

**SUBJECT:** LIMITED CHANGE TO DOE O 440.2C, *AVIATION MANAGEMENT AND SAFETY*

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1. EXPLANATION OF CHANGES. This Limited Change adds requirements for uncrewed aircraft operation; adds requirements for training and qualifications; clarifies roles and responsibilities; and addresses a limited number of safety related issues.
2. LOCATIONS OF CHANGES:

Page	Paragraph	Changed	To
	Throughout	Renumbered Order to align with current template.	
	Throughout	Director of OAM	Director, OAM
1	Was Cancellations Paragraph Now Paragraph 2	<u>CANCELLATIONS.</u> DOE O 440.2C Chg. 1 (AdminChg), <i>Aviation Management and Safety</i> , dated 6-22-11.	<u>CANCELS/SUPERSEDES.</u> This Order cancels or supersedes the following: <ol style="list-style-type: none"><li>a. DOE O 440.2C Chg 2 (LtdChg), <i>Aviation Management and Safety</i>, dated 9-15-20</li><li>b. Deputy Secretarial Memorandum, <i>Policy Statement for Unmanned Aircraft System Flight Operations</i>, dated 6-16-15</li></ol>
1	Was Applicability, Paragraph 1 Now Paragraph 3.a.(3)	Added.	Unless specified, all requirements in this document are applicable to both crewed and uncrewed flight operations.
2	Was Applicability, Paragraph 1 Now Paragraph 3.c.	...Equivalency or exemption requests which involve NNSA organizations shall be made available to the Director, OAM, for review and comment...	...Equivalency or exemption requests which involve NNSA organizations shall be made available to the Director, OAM, for review and comment prior to implementation...
2	Was Requirements, Paragraph 1 Now Paragraph 4.a.	...However, the FAA retains oversight of the airworthiness of any aircraft for which it has issued a Certificate of	...However, the FAA retains oversight of the airworthiness of any aircraft for which it has issued a Certificate of Airworthiness (C of A), which

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		Airworthiness (C of A), which includes DOE/NNSA aircraft...	includes DOE/NNSA government aircraft...
2-3	Was Requirements, Paragraph 2 Now Paragraph 4.b.	<u>Hiring CAS.</u> DOE/NNSA elements that contract or utilize CAS operations must select an operator from the “Accepted Operator List” located on the OAM web site. OAM will accept operators approved by appropriately trained DOE/NNSA personnel, DoD, and consider, on a case-by-case basis, the addition of CAS operators already approved by other Executive Agencies.	<u>Hiring Commercial Air Service Providers (CAS).</u> Field Elements that plan to utilize DOE/NNSA funded CAS may not allow the selected CAS provider to begin flight operations until they successfully pass a safety audit as defined by OAM (or an audit protocol developed by the contracting entity that meets or exceeds the requirements set forth in the OAM protocols) and are placed on the departments “Accepted Operators List.” OAM, at its discretion, may accept audits from other Executive Agencies, DoD, or advanced SMS certifications from internationally recognized aviation specific SMS programs. Should a selected provider fail a safety audit their contract may be voided by that field elements contracting office in favor of an alternative provider that does successfully pass the required safety audit.
3	Was Requirements, Paragraph 3.a. Now Paragraph 4.c.(1)	Each DOE program must submit its AID to the Director, OAM. The OAM Director will approve the AID submitted by DOE elements that use Government aircraft not part of NNSA. For other than NNSA organizations, AIDs will be effective when approved by the Director, OAM. For AIDs submitted by NNSA elements, the Director, OAM, will be provided with an opportunity to review, comment and make recommendations to the Administrator, NNSA, via the submitting office. For NNSA elements, the NNSA	Each DOE program must submit its initial AID to the Director, OAM. The OAM Director will approve the AID submitted by DOE elements that use Government aircraft not part of NNSA. For other than NNSA organizations, AIDs will be effective when approved by the Director, OAM. For AIDs submitted by NNSA elements, the Director, OAM, will be provided with an opportunity to review, comment and make recommendations to the Administrator, NNSA, via the submitting office prior to implementation. For NNSA elements, the NNSA

