

Appendix G

**Richland Operations Office
Aviation Manual 440.2**

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U.S. Department of Energy
Richland Operations Office

RICHLAND OPERATIONS OFFICE

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Date _____

RICHLAND OPERATIONS OFFICE AVIATION MANUAL 440.2
TABLE OF CONTENTS

1.0	PURPOSE	4
2.0	APPLICABILITY	4
3.0	RESPONSIBILITIES	4
4.0	APPLICABLE STANDARDS	9
5.0	AVIATION PROGRAM MANAGEMENT	9
6.0	AVIATION OPERATIONS	12
7.0	AVIATION SAFETY	13
8.0	AVIATION MAINTENANCE	15
9.0	AVIATION REPORTING REQUIREMENTS	15
10.0	ACCIDENT INVESTIGATION	16
11.0	USE OF MILITARY AIRCRAFT	16
12.0	AVIATION CHARTER OPERATIONS	17
13.0	AERIAL RADIATION SURVEILLANCE OPERATIONS	19
14.0	FISH AND WILDLIFE MONITORING OPERATIONS	19
15.0	MEDICAL EMERGENCY AIR TRANSPORT OPERATIONS	20
16.0	AERIAL FIRE SUPPRESSION OPERATIONS	20
17.0	POWERLINE PATROL OPERATIONS	20
	APPENDIX 1 - DEFINITIONS	22
	APPENDIX 2 - ACRONYMS	23
	APPENDIX 3 - APPROVAL PROCESS FLOW CHART	24

APPENDIX 4 - EMERGENCY PROVISION	24
APPENDIX 5 - AVIATION SAFETY PLAN	26
APPENDIX 6 - CUSTOMER/SPONSOR SATISFACTION SURVEY	29

Richland Operations Office Aviation Manual 440.2

1.0 PURPOSE

To supplement DOE Order 440.2, AVIATION and establish authority and responsibility for the administration of the U.S. Department of Energy, Richland Operations Office (RL) and RL Contractor Aviation Programs.

2.0 APPLICABILITY

- 2.1 This Aviation Manual applies to all RL elements, contractors and subcontractors performing work at RL/Hanford, as provided by law and/or contract, and as implemented by the appropriate Contracting Officer.
- 2.2 This manual applies to those aviation operations/activities including operations performed directly by the contractor or subcontractor organization, or by charter, that utilizes U.S. Department of Energy funding (including DOE Work for Others funding) or equipment, or transport DOE or contractor staff on DOE funded official business.
- 2.3 If there is a significant change in the scope or nature of the aviation operations conducted at the Richland Hanford site, this Aviation Manual will be modified to reflect the change and sent to the DOE Senior Aviation Management Official for approval.
- 2.4 This Aviation Manual does not apply to regularly scheduled commercial airline travel. Non-Government overflights are not subject to this Aviation Manual.

3.0 RESPONSIBILITIES

- 3.1 The Manager, RL, shall:
 - 3.1.1 Have approval authority for this Aviation Manual.
- 3.2 The Director, Environment, Safety and Health (ESH), shall:
 - 3.2.1 Act as the RL Aviation Manager.
 - 3.2.2 Ensure establishment of procedures and protocols for the oversight of aviation activities, and approve and concur on all contractor aviation safety and operations manuals.
 - 3.2.3 Appoint an Aviation Safety Officer (ASO).
 - 3.2.4 Ensure establishment of an RL/Intercontractor Aviation Safety Committee (ASC