNSA. MS continued to work through the period on the ledger plate corrective action plan. To date, NRC has not issued a determination of the level of violation, choosing instead to wait on MOX Services' response to the issue. MS Management has continued to reinforce the commitment to detailed planning and proper sequencing of work focusing on the critical/near critical work. The integrated project schedule was not delivered as committed which impacted NNSA's FY16 work planning and award-fee development process.

There continues to be examples of a lack of integration between MOX Services Corporate and project functional organizations resulting in overly optimistic inputs and outputs across project processes. Corporate involvement in project details impacted the transparency and accuracy of project reports and documents. In several cases (IPS development, trends, EAC) unit rates were dictated by the Board of Governors. Unit rates should be determined by those most knowledgeable about the work, primarily the CAMs. Some deliverables to NNSA were delayed because of corporate review/involvement; a few of these were the IPS, the LOE analysis and the kick & count. Correcting inaccuracies, providing more transparent analyses, and improving the change control process (including accounting and reporting of discrete and level of effort activities) need to be a focus moving forward. The monthly summary report did not consistently communicate the project's status and MOX Service's management metrics, analysis and actions being implemented to meet the project and contract requirements within performance baseline budget and schedule.

1.3.5 Integrated Project Schedule (IPS) and Earned Value Management System (EVMS)

Para.	Award Fee Categories	Adjective Rating - Proposed	% Rating - Proposed	\$	% Weight
1.3.5	INTEGRATED PROJECT SCHEDULE (IPS) and EARNED VALUE MANAGEMENT SYSTEM (EVMS)	Satisfactory	23%	203,818	10.0%

The goal of this section is to evaluate the processes involved with the IPS and the EVMS. To achieve “Satisfactory” performance for this criterion, the contractor will implement a well-planned FY15 resource loaded schedule along with a disciplined Earned Value Management System (EVMS) in accordance with DOE Order 413.3B, ANSI/EIA-748 and the approved EVMS Management System Description. Due to funding uncertainty past FY15 it is recognized that some of the EVMS criteria will not be met. The EVMS should enable the successful planning and controlling of authorized work to achieve cost, schedule, and technical performance objectives. The operation of an Earned Value Management System (EVMS) will provide for proactive and effective management decision making for managing resources. EVMS reporting will highlight areas of concern regarding project cost/schedule performance and provide for the immediate management focus of attention. The EVMS reports and outputs will enable the project managers and their teams to operate more effectively. The EVMS will provide immediate access to reliable and accurate data on project costs, schedule, and technical performance keeping the project management team well informed. Special reports will be provided as agreed upon and within specified times and parameters.

1.3.5.1 Integrated Project Schedule (IPS)

Contractor will have available and will maintain a fully accurate Integrated Project Schedule (IPS) that serves as the basis for control of all functional area work activities necessary to plan and execute the daily/weekly/monthly project’s work scope and 90-day rolling wave planning according to the priorities established in conjunction with NNSA requirements. The contractor shall maintain the Level of Effort (LOE) activities in accordance with ANSI/EIA-748 and the approved EVMS System Description. The process evaluation of the IPS will focus on two areas: Items controlled by Project Management and Items controlled by Project Controls.

Project Management: 1) Prompt and Quality Schedule input and Activity Definition/Analysis/Status Updates/Compliance including the 90-Day Look ahead Detailing and the 3-Week Look ahead Statusing/Updating; 2) Daily Schedule Adherence (Working Scheduled Activities); 3) Level 4 Baseline Scope Performance Consistency

Project Controls: 1) Scheduling Procedure/Guideline Compliance; 2) Schedule Metrics Analysis/Corrective Actions (e.g., Acumen Fuse Analysis); 3) Initial FY15 Level 4 Baseline Schedule Quality and Change Control Management; 4) 90-Day Look ahead Level 5/6 Detailed Updating

After numerous verbal requests to correct EVMS deficiencies and provide an adequate Integrated Project Schedule (IPS), in December of 2014 NNSA provided technical direction to MOX Services to restore the EVMS process on the project to compliance with EIA 748-B Standards, as required by the contract. As part of this effort, the contractor was required to develop an IPS at Level 4 for all remaining work through the end of the project. The IPS was to be delivered to NNSA by May 24, 2015. Corporate review of the IPS delayed the deliverable until June 30, 2015. The IPS delivered to NNSA as a result of this direction was incorporated into P6, but was not complete for all remaining MOX systems, as was required. A second letter of direction from NNSA provided a revised due date in January 2016 to complete the Level 4 IPS, and a plan for completing the remaining systems to finalize the IPS was presented to NNSA. Regular progress updates for the IPS development effort are provided to NNSA, and NNSA participates as an observer in IPS development working meetings as necessary. MOX Services continues to make progress on the development of the Level-4 IPS. Sequencing of construction activities, identification of future equipment movement pathways, prioritization of rooms/areas for construction, and prioritization of procurements have been identified as the critical issues to ensure a workable schedule for the balance of the project. Critical review and planning activities for FY16 and beyond continue to be impacted negatively by the delay, and NNSA remains concerned that the work identified for completion in FY16 (FY16 Execution Plan), while forming the basis for FY16 work and identifying specific work to be completed in FY16, cannot be confirmed to be on the project's critical path until the comprehensive IPS has been completed. The Contractor's communications on schedule development and final schedule delivery status continue to indicate that significant work remains before a high level of confidence in the overall project schedule can be attained. Incorporation of unit rate changes based upon recent project execution experience remains a significant open item and negatively impacts NNSA's confidence in the quality of the FY16 Execution Plan, as well as for the overall project IPS, planned for completion in Feb 2016. The contractor's actual performance to-date in commodity installation has provided no evidence that the unit rate assumptions used in the FY2012 re-baseline can be attained, yet the FY2012 re-baseline unit rates have been incorporated into the FY2015 annual EAC and are used in determining activity duration estimates in the IPS for work planned in FY 2017 and beyond. NNSA has challenged these assumptions, which result in unachievable schedule and cost estimates. Changes in the perceived critical path and perceived near-critical paths have resulted from the IPS development effort, and it remains NNSA's expectation that the IPS will be definitive in its identification of the critical path so that future yearly execution plans will be targeted to those activities most critical to the successful completion of the project.

NNSA Assessments of the MOX Services Monthly Report continue to identify areas for improvement, and MOX Services continues to demonstrate an increase in transparency of the challenges faced on the project as well as improved discussion and analysis of the status of discrete work on the project within the Monthly Report. While additional improvements remain to be implemented, this has been a positive step towards increased stakeholder confidence in the content of the report. Areas identified for further improvement include increased transparency in reporting performance data, conversion of LOE work packages to discrete/apportioned to facilitate accurate project performance reporting, and more detailed discussion and analysis of significant changes to project execution experienced each month.