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		Administrator retains final authority.	Administrator retains final authority.
3	Was Requirements, Paragraph 3.b. Now Paragraph 4.c.(2)	Each DOE/NNSA program must review and update its AID annually to determine if significant changes in management, operations, or maintenance standards require revision and subsequent approval. NNSA annual AID reviews will be conducted by each Aviation Program Office. If significant changes are required, the Director, OAM, will be provided with an opportunity to review, comment, and make recommendations to the Administrator, NNSA, via the submitting office. For NNSA elements, the NNSA Administrator retains final authority.	Each DOE/NNSA program must review its AID biennially to determine if significant changes in management, operations, or maintenance standards require revision and subsequent approval. NNSA biennial AID reviews will be conducted by each Aviation Program Office. If significant changes are required, the Director, OAM, will be provided with an opportunity to review, comment, and make recommendations to the Administrator, NNSA. For NNSA elements, the NNSA Administrator retains final authority. Significant changes exist when one or more of the following criteria exist: (1) The general configuration/intent of the document is not retained; (2) the original principles on which the document was based are not retained; and (3) the assumptions used in writing the original document are no longer valid (in part or in whole).
3-4	Was Requirements, Paragraph 4 Now Paragraph 4.d.	<u>Management/Administration of DOE/NNSA Aviation Programs.</u> Any field element that manages and oversees DOE/NNSA Federal aircraft must develop a management structure, appropriate in size and scope, which is responsible for the administration, operation, safety, training, maintenance, security and financial needs of DOE/NNSA owned aircraft operations...	<u>Management/Administration of DOE/NNSA Aviation Programs.</u> Any field element that manages and oversees DOE/NNSA government aircraft, to include CAS, must develop a management structure, appropriate in size and scope, which is responsible for the administration, operation, safety, training, maintenance, security and financial needs of DOE/NNSA aircraft operations...
4	Was Requirements, Paragraph 4.a.	Federal Aviation Managers (AvMs) and/or Aviation Safety Officers (ASOs) that meet the	Crewed Flight Operations. Federal Aviation Managers (AvMs) and Aviation Safety

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	Now Paragraph 4.d.(1)	qualifications established in the Federal Technical Capability Program within 18 months of assignment (see DOE O 426.1, <i>Department of Energy Federal Technical Capabilities</i> , current version, for specific requirements. FTCP-PSQS-1165-2020, <i>Aviation Safety Program Specific Qualification Standard</i> , or latest revision, provides other acceptable methods).	Officers (ASOs) that meet the qualifications established in the Federal Technical Capability Program within 18 months of assignment (see DOE O 426.1, <i>Department of Energy Federal Technical Capabilities</i> , current version, for specific requirements. FTCP-PSQS-1165-2020, <i>Aviation Safety Program Specific Qualification Standard</i> , or latest revision, provides other acceptable methods).
4	4.d.(2)	Added.	Uncrewed flight operations, dependent upon the programs size and complexity, will have an assigned AvM and/or ASO as determined by the program office in coordination with OAM.
4	Was Requirements, Paragraph 4.b.-d.	Renumbered.	Now Paragraph 4.d.(3)-(5)
4	4.e.	Added.	<u>Pilot in Command</u> . For both civil and public aircraft operations, the Pilot-in-Command (PIC) or Remote-Pilot-in-Command (RPIC) is directly responsible for and is the final authority as to the operation of that aircraft.
4	Was Requirements, Paragraph 5 Now Paragraph 4.f.	<u>Operation Standards for DOE/NNSA Aviation Programs</u> . DOE/NNSA Government aircraft, including CAS and unmanned aircraft systems (UAS), in service to DOE/NNSA must be operated and maintained in accordance with the applicable parts of Title 14 CFR appropriate for the mission, size and scope of the operation, type of aircraft in service, and will comply with Title 41 CFR Part 102-33 and applicable laws...	<u>Operation Standards for DOE/NNSA Aviation Programs</u> . DOE/NNSA Government aircraft, including CAS and uncrewed aircraft systems (UAS), in service to DOE/NNSA must be operated and maintained in accordance with the applicable parts of Title 14 CFR appropriate for the mission, size and scope of the operation, type of aircraft in service, and will comply with Title 41 CFR Part 102-33 and applicable laws...

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5	4.f.(4)-(5)	Added.	<p>A comprehensive and documented mandatory mission briefing and debriefing policy that ensures all crewmembers fully aware of mission objectives and parameters.</p> <p>A comprehensive and documented mandatory mission de-briefing policy that ensures all crewmembers have the opportunity, at mission completion, to provide feedback on a non-retribution basis.</p>
5	Was Requirements, Paragraph 5.d.-j.	Renumbered.	Now Paragraph 4.f.(6)-(12)
5-6	4.g.	Added.	<p><u>Uncrewed Flight Operations.</u> Uncrewed Aircraft Systems (UAS) are defined as aircraft by the Federal Aviation Administration and are subject to all applicable FAA requirements for certification, air-worthiness, RPIC certification, and operations in the National Airspace System and as well as all applicable parts of this Order.</p> <p>(1) UAS flight operations may not begin until an OAM approved program/AID is in place.</p> <p>(2) All UAS RPIC's will hold a current FAA Part 107 license as a baseline certification, regardless of aircraft weight and/or operational status (Civil/PAO).</p>
6	Was Requirements, Paragraph 6 Now Paragraph 4.h.	<u>Incidental and Supplemental Pilots.</u> If a field element intends to use incidental or supplemental pilots, the pilots must meet all standards and training requirements for full time pilots. The AID or equivalent will	<u>Part time and Supplemental Pilots (Crewed and Uncrewed flight operations).</u> From time to time a flight program may find it necessary or beneficial to secure the services of a part time or supplemental pilot.

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		outline who is authorized to fly, such as the Director of Operations, Aviation Manager, ASO or an incidental/supplemental pilot. Additionally, a supplemental pilot may provide a cost-effective alternative to meet specific unfulfilled flight crewmember requirements. The field element's AID, and the contractor's aviation procedures or operations manual, if applicable, must clearly define the qualifications and processes for using either incidental or supplemental pilots. Supplemental and incidental pilots must meet the following minimum criteria:	Whether contractor or Fed, these pilots must meet the same experience requirements, flight standards, and flight related training requirements as full-time pilots. The AID or equivalent will specify who is authorized to fly, such as the Director of Operations, Aviation Manager, ASO or a part-time/supplemental pilot. Additionally, a supplemental pilot may provide a cost-effective alternative to meet specific unfulfilled flight crewmember requirements. The field element's AID, and the contractor's aviation procedures or operations manual, if applicable, must clearly define the qualifications, processes, and currency/proficiency requirements for using either part time or supplemental pilots. In addition, Part-time and supplemental pilots of crewed aircraft must meet the following minimum criteria:
6	Was Requirements, Paragraph 6.a. Now Paragraph 4.h.(1)	Hold appropriate medical, and pilot ratings for the operation conducted and if a type rating is required for the aircraft both the PIC and SIC must be type rated.	Hold a current FAA Class I or Class II medical certificate.
6	4.h.(2)	Added.	FAA Commercial or ATP license. For aircraft requiring a type rating the pilot-in-command will hold a type rating for all civil and public aircraft operations. Individual field elements are authorized to make type rating determinations for first officer positions.
6	Was Requirements, Paragraph 6.b.	Renumbered.	Now Paragraph 4.h.(3)
6	4.h.(4)	Added	If a part time or supplemental pilot does not meet normal program office requirements for