1.3.5.2 Maintain a certified Earned Value Management System (EVMS). The EVMS shall produce accurate, quality and verifiable EVMS data/reports each month.

Project Management: 1) EVMS Process Manual/Procedures/Desktops/Guidelines Compliance; 2) Discrete Activity Progress Reporting for QURR and Other Input; 3) LOE Account/Activity Management; 4) Quality EVMS Data Analysis, Corrective Actions, Mitigation Actions & Recovery Plans; 5) FY15 Execution Plan Performance Compliance; 6) Trend Submittal Quality/Compliance; 7) Risk Identification and Updates

Project Controls: 1) EVMS Process Manual/Procedures/Desktops/Guidelines Compliance – with reasonable exceptions in consideration of current Program/Project FY Funding/Re-baseline uncertainties; 2) EVMS Internal/External Surveillance/Corrective Actions; 3) MFFF Project Monthly Report – FY15 EVMS Data and Analysis Reporting; 4) MFFF Project Monthly Variance Analysis; 5) Discrete Activity Quantity Progress Processing/Reporting QURR to PRISM; 6) EVMS Data Analysis Supporting Management; 7) Change Control Process Implementation; 8) Weekly Trend Board Performance; 9) Risk Management

The contractor performed quarterly internal EVMS Surveillances, consistent with the FY16 EVMS Surveillance Plan, and developed an electronic CAM Notebook system intended to facilitate commonality in the organization of the CAM Notebooks and enhance CAM understanding of the information required by the EIA 748-B EVMS Standard. The effectiveness of the electronic CAM Notebooks has not been evaluated by NNSA assessments, nor has it been used in an external EVMS review to demonstrate its effectiveness.

In accordance with the Findings and Concerns identified by the quarterly internal EVMS Surveillance efforts throughout the year, and as directed by NNSA in the first quarter of FY2015, the contractor completed an evaluation of the Work Authorization process (specifically the Control Account Plan Authorization documents – CAPAs) and implemented changes required to bring these documents into compliance with EIA 748-B EVMS Standards. However, subsequent assessment of the CAPA documents by NNSA identified deficiencies which continue to bring EVMS compliance into question. Overall, MOX Services' EVMS remains non-compliant,

although improvements have been made throughout the year. Internal surveillance activities continue to verify this assessment, as have numerous formal and informal NNSA Assessments conducted throughout FY2015.

NNSA, consistent with the contract, requested that MOX Services prepare an annual Estimate at Completion (EAC) for FY15, and deliver it by July 2015, as required. The EAC was delivered, and NNSA's assessment of the EAC identified significant deficiencies and omissions, resulting in a low level of confidence that the EAC is representative of all costs associated with completing the project.

The Trend Process remains an area where further improvement is necessary to ensure that changes are fully analyzed for overall (integrated) project impact prior to submittal, approval, and incorporation into the PMB. In addition, increased timeliness in submittal and approval of trends would enable the project to better react to the impact of proposed changes. NNSA remains concerned with the process used in Change Control for the utilization of Management Reserve. An NNSA assessment to determine the level of adherence to the EIA 748B Standard related to Change Control, as well as compliance with MOX Services internal processes and procedures has been completed. Several Concerns, Findings and Observations were identified in this assessment, indicating areas for improvement that will need to be addressed to increase NNSA confidence in the Trend/Change Control process. NNSA has, on numerous occasions, objected to the contractor's use of Management Reserve (MR) in the implementation of Change Control actions where the most appropriate action would have been to identify a variance to the plan and manage the necessary corrective actions to minimize the variance.

NNSA observations during the weekly Schedule Review meetings continue to raise concerns about MOX Services' adherence to the approved FY15 Execution Plan. A large percentage of schedule activities reviewed during these meetings are observed to be regularly delayed, yet overall Schedule Performance is reported monthly as being "on schedule" or with little/no variance.

1.3.6 Construction – Execution

Para.	Award Fee Categories	Adjective Rating - Proposed	% Rating - Proposed	\$	% Weight
1.3.6	CONSTRUCTION - Execution	Satisfactory	50%	886,164	20.0%

To “Meet Expectations” for this criterion, the Contractor will integrate its organizations to establish and maintain the construction entity as the 'line organization'. It will recognize that its priorities are to construct a facility in an efficient, cost effective, and technically sound manner. These include a need to minimize rework, reduce idle time, and provide all the materials it needs to keep working to a well sequenced schedule. The construction organization will enable the people, materials, processes and work plans to come together seamlessly to drive the project to completion as scheduled and under budget. The construction systems shall be rigorous and support the appropriate level of planning, coordination, documentation, and actions necessary to comply with requirements with an overall commitment to improve job site efficiency and delivers the highest quality and value.

Over the reporting period Construction focused on commodity installations with mixed performance results. Installation of gloveboxes, HVAC duct, penetration plates, active gallery piping, and fire protection piping and dampers were largely successful and the quantities approached or exceeded the goals for the year. On the other hand, installation of electrical commodities and pipe and supports fell significantly short of scheduled quantities. Overall, numerous challenges experienced in the field slowed down, and in many cases stopped the craft from performing work, impeding progress, and causing delays, interruptions, and unproductivity. In most cases the work packages encountered problems in the field requiring additional work steps, issuance of FCRs, and/or provisional work authorization. Other contributors to delays were unavailability of material, discovery of non-conforming items (e.g., filter housings) at installation time, and waiting for QC inspections. Construction did not take effective action in identifying and correcting causes of delays and rework which are two main criteria for this award fee area. Therefore, many scheduled activities were not completed and actual “unit rates” significantly exceeded budgeted unit rates, increasing the overall cost.

During the year MOX Services construction management held open discussions with NNSA regarding progress, efficiency, challenges, and goals. In particular they shared their vision of their organizational transitions and plan to combine the functions of construction management and project management into one office. This organizational realignment was recently completed. Director of Construction, three Area Construction Managers, four Area Project Managers, as well as Director of Strategic Planning & Integration now report to the Vice President, Construction and Project Management. MOX Services management has been open with NNSA and shared its objective of how the new organization is intended to improve integration of effort between Project Management, Work Planning, and Construction. The

effectiveness of this new organizational structure in performing its dual functions of project management and construction, however, is yet to be seen in construction productivity and “unit rate” performance.