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			assignment as an aircraft commander their services will be limited to first officer duties.
6	Was Requirements, Paragraph 7 Now Paragraph 4.i.	<u>Maintenance Standards for DOE/NNSA Aviation Programs.</u> The field element must establish aircraft maintenance and inspection programs that comply with the requirements listed in Title 41 CFR 102-33 and Title 14 CFR appropriate for the operation and type of aircraft in service...	<u>Maintenance Standards for DOE/NNSA Aviation Programs.</u> All DOE/NNSA aircraft operated in civil status will be maintained to FAA and manufacturer standards. In addition, for public aircraft operations the field-element must establish aircraft maintenance and inspection programs that meets or exceeds civil standards and complies with the requirements listed in Title 41 CFR 102-33 and Title 14 CFR appropriate for the operation and type of aircraft in service...
7	Was Requirements, Paragraph 7.e. Now Paragraph 4.i.(5)	Procedures or processes to ensure the integrity and quality control of maintenance actions by ensuring that maintenance performed by one qualified individual on critical areas of an aircraft are checked and documented by another qualified individual who did not perform the work. As applicable critical areas must include as a minimum the following:	Procedures or processes to ensure the integrity and quality control of maintenance actions by ensuring that maintenance performed by one qualified individual on critical areas of an aircraft are checked and documented by another qualified individual who did not perform the work. Procedures for the inspection of critical areas, dependent upon their applicability to the aircraft being inspected, must include as a minimum the following:
7-8	Was Requirements, Paragraph 7.e.(10) Now Paragraph 4.i.(5)(j)	Removal or installation of internal or external mission equipment by technicians or scientists who hold an Airframe and power-plant certificate (see 14 CFR, Part 65).	Removal or installation of internal or external mission equipment by individuals properly trained to perform such tasks or under the supervision of a trained individual. In addition, a process for ensuring cockpit crewmembers are aware of all equipment changes prior to flight to ensure aircraft performance data and weight and balance calculations are correct.



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8	Was Requirements, Paragraph 7.g. Now Paragraph 4.i.(7)	The field element must implement a maintenance management tracking system appropriate to the size and scope of operations and type of aircraft operated.	The field element must implement a maintenance management tracking system, that along with other maintenance requirements, can submit required maintenance data into the Federal Aviation Interactive Reporting System (FAIRS) that is applicable and appropriate to the size and scope of operations and type of aircraft operated.
8	Was Requirements, Paragraph 7.h. Now Paragraph 4.i.(8)	...If the defect or malfunction could result in an imminent hazard to flight, the field element must use the most expeditious method it can to inform the FAA and the DOE/NNSA AvM or ASO..	...If the defect or malfunction could result in an imminent hazard to flight, the field element must use the most expeditious method it can to inform the FAA and flight operations will immediately cease. OAM will be informed as soon as possible to ensure other units, who may be operating the same, or similar aircraft, are informed.
9	Was Requirements, Paragraph 9 Now Paragraph 4.k.	...If the organization has an approved FAA Safety Management System (SMS), IS-BAO Safety Program or ISO-9001Aviation Safety Program, gap analysis will be accomplished to ensure all aspects of the DOE Integrated Safety Management System have been addressed.	...If the organization has an approved FAA Safety Management System (SMS), industry recognized safety management system, or ISO-9001Aviation Safety Program, a gap analysis will be accomplished to ensure all aspects of the DOE Integrated Safety Management System have been addressed.
9	Was Requirements, Paragraph 10 Now Paragraph 4.l.	<u>Aviation Safety Documentation.</u> Field elements ASO along with the AvM must review approved flight operations, and assign appropriate risk levels for each mission. This review shall take place prior to initiation of new operations, and on an annual basis. For those missions identified by the field elements ASO and/or AvM as risks not normally accepted by the public, the AvM will convene a flight readiness review board (FRRB)	<u>Aviation Safety Documentation.</u> Field elements will identify an individual (Fed and/or contractor) responsible for reviewing approved flight operations, and assign appropriate risk levels for each mission. For those missions identified as having risks not normally accepted by the public, a flight readiness review board (FRRB) will be convened which will conduct an Aviation Safety Review (ASR) using the