Despite the inefficiencies and lack of success in achieving the set unit rates and accomplishing the commodity goals, there were several noteworthy practices and accomplishments as noted below:

1. AREVA corporate was brought on board to review the Active Gallery build-out plan and recommend improvements.
2. Completed the fabrication and staging of the HVAC HDE header installation located in Room B387. For FY-15 HVAC duct installation goal was met.
3. Installed 78 gloveboxes and was particularly successful with installation of gloveboxes produced by the French Platform.
4. Closed over 1100 construction work packages.
5. Developed and started working to the Construction Test and Turnover Management Plan.
6. Completed a recount of installed commodities which were of concern. This effort took much longer than was anticipated but produced valid results that should help with updating the EVMS database with reliable input.
7. MOX performed an internal review and identified areas for improvement. The review was candid and should provide a starting point for taking specific actions. Although no actions were specifically identified, MOX Services is encouraged to pursue these areas and continue to perform similar assessments of construction processes in the future.

MOX Services Construction was generally responsive to the NNSA assessment reports which identified areas for improvement in welding program, fire protection program, construction procedures, and impact of Field Change Requests (FCRs). For example Construction acknowledged the impact that FCRs have on construction cost and schedule. The new organization includes a “strategic planning” team that in coordination with Engineering will perform a more thorough review and walk-down of work packages prior to release to the field, in order to minimize the number of FCRs. However, Construction organization could also benefit from a structured self-assessment program that identifies areas for improvement and facilitates productivity enhancements.

Overall, the construction organization improved its management and organizational structure over the last year and is poised to improve its performance over the next year.

1.3.6.1 Construction – Rework

Exceeds	MOX Services management provides considerable focus to understand the causes of and implements innovative and aggressive solutions needed to decrease Rework. This includes assessments of work processes, uniformity of reporting rework, and comprehensive metrics to affect continual improvement. Rework decreases each month.
Met	MOX Services management works to understand the causes of and implements solutions needed to decrease Rework. Rework decreases most months.
Below	MOX Services management provides an insufficient effort to understand the causes of and solutions needed to decrease Rework. Rework remains the same or increases.

In response to DOE letter, NA-APM 14-024, MOX Services agreed that additional focus needed to be directed to systematically reducing rework and developed, “Construction Rework Definition, Reporting and Assessment Desktop, r0.” At the same time, “rework” was established as a key Award Fee criterion for evaluating the performance of construction organization. The objective was to “provides considerable focus to understand the causes of and implement innovative and aggressive solutions needed to decrease Rework.”

During this assessment construction rework was tracked and reported by MOX Services using a relatively accurate process. Throughout the year Construction reported a high percentage of rework across the board for all commodity installations. However, the reported rework percent did not distinguish between legacy rework and new rework. This lack of clarity makes it difficult to fairly evaluate performance. Presumably the majority of reported rework is for correction of past problems and the new installations have proper quality and sequence and therefore little rework. If true, the legacy rework can be high and does not reflect on current performance as it is necessary to correct the past errors. On the other hand, new rework is expected to be managed and minimized. MOX Services management was informed of this discrepancy and started taking action to separate the legacy rework form new rework in its reporting system. However, no analysis or attempt to understand the causes of rework and implement solutions was performed. As a result the amount of rework for the top six commodities requiring the greatest number of labor hours (Conduit, cable Tray/Wireway Supports, Duct, HVAC Supports, Pipe, and Pipe Supports) increased, with the exception of HVAC Duct.

1.3.6.2 Construction – Delays

Exceeds	Delays to construction activities are minimal. Delays are tracked, analyzed for patterns, and evaluated for resolution. Solutions focus on minimizing construction down time and accomplishing the project critical path. The project shows continuous reductions in construction down time.
Met	Delays to construction activities are not minimal; however, those that routinely occur do not require construction crews to remobilize to other tasks because effective solutions are available.

Below

Delays to construction activities are common and often cause construction crews to remobilize to other tasks.

Similar to “rework,” the “construction-delay” was set as an award fee criterion to identify causes of delay in performing construction work and to implement corrective actions in order to improve productivity. However, while the delay sources were tracked and reported, no specific action was taken to reduce the delays. As a result, delays are high and have trended upward over the last five month. Hence, performance in this area has been less than satisfactory.

With regard to the delay data, NNSA found that the data used to produce the delay report are not consistently developed. MOX Services management agreed that some groups diligently provide data while others do not. The objective of this award fee criterion was that Construction would achieve the award fee exceeds criterion by the end of the fiscal year. That was, “Delays are tracked, analyzed for patterns, and evaluated for resolution. Solutions focus on minimizing construction down time and accomplishing the project critical path. The project shows continuous reductions in construction down time.” However, total delay increased over the last five months.

1.3.6.3 Construction – Work Packet/Package Closure (see note)

Exceeds

The average time from construction complete to work packet closeout is less than 30 days. Over 600 QL-1 legacy packages and 300 QL-4 legacy packages are closed.

Met

The average time from construction complete to work packet closeout is less than 60 days. Over 500 QL-1 legacy packages and 100 QL-4 legacy packages are closed.

Below

The average time from construction complete to work packet closeout is greater than 60 days. Less than 500 QL-1 legacy packages or 100 QL-4 legacy packages are closed.

Note: Closeout (or closed) means no further activities are required regarding that specific scope of work.

This is an area where Construction organization had an outstanding performance and exceeded expectations as related to closure of legacy work packages. Over the last year 662 legacy QL-1 work packages and 453 legacy QL-4 work packages for a total of 1115 work packages were closed. MOX Services had also, submitted 1078 of the 1115 closed legacy work packages to Documentum by September 30, 2015. However, MOX Services did not report the closing of work packets in less than 30, less than 60 or greater than 60 days.

1.3.7 Engineering & MOX Commissioning

Para.	Award Fee Categories	Adjective Rating - Proposed	% Rating - Proposed	\$	% Weight
1.3.7	ENGINEERING AND MOX COMMISSIONING	Satisfactory	38%	505,113	15.0%

During FY15 Design Engineering continued efforts to complete Title II Design and to support construction modifications as part of Title III Design management efforts. Entering FY15 a goal of Design Engineering was to complete Title II Design. In March and April of 2015, Engineering submitted a trend to increase the total number of commodities to be designed, which resulted in a delay of Title II Design completion to March 2016. After issuing that trend, though, Design Engineering continued on a path to complete Title II Design by March 2016, including completion of HVAC support design in September 2015. Design Engineering managed the Design Freeze Status report to control design changes and minimize impact to construction during the fiscal year. A significant number of field changes were processed during FY15, indicating that design products had not been fully assessed during constructability reviews, which could have helped reduce the impact to construction and the delays that naturally come with Field Change Requests and Field Change Notices.

Design Engineering processed a significant number of opportunities that could potentially result in reduced schedule delays and cost savings. MOX Services utilized the “People Empowered to Reduce Costs” (PERC) process and other trend activities to seek and implement cost savings and reported an overall cost savings of \$3,783,298 and an additional cost avoidance of \$1,647,243. NNSA did not validate the accuracy of these figures. Additionally, these numbers are off-set due to the rising costs associated with other on-going design changes.

In FY15, the MOX Commissioning (MC) group focused on supporting the construction schedule, NCR and TDR closure and In-Advance Testing. The support for the construction schedule included re-assembly of gloveboxes sent to vendors for repair work and assembly of gloveboxes and systems already on site. Despite the shifting construction schedule for gloveboxes, MC was able to have Construction-requested gloveboxes “Available for Site” by the date requested by Construction. Over 200 TDRs were closed for the year, including TDRs developed during ongoing testing, but the TDR list is still incomplete as many TDRs have not been scheduled and multiple systems have not been prepared for review. NCR closure has been a priority but the efforts have not yet been fully actualized. MC has been diligent in performing the actions necessary to close the NCRs, but the primary work required was done at vendor shops. MC worked with vendors to complete various procurements, but schedule delays were frequently encountered.

1.3.7.1 Engineering & PUDC – Title II

Design and engineering products, including hardware, will have the necessary technical and constructability (fabrication) quality to accomplish procurement, fabrication and installation with minimal problems and delays.

Exceeds	Design and engineering products have the necessary technical and constructability (fabrication) quality to accomplish procurement, fabrication and construction with no problems and delays. Exceptions are rare to non-existent.
Met	Design and engineering products have the necessary technical and constructability (fabrication) quality to accomplish procurement, fabrication and construction with minimal problems and delays. Exceptions are few with minimal problems and delays in construction.
Below	Design and engineering products often do not have the necessary technical and constructability (fabrication) quality to accomplish procurement, fabrication and construction with minimal problems and delays.

Title II Design work associated with MOX Commissioning was complete prior to the beginning of FY15, so there is no evaluation of MC design activities within this criterion.

Design Engineering continued to make progress in working toward completion of Title II design; however, the October 2014 goal to complete Title II design by the end of FY15 was not achieved. The first FY15 goal to complete all electrical loops in December 2014 was not achieved, but the loop design work was completed in the following month of January. As of February 28, 2015, Engineering reported to still be on a path to achieve Title II Design goals for Q2FY15; however, NNSA issued assessment report MOX-AR-15-0007 on February 23, 2015 concluding that MOX Services faced a significant challenge to complete Title II work in FY15 considering the recently trended 10% increase in certain commodities. As predicted in the assessment report, Engineering subsequently processed trends that resulted in a slip in the schedule to complete Title II Design. Instead of completing Title II Design prior to September 30, 2015, the trends changed the design complete date for HVAC supports to September 30, 2015, for piping isometrics and cable tray / wire way to December 2015, and the date for Pipe Supports to March 2016. While additional commodities had been a known issue for approximately 16 months, the trend was not processed until April 2015. As of the end of FY15, the goal to complete Title II design remained to be March 30, 2016, and performance metrics indicated MOX Services to be on a path to achieve that goal.

The revised goal to complete HVAC supports by the end of September 2015 was not achieved, although it is agreed that all necessary work to complete “Title II” Design was completed. MOX Services stated in the September 2015 Monthly Project report that design of all HVAC supports

is complete (page 16), leaving the impression that 9,288 HVAC supports were at least at a Revision 0. However, as of September 30, 2015, approximately 250 to 300 HVAC supports remained to be designed (Revision 0 design) for the BAP, BMP and BSR.

The total HVAC supports listed as designed in the September 2015 Monthly Project report is 9,288. MOX Services Engineering maintains tracking spreadsheets that estimate and list the quantities of supports designed. The HVAC tracking spreadsheet lists 9,051 supports as designed as of September 29, 2015. This number was reduced in the next tracking spreadsheet update as a room that was planned to use standard HVAC support designs was determined to need further design effort. MOX Services verbally reported that the 9,288 number of HVAC supports designed included a quantity of BAP, BMP and BSR HVAC supports that had not been designed, and that these supports could not be effectively designed by the September 2015 goal due to other constraints (e.g. waiting for vendor information and HVAC duct design changes), and so initial design was deferred until appropriate input information is available. This design approach is appropriate to effectively use engineering resources, but it is important to maintain transparency in reporting, so reporting the completion of all 9,288 HVAC supports lacks was not wholly accurate and transparent.

Field Change Requests (FCR's) are typically used by Design Engineering to respond to construction's requests of needed changes. Review of the FCR Reason Code data showed a total of 944 approved FCR's issued during FY15. The largest reason code were Constructability FCR's at 58-percent of the FCR's approved. Collective FCR's represented 22-percent of the FCR's approved. The Collective FCR process allows Construction to document changes already made in the field during the installation process. These typically reduce delay impact since Construction is resolving their own problems without the need for Engineering intervention. However, these FCR's still require work stoppage to allow time for craft, supervisors, and Construction Engineers to process the appropriate paperwork to allow craft to resume work. The Design Omission reason code on FCR's issued during FY15 were primarily related to HVAC duct orthographic drawing dimensional corrections and HVAC duct support information clarifications/corrections. These errors were identified during the work planning/constructability review activities.

1.3.7.2 Engineering & PUDC – Title III

Engineering will effectively execute Title III Design through systems, processes, procedures and personnel such that timely, accurate and constructible design products are available to support Procurement, PUDC and Construction. Engineering will ensure adequate Resident Engineering representation is maintained to support Construction and to oversee the design intent and requirements.

Exceeds

Engineering will ensure adequate Resident Engineering representation is maintained to support Construction and to oversee the design intent and requirements. Exceptions are rare to non-existent with no problems and delays.

Met

Engineering will ensure adequate Resident Engineering representation is maintained to support Construction and to oversee the design intent and requirements. Exceptions are few with only minor problems and delays.

Below

Engineering's implementation of Resident Engineering support is less than effective.

During this period NNSA conducted three assessments of Title III Design activities in an effort to assess the impact that design changes have on construction progress. The three assessments are:

- MOX-AR-15-0042, "Title III Engineering (Provisional Field Change Requests)," transmitted by email;
- MOX-AR-15-0065, "Title III Design Support" (piping and pipe supports), transmitted by email;
- MOX-AR-15-0096, "Title III Assessment – Electrical Field Change Request Support," transmitted by letter NA-APM-15-0157.

Design Engineering support of construction for Title III design activities is typically processed by Field Change Notices. In FY15 239 Field Change Notices (FCN's) were issued by Construction in support of in-progress construction installation efforts. An FCN provides Construction with pre-approved engineering solutions and does not require any review or approval by Engineering. However, FCN's must be approved and incorporated into the final design before the associated work packages can be closed. The use of the FCN process during construction is intended to reduce any delays to Construction for the resolution of field conditions affecting the design. However, each FCN requires that construction stop for a period of time to allow craft and their supervisors to assess the issue, document the issue on an FCN, and give Construction Engineers time to resolve the issue. While FCN's do lessen the impact to construction by allowing continuation of work without waiting for Design Engineering to process the change, the fact remains that FCN's require work stoppage by craft in order to initiate, document, and process the FCN.

Design Engineering approved on average more than nine Provisional Work Authorizations (PWA's) per month between 01Dec14 and 30Sep15 in support of in-progress construction installation efforts. A PWA represents the relatively immediate approval of a design change by the dedicated Resident Engineering team allowing the continuation of field installation activities while the final technical approval of the design change is processing. Similar to typical FCN, PWA's require the stoppage of construction activities while the PWA is processed.

The FCN and PWA processes indicate the effective and timely support of Construction, Procurement, and Quality activities during FY15 by the Resident Engineering team with minimal problems and minimal delays. However, the support could be enhanced by Design Engineering

conducting improved constructability reviews prior to the design documents being put into the hands of construction personnel to commence construction.

1.3.7.3 Engineering & PUDC – In-Advance Testing

Contractor will manage the design, fabrication, assembly, and in-advance testing of the process units and correct discrepancies with an aim to minimize risk of discovering technical issues during installation and in-plant testing.

Exceeds	Contractor will complete process units' assembly and in-advance tests and resolves test discrepancies including those that require hardware or software modifications prior to installation in plant. Open TDRs/NCRs are rare and none require hardware modification.
Met	Contractor will complete all identified process units' in-advance tests and resolve test discrepancies including necessary hardware modifications prior to installation in plant. Few TDRs/NCRs are open and none require hardware modification.
Below	Contractor does not adequately complete process units' in-advance tests or resolve test discrepancies. TDRs/NCRs are open at the time of unit installation.

In FY15, the MOX Commissioning (MC) group focused on supporting the construction schedule, NCR and TDR closure and In-Advance Testing. The support for the construction schedule included re-assembly of gloveboxes sent to vendors for repair work and assembly of gloveboxes and systems already on site. Despite the shifting construction schedule for gloveboxes, caused partially by resequencing work and by an inability receive components from vendors, MC was able to have all Construction-requested gloveboxes “Available for Site” by the date requested by Construction. This necessitated a shifting of resources within the PAF and limited progress on all units listed within the FY15 Execution Plan.

The closure of NCRs and TDRs was a part of the reduction of carried risk for unresolved issues associated with the process equipment. An MC initiative was to put together a team to categorize and schedule (as much as possible) the open TDRs for closure. Over 200 TDRs were closed for the year, including TDRs developed during ongoing testing. The TDR list is still incomplete as many TDRs have not been scheduled and multiple systems have not been prepared for review, but the list has been prioritized for FY15 work, then FY16 work. NCR closure has been a priority but the efforts have not yet been fully actualized. The primary focus of the NCRs are the oldest NCRs which for MC were all glovebox repair related. MC has been performing the actions necessary to close the NCRs, but the primary work required was done at vendor shops and not in-house in the PAF.

In-Advance Testing on various systems was also performed this year. The NDD and KKK/LAC system testing was completed. SPLC testing was also completed for the NDP, NPG/H and KPA systems. The scope of SPLC testing was also increased due to an increased number of observed testing deficiencies as a response to the increased observed risk. TDRs that resulted from these tests were addressed promptly, if possible, as to not increase the backlog of open TDRs. Of particular note was the decision to not complete the NDD system testing and power down the system to allow for closure of electrical TDRs that require power. One system that was not tested in FY15 but on the Execution Plan was the PFE GB8000/9000 tunnel system, as it was not received by MC from the vendor, ALD-F, in sufficient time to allow for testing within FY15.

1.3.7.4 Engineering & PUDC – Design Enhancement and Cost Saving Effort

Engineering and PUDC will proactively pursue design and quality control enhancements with an aim to minimize potentially excessive conservatism in design, quality control requirements, and inspections. This effort would include IROFS with Low Relative Importance to Safety (Low RITS) as well as other ideas and concepts.

Exceeds	The effort produces measurable results in terms of efficiency, productivity, and cost avoidance.
Met	Proactive effort is applied although it may produce minor measurable results.
Below	Little or no effort is applied.

In some instances during FY15, MOX Services Engineering pursued design enhancements that could result in cost savings and cost avoidance and were aimed at reducing excessive conservatism within the facility design. However, there was less effort applied to reducing quality control requirements and inspections that are driven by engineering requirements. NNSA attempted to drive reductions in QC requirements that were necessary to implement engineering specifications, but little progress was achieved. One example includes reduction of QC inspections for QL-4 items. Additionally, while engineering worked to avoid costs, efforts to improve efficiency and productivity were limited and provided minimal impact. Also, while some successes were achieved in pursuit of design enhancements, there is a lack of the ability to track the financial impact of design changes and the associated negative impacts on construction. It is therefore unknown how cost savings and avoidances associated with the successes within design enhancements were off-set by the increased costs associated with changing design requirements.

The below listing of activities provided by MOX Services demonstrates engineering efforts to reduce excessive conservatism, some of which have been successful and some of marginal success.

- Evaluate inspection activities to apply sampling. Two initial candidates identified were torque inspection and anchor bolt installation. Both of these have a high acceptance rate (greater than 95%). The plan is to have Construction perform the inspection and QC to provide oversight based on sampling.
- Drip tray installation enhancement. ECR-24869 has been issued to relax tolerances on drip tray installation. This will simplify installation and decrease the potential for NCRs.
- Colemanite concrete reduction evaluation. It has been determined that the colemanite concrete can be eliminated from 5 drip trays including rooms C-110, C-134, C-234 (pop-up or raised area), C-237, and C-305. It is estimated that this will result in a cost savings of about \$90K per drip tray. Calculations for Rooms C-110, C-234 pop-up and C-237 have been completed along with the drip tray NCSE that eliminates the colemanite neutron absorber from the drip tray design. ECR-025243 has been issued to change the colemanite concrete to concrete in Room c-110. ECR-25243 has been revised to change the colemanite concrete for drip trays in Rooms C-110, C-234 pop-up and C237 to normal concrete. This makes installation of the concrete much more constructible and less labor intensive. The calculation for Room C-134 was completed in January and an ECR for the drip tray NCSE was completed on February 27. ECR 25243 which removes the colemanite concrete from the installation drawing in Room C-134 was issued March 2, 2015. This complete removal of colemanite from 5 rooms in the BAP (C110, C134, C234pop-up, C237 and C305) per nuclear safety revised requirement. Nuclear Safety has also completed all supporting documentation.
- MOX Services continues to collaborate with the NRC on MPQAP changes to more appropriately align QA measures commensurate with their importance to safety. Three MPQAP amendments were submitted in May 2015. One of these amendments was approved in July which allowed the use of ILAC certification in lieu of commercial grade surveys. This change was based on recent NRC endorsement of NEI-14-05. MOX Services is the first facility to obtain approved NRC use of this approach. Discussions with the NRC on the second amendment related to required UL and FM reports continue and we have received draft RAIs requesting additional justification. Similarly, discussions continue on the third amendment on redefining the QL classifications to allow reduced set of QA controls for worker protections similar to DOE's safety significant QA controls. MOX Services is currently evaluating the preliminary NRC feedback.

MOX Services continued to utilize the "People Empowered to Reduce Costs" (PERC) process and other trend activities to seek and implement cost savings and reported those efforts resulted in an overall cost savings of \$3,783,298 and an additional cost avoidance of \$1,647,243. However, NNSA did not validate the accuracy of these numbers, and these cost savings were also off-set by higher costs caused by other engineering changes.

1.3.7.5 Engineering & PUDC – Physical Design Complete

Engineering monitors and updates the Design Freeze Status Report to reflect the completion of for construction design necessary to support construction on a room by room basis. The target is to complete all physical design elements so that construction can proceed as planned per the FY15 Execution Plan. The room coordination effort is also reflected in this status and reflects the resolution of all identified issues between and within groups including clashes identified in the PDS 3D Model.

Exceeds	Engineering freezes applicable design elements in sufficient time so as to not directly impact the FY15 baseline plan priorities.
Met	Engineering freezes applicable design elements in sufficient time so as to only have a minor impact on the FY15 baseline plan priorities.
Below	Engineering does not freeze applicable design elements in sufficient time to avoid a major impact on the FY15 baseline plan priorities and workarounds acceptable to construction are not established.

Nearly all of the Title II design activities were complete for MOX Commissioning activities prior to FY15; therefore, there was no assessment of Title II activities supporting MOX Commissioning.

Engineering continued to utilize the Design Freeze Status report to ensure design changes did not significantly impact project success. This particular criterion required management of the report to ensure no impact to FY15 constructions activities, and MOX Services Engineering did not delay any FY15 construction resulting from Title II design delays. Most but not all of the Title II design work for FY15 activities were completed prior to the initiation of FY15. The Title II items that were not complete prior to FY15 were completed soon within the early part of the fiscal year, and the Design Freeze Status was utilized to ensure limited impact to construction as a result of changing design.

1.3.8 Business and Contract Management

Para.	Award Fee Categories	Adjective Rating - Proposed	% Rating - Proposed	\$	% Weight
1.3.8	BUSINESS AND CONTRACT MANAGEMENT	Satisfactory	27%	239,264	10.0%

During the fiscal year, assessments of activities within the business and contract management area revealed some apparent positive results as well as several areas identified for improvement. An assessment MOX Services property management system found that Government Property for the MFFF project is being adequately controlled and accounted for, which resulted in the recommendation of Contracting Officer approval of MOX Services’ Government Property System for the next three years. The Human Capital Management Area implemented several new initiatives that are still ongoing and have yet to produce verifiable results.

A Contractor Purchasing System Review (CPSR) revealed fundamental issues with subcontract management including insufficient planning, execution, and documentation; and inconsistent compliance with the FAR and MOX Services policy. Numerous instances of official correspondence sent by MOX Services contracting staff lacked valid factual and/or logical bases. During the fiscal year, there were multiple instances of MOX Services not following the contract requirements of DEAR Clause 952.235-70, Key Personnel (APR 1994). MOX Services implemented actions under two subcontracts in conflict with prime contract requirements related to Construction Bonds.

MOX Services needs to commit to the fundamentals of managing both the prime contract and subcontracts in a conscientious, detail-oriented, fiscally sound manner. Improved results could be achieved by significantly improving organizational planning, execution, consistency, focus, and quality.

1.3.8.1 Business and Contract Management – Proposals/Documents/Packages

Proposals, documents and/or packages are submitted timely, accurately and as applicable are clearly traceable and consistent with an approved estimating system, ensuring proposal/document/package data, including Basis of Estimates (BOEs), are prepared in accordance with proposal/document/package instructions and contain sufficient detail to support technical reviews, cost analyses and internal/external audits, and Contractor provides comprehensive and timely responses to Government questions/inquiries.

Exceeds

Proposals, documents and/or packages are of high quality, submitted before their due date, are accurate and adequate for evaluation and/or audit, are prepared in accordance with applicable proposal instructions, require little to no rework and Contractor provides comprehensive and prompt responses to Government questions/inquiries.

Met

Proposals, documents and/or packages are of sufficient quality, submitted on or before their due date, are considered accurate and adequate for evaluation and/or audit with minor rework required and Contractor provides comprehensive and timely responses to Government questions/inquiries.

Below

More than one proposal, document and/or package is of unsatisfactory quality, submitted after their due date, considered inaccurate or inadequate for evaluation and/or audit, require more than minor rework or Contractor does not provide a comprehensive and timely response to a Government question/inquiry.

During the fiscal year, NNSA received a total of 4 proposals. The proposals submitted for the Vulnerability Analysis (P14-001) and the Risk Management Framework Plan (P13-011) were both considered to be adequate for evaluation.

The proposal for Natural Phenomena Hazards (NPH) Studies/Analysis (P15-003) was submitted after MOX Services began work on the requirement. MOX Services should have submitted a proposal for the NPH work and received approval from the Government via a bilaterally negotiated and executed contract modification prior to beginning performance on the requirement. Not following a fundamental contract process demonstrates a lack of internal controls to prevent unauthorized work under the contract.

The proposal for the Retention Plan (P15-004) was only submitted after a request from NNSA. MOX Services initially sent a letter (DCS-DOE-004913) requesting an extension of the existing retention plan and did not provide an analysis or give consideration to the plan's effectiveness, advisability, assumptions, or parameters. Meetings and conversations were required for NNSA to explain basic data and information needed for the proposal. The final retention plan proposal submitted by MOX Services was considered adequate for evaluation; however, the proposal was ultimately disapproved by NNSA.

Documents, including official correspondence, provided during the year were of varying quality levels. MOX Services demonstrated numerous instances of misalignment of prime contract resources and insufficient mission focus. During the award fee period, MOX Services sent several official letters to NNSA that did not have a discernable legitimate basis and/or included misleading, inaccurate, and/or untrue statements.