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		<p>and conduct an Aviation Safety Review (ASR) using the safety management program elements in DOE P 450.4, <i>Safety Management System Policy</i>, current version (Risks not normally accepted by the public are defined as aircraft operations not regulated or not in compliance with the applicable parts of 14 CFR Chapter I, FAA Federal Aviation Regulations or 49 CFR Subchapter C, Hazardous Material Regulations). Countermeasures to mitigate risks will be identified, applied, and reviewed for effectiveness on a regular basis but not less than annually. The documents produced in the ASR make up the Aviation Safety Documentation (ASD) required for these missions. The field element Federal AvM or ASO may elect to conduct an ASR and record an ASD for any aircraft operation they deem necessary as part of the field element's Safety Management System (SMS). The Aviation Manager must brief the field element's appropriate administrator, who has the overall responsibility of the organization's aviation program, regarding the contents of the ASD. That official must accept or reject the risks associated with the mission. The Aviation Manager or ASO should review all ASDs on a periodic basis, not less than annually, to determine their relevancy to current operational conditions. Additional ASD information is available on the OAM website at <a href="http://management.energy.gov/aviation.htm">http://management.energy.gov/aviation.htm</a> .</p>	<p>safety management program elements in DOE P 450.4, current version (risks not normally accepted by the public are defined as aircraft operations not regulated or not in compliance with the applicable parts of 14 CFR Chapter I, FAA Federal Aviation Regulations or 49 CFR Subchapter C, Hazardous Material Regulations). Countermeasures to mitigate risks will be identified, applied, and reviewed for effectiveness on a regular basis but not less than annually. The documents produced in the ASR make up the Aviation Safety Documentation (ASD) required for these missions. The AvM/ASO or qualified designee, may elect to conduct an ASR and record an ASD for any aircraft operation they deem necessary as part of the field element's Safety Management System (SMS). The Aviation Manager or Director of flight operations (Fed/Contractor) must brief the field element's appropriate administrator, who has the overall responsibility of the organization's aviation program, regarding the contents of the ASD. That official must accept or reject the risks associated with the mission. The Aviation Manager and/or ASO will review all ASDs on a periodic basis, not less than annually, to determine their relevancy to current operational conditions. Additional ASD information is available from OAM.</p>

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10	Was Requirements, Paragraph 11 Now Paragraph 4.m.	...Additional information on Capital Asset Plan is available on OAM website at <a href="http://management.energy.gov/aviation.htm">http://management.energy.gov/aviation.htm</a> .	...Additional information on Capital Asset Plan is available from OAM.
10	Was Requirements, Paragraph 12 Now Paragraph 4.n.	<u>Special Procedures That Apply to Official Travel</u> . All travel by Senior Federal travelers or non-Federal travelers, as defined in Title 41 CFR Part 300-3 FTR, aboard Government aircraft must be approved by the appropriate travel approving official (OMB Circular 126-A, 11, a.) and by the DOE General Counsel (GC) or his/her principal deputy or primary designee. DOE employees planning foreign travel must comply with the processes and requirements found in DOE O 550.1, <i>Official Travel</i> , current version.	<u>Special Procedures That Apply to Official Travel</u> . All travel by Senior Federal travelers or non-Federal travelers, as defined in Title 41 CFR Part 300-3 FTR, aboard Government aircraft must be approved by the appropriate travel approving official (OMB Circular 126-A, 11, a.) and by the DOE General Counsel (GC) or his/her principal deputy or primary designee. Requests must clearly identify the SES and/or Non-Federal travelers by name and title, agency, itinerary, cost, and all personnel to be manifested. DOE employees planning foreign travel must comply with the processes and requirements found in DOE O 550.1, <i>Official Travel</i> , current version.
10	5.a.(1)(a)	Added.	Provides oversight of all Public Aircraft Operations and ensures compliance with applicable Federal Aviation Regulations for civil operations.
10-11	Was Responsibilities, Paragraph 1.b. Now Paragraph 5.a.(1)(c)	...Additionally, the Director will provide assistance with aviation budget preparation; program charter and contract aircraft activities; the conduct of appropriate studies and reviews; and the assurance of timely and accurate reporting.	...Additionally, the Director will provide assistance, when requested, with aviation budget preparation; program charter and contract aircraft activities; the conduct of appropriate studies and reviews; and the assurance of timely and accurate reporting.
11	5.a.(1)(e)	Added.	May issue a grounding order based on safety or regulatory concerns. Field elements that choose to continue flight operations after a grounding