1.3.8.2 Business and Contract Management: Procurement & Subcontract Management

Procurement and Subcontract Management includes the preparation, compilation, issuance of complete subcontracting packages and procurements that follow the Procurement Practices Manual (PPM) resulting in on-time delivery and acceptance of products, services and/or deliverables that are aligned with the Integrated Project Schedule to support all applicable project activities with timely and efficient resolution of technical and supply/procurement related issues. Subcontractor Requests for Contract Change Proposals (RFCP) and Requests for Equitable Adjustments (REA) are tracked, updated, reported to the Government on a regular basis and are defended and negotiated in the Government's best interest to minimize impact to the project's cost and/or schedule. Contractor uses RFCP and REA resolution information to effectively apply lessons learned to future procurements. Contractor provides comprehensive and timely responses to Government questions/inquiries.

Exceeds

Products, services and/or deliverables procured are of high quality, specifically follow the PPM, are submitted before the due date, and are technically acceptable with little to no rework required. Contractor monitors, tracks and reports on all subcontract suppliers and any associated RFCPs and/or REAs are aggressively defended and negotiated in the Government's best interest to prevent impact to the project's cost and/or schedule. Contractor has zero open RFCPs over 180 days of length, RFCPs are resolved within mutually agreed timelines minimizing any impact to the Project Schedule and RFCP lessons learned are applied to future procurements. Contractor promptly provides comprehensive responses to Government questions/inquiries.

Met

Products, services and/or deliverables procured are of satisfactory quality, comply with the PPM, are submitted on or before the due date, are technically acceptable with minimal rework required. Contractor monitors, tracks and reports the significant subcontract suppliers and any associated RFCPs and/or REAs are defended and negotiated in the Government's best interest to minimize impact to the project's cost and/or schedule. Contractor has less than 10% of open RFCPs that are over 180 days of length, majority of RFCPs are resolved within mutually agreed timelines and RFCP lessons learned are considered for application in future procurements. Contractor provides comprehensive and timely responses to Government questions/inquiries in a Government-determined reasonable amount of time.

Below

There is one or more product/service and/or deliverable procured that is not of satisfactory quality, does not follow the PPM, is late or is not technically acceptable. Contractor monitors and tracks, but provides only sporadic reports on subcontract suppliers and any associated RFCPs and/or REAs. Settlements of RFCPs and/or REAs are poorly defended and negotiated, and/or could have excluded more questionable costs. Contractor has greater than 10% of open RFCPs that are over 180 days of length, less than the majority of RFCPs are resolved within mutually agreed timelines or RFCP lessons learned are not considered or applied in future procurements or Contractor does not provide a comprehensive and timely response to a Government question/inquiry.

The Contractor Purchasing System Review (CPSR) conducted in February produced disappointing results, with 58% of the files reviewed considered to be unacceptable based on documents either missing from the file or inadequate documentation of the final business deal reached. The CPSR resulted in reductions to MOX Services' procurement authority per FAR Clause 52.244-2, Subcontracts (AUG 1998) Alternate I (JAN 2006).

Some of the major areas identified for correction included: Improvement in the frequency and types of training offered to the procurement and technical staff; establishment of internal procurement controls to address cumulative subcontract cost/price growth; and reconsideration of the requirements for documenting market research, price reasonableness, the rationale for subcontract modifications and the level of subcontract monitoring required. MOX Services provided a corrective action plan that will be monitored by NNSA with a limited follow-up CPSR scheduled for FY2016 to assess the effectiveness of those corrective actions.

NNSA has reviewed several files since reducing MOX Services' procurement authority and those reviews have reinforced previously communicated systematic concerns. Most recently, NNSA conducted an assessment of Single/Sole Source Procurements which resulted in 38 Observations, 133 Findings and 3 Concerns.

MOX Services demonstrated inadequate acquisition planning that resulted in instances of last-minute requests for NNSA approval. In April, MOX Services asked NNSA to provide consent for an extension to its Non-Destructive Examination (NDE) Service subcontract scheduled to end on June 26th. NNSA discovered that a subcontract awarded in June 2007, which should have ended in June 2012, was extensively and improperly extended without conducting appropriate procurement/acquisition planning. Waiting until late April to request NNSA approval put the needed NDE Services at risk.

On September 30th, MOX Services submitted requests for extension of 67 equipment leases. 53 of the 67 leases expired on the same day as the request, and several others had expired previously. NNSA granted approval to extend the leases for a short duration; however, the incident demonstrates lack of planning for critical construction support activities.

Consent to issue two Request for Quote/Request For Proposal packages (NA-APM-15-0014, NA-APM-15-0159) was granted during the fiscal year in addition to consent to award 8 subcontracts (NA-APM-15-0021, NA-APM-15-0036, NA-APM-15-0054, NA-APM-15-0068, NA-APM-15-0103, NA-APM-15-0113, NA-APM-15-0166, NA-APM-15-0171). The quality of the packages varied with all of the packages requiring some amount of correction/clarification prior to NNSA being able to provide consent. Some packages submitted included items that were questioned during previous consent package reviews, which indicates the need for improved knowledge-sharing.

There were several communication issues during the fiscal year related to subcontracts and subcontract management. It took MOX Services several months to provide an explanation of the

process used to validate invoices submitted by T&M subcontractors for rework. In November and December 2014, NNSA granted consent for MOX Services to award two T&M Labor Hour subcontracts that included the requirement for Construction Bonds. In their first quarter Award Fee input, MOX Services reported they would be saving the Government money by no longer requiring construction bonds from their T&M subcontractors. Since Section H.24 of the contract requires bonds on all construction subcontracts exceeding \$100,000, MOX Services should have asked NNSA and received concurrence from the CO before implementing a change that does not follow prime contract requirements.

In June, NNSA made multiple requests for information related to glovebox de-scope and re-procurement costs. While MOX services provided a response quickly after the initial request and did communicate with NNSA during the information request process, it took several weeks and discussions before MOX Services was able to present a complete set of data to NNSA.

There are several mandatory prime contract flow-down requirements for construction subcontracts dealing with labor compliance (FAR Clauses 52.222-4, 52.222-6, 52.222-7, 52.222-8, 52.222-9, 52.222-10, 52.222-11, 52.222-12, 52.222-13, and 52.222-14). As part of NNSA's labor compliance validation process, labor compliance interviews (formerly called Davis Bacon Wage Interviews) were conducted during the 3rd and 4th Quarters of FY2015. A total of 22 subcontractor employees were interviewed, which resulted in questions on items such as: Certified payroll records not being uploaded to Documentum in a timely manner; the bulletin board in the craft lunch area/building did not have the appropriate and up-to-date information; and issues with pay concerning fringe benefits not being included in the hourly rate, questions in why per diem was included as a lump sum, and questions on why pay advances were listed as deductions. These items were not resolved/clarified by MOX Services within the award fee rating period.

At the end of 2015, MOX Services had a total of 124 open Request for Change Proposals (RFCPs) (39 in PUDC, 31 in Engineered Equipment and 54 in Construction). Of the 124 open at the end of the fiscal year, 21 of RFCPs (17%) were open for more than 180 days (2 in PUDC, 4 in Engineered Equipment and 15 in Construction) which is considered below expectations. It is important for MOX Services to negotiate subcontract changes within a reasonable amount of time to minimize the impact to both the vendor and the project schedule.

1.3.8.3 Business and Contract Management: Human Capital Management

Human Capital Management proactively assesses MOX Services organization and human capital market to ensure human capital systems, processes and procedures are effectively instituted, managed and assessed as necessary (such as, but are not all exclusive; recruitment, retention & relocation, leadership development, succession, performance management, pay for performance, career development, training, workforce planning, and employee collaboration) to strategically address human capital needs required to build and maintain a high-performing workforce with the essential skills and competencies to successfully meet the contract and project requirements.

Exceeds	Management proactively assesses the working environment and market conditions. Management effectively implements measurable and reportable processes that clearly define and consistently communicate performance expectations. Managers effectively utilize reportable methods to rate, reward, and hold employees accountable for achieving specific business goals, creating innovation and supporting continuous improvement. There are ongoing recruitment efforts resulting in minimal disruptions to the project schedule/project performance as a result of employee attrition. Management has a high level awareness of the work environment and successfully utilizes a broad spectrum tools to develop and retain key employee talent.
Met	Management assesses the working environment and market conditions. Management implements measurable and reportable processes that define and communicate performance expectations. Managers utilize reportable methods to rate, reward, and hold employees accountable for achieving specific business goals, creating innovation and supporting continuous improvement. There are few recruitment efforts resulting in some disruptions to the project schedule/project performance as a result of employee attrition. Management has some awareness of the work environment and utilizes some tools to develop and retain key employee talent.
Below	Management does not assess the working environment and market conditions. Management is unable to implement measurable and reportable processes that define and communicate performance expectations. Managers are unsuccessful at utilizing reportable methods to rate, reward, and hold employees accountable for achieving specific business goals, there are no efforts to create innovation and/or support continuous improvement. There are minimal recruitment efforts resulting in major disruptions to the project schedule/project performance as a result of employee attrition. Management is not aware of the current work environment and does not utilize any tools to develop or retain key employee talent.

MOX Services began the fiscal year with a total of 1385 employees (767 CPSG Non-Manual, 40 Staff Aug, 173 AREVA, and 405 CPSG Craft) and ended the year with 1571 employees (868 CPSG Non-Manual, 49 Staff Aug, 200 AREVA, and 454 CPSG Craft).

Initiatives in the Compensation Management, Performance Management and Employee Development/Succession Planning areas were started during the year to aid in the building/maintenance of a high performing workforce; however, the results of these initiatives were not yet evident at the end of the fiscal year. MOX Services conducted ongoing campus and other recruitment efforts throughout the year and reported overall improvements to the human capital management processes. Although implementation of new recruitment strategies was a positive change, it was unclear if the level of recruitment was appropriate to support a right-sized project organization.

The requirement for a market analysis and compensation study was stated by MOX Services to have been added to the new hire process to ensure salaries/benefit packages are competitive with either local or national industries (depending on the position). In addition to compensation studies being performed for new hires, MOX Services reported an initiative to review the compensation of current employees and make adjustments (downward and upward) as needed to align with the current market.

After extensive research into industry practices and OSHA/DOE/NRC requirements, a pilot program was implemented to eliminate physical exams for all craft employees. As a result, post-offer physical exams are only required as needed for particular positions which should both speed up the hiring process as well as cut expenses for unnecessary tests (this pilot program does not eliminate the need for SRS site drug screenings for all employees prior to employment).

NNSA completed an assessment of MOX Services' Exit Interview Process. While MOX Services consistently conducts exit interviews with all employees that leave the MFFF project, there is not a standardized or well-established procedure for the human resources staff to follow. MOX Services acknowledged the need for consistency and committed to NNSA a procedure will be published by December 2015.

An assessment of the Drug-Free Workplace Program showed that MOX Services does have a project procedure that is being followed to maintain a drug-free environment for the MOX Project. Two observations were noted as suggestions to 1) standardize the Drug-Free Workplace terms and conditions used in subcontracts and to 2) consider modifying subcontract terms and conditions to name specific drugs (including the failure levels) if MOX Services deems it appropriate.

1.3.8.4 Business and Contract Management: Government Property

Government Property is proactively tracked, marked, protected and managed in accordance FAR requirements and an approved property system, quality property status reports are provided, excess property is appropriately dispositioned and property issues and their potential impact are communicated to the Government to minimize any negative impact. Contractor provides comprehensive and timely responses to Government questions/inquiries.

Exceeds	Contractor proactively tracks, marks, protects and manages all Government property in accordance FAR requirements and an approved property system, appropriately dispositions excess property in the most financially advantageous method and communicate property issues and their potential impact to the Government along with recommended actions as soon as realized and well in advance to prevent any negative impact. Contractor promptly provides comprehensive responses to Government questions/inquiries.
Met	Contractor tracks, marks, protects and manages Government property in accordance FAR requirements, an approved property system, appropriately disposition excess property in the most advantageous method and communicate property issues and their potential impact to the Government along with recommended actions. Contractor provides comprehensive and timely responses to Government questions/inquiries.
Below	Contractor fails to track, mark, protect or manage Government property in accordance FAR requirements and an approved property system, appropriately disposition excess property in an advantageous method or communicate property issues and their potential impact to the Government's attention in enough time to minimize potential harm to the Government or Contractor does not provide comprehensive and timely responses to Government questions/inquiries.

MOX Services managed Government property in accordance with FAR requirements, maintained an approved property system, and dispositioned excess property by the transfer out of \$379K in equipment/materials to other agencies and the sale of \$136K in scrap. In May 2015, NNSA Property Branch NA-APM-143 performed a periodic review of the MOX Services Property Management System, determining that Government Property for the MFFF project is being adequately controlled and accounted for, resulting in the recommendation of Contracting Officer approval for the next three years. During this FY15 reporting period, there were 19 items of reported lost property totaling \$55K in replacement value and there were 17 incidents of damaged property with an estimated repair value of \$441K. MOX Services reported to NNSA they believe the implementation of the Tool Hound inventory system to track issuance of serialized, bulk and consumable tools to craft users via one database has resulted in improved equipment/tool accountability and elimination of unnecessary issue points to centralized tool rooms for increased efficiency; however, these statements have not been verified by NNSA.