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			order is issued will do so in writing to the Director, OAM.
11	Was Responsibilities, Paragraph 2 Now Paragraph 5.b.	<u>DOE/NNSA Aviation Board of Directors</u> . Comprised of representatives from each field element, specifically aviation managers and safety officers who recommend broad policy and procedures for the operations and safety of Federal aircraft and aviation services to the Chair of the Aviation Board. The Board of Directors' major function is to review, deliberate, and process policy change recommendations before they are submitted for implementation..	<u>DOE/NNSA Aviation Board of Directors</u> . Convened on an 'as-needed' basis and comprised of representatives from each field element, specifically aviation managers, aviation safety officers, directors of flight operations, and other personnel who recommend broad policy and procedures for the operations and safety of Federal aircraft and aviation services to the Director, Office of Aviation Management. The Board of Directors' major function is to review, deliberate, and process policy change recommendations before they are submitted for implementation. Any of the personnel listed above may request that the Aviation Board of Directors be convened.
12	Was Responsibilities, Paragraph 3.c. Now Paragraph 5.c.(3)	Appoint a Federal Aviation Manager or Federal ASO or both, depending upon the size and scope of operations, number of aviation operations conducted or aircraft assigned and appoints a person to the DOE/NNSA Aviation Board of Directors.	Appoint a Federal Aviation Manager or Federal ASO or both, depending upon the size and scope of operations, number of aviation operations conducted, or aircraft assigned. Document the designation with an appointment letter and submit a copy to OAM.
12	5.c.(4)	Added.	Participate in, and submit candidates for, the annual DOE Aviation Safety Awards Program to ensure that organizations and personnel are recognized for their contributions toward providing the Department with a safe aviation program.
13	Was Responsibilities, Paragraph 4.g. Now Paragraph 5.d.(7)	Provides required reports and information as applicable to the DOE/NNSA regarding field element aviation activities, including reports required by OMB Circulars A-11 Section	Provides required reports and information as applicable to the DOE/NNSA regarding field element aviation activities, including reports required by OMB Circulars A-11 Section

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		300, <i>Preparation, Submission and Execution of the Budget</i> ; A-76, <i>Performance of Commercial Activities</i> (if necessary); OMB Circular A-126, <i>Improving the Management and Use of Government Aircraft</i> ; and reports required by paragraph 4.k. in the Requirements section of this Order.	300, <i>Preparation, Submission and Execution of the Budget</i> ; A-76, <i>Performance of Commercial Activities</i> (if necessary); OMB Circular A-126, <i>Improving the Management and Use of Government Aircraft</i> ; and reports required by paragraph 4.m. of this Order.
13	Was Responsibilities, Paragraph 4.i.	Serves as a voting member of DOE/NNSA Aviation Board of Directors.	Removed.
13	5.d.(9)	Added.	Submits candidates for the annual DOE Aviation Safety Awards Program to ensure that organizations and personnel are recognized for their contributions toward providing the Department with a safe aviation program.
13	Was Responsibilities, Paragraph 4.j. Now Paragraph 5.d.(10)	Develops and implements an integrated safety management system as provided by DOE P 450.4, <i>Safety Management System Policy</i> , current version, and as required by paragraph 9 of this Order, appropriate to the scope of operations.	Develops and implements an integrated safety management system as provided by DOE P 450.4, <i>Safety Management System Policy</i> , current version, and as required by paragraph 4.i. of this Order, appropriate to the scope of operations.
14	Was Responsibilities, Paragraph 5.e. Now Paragraph 5.e.(5)	Develops ASR and/or ASD as required by paragraph 10 of this Order, or in the case of a contractor operated aviation element, reviews and concurs on ASRs and ASDs...	Develops ASR and/or ASD as required by this Order, or in the case of a contractor operated aviation element, reviews and concurs on ASRs and ASDs...
14	Was Responsibilities, Paragraph 6	<u>Flight Readiness Review Board (FRRB)</u> . The purpose of a Board is to evaluate the safety, design, operational planning, and functional adequacy of the aircraft operations that are not already regulated by other Federal regulations, or those that may deviate from this Order or other DOE/NNSA standards. Prior to the initiation of flight operations, conduct an independent review of the total	Removed.

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		project to assure that adequate planning and preparation have been accomplished to achieve the desired results under acceptable safety conditions.	
<b>Attachment 1, Contractor Requirements Document</b>			
1-1	2	Added	Contractor personnel occupying, or acting in, the position of Aviation Manager (AvM) or Aviation Safety Officer (ASO) are required to enroll in DOE's Technical Qualification Program (TQS) for their respective position. In lieu of enrolling in the TQS program, OAM may, at its discretion, accept an alternative qualification program developed by the contractor.
1-1	2	Renumbered.	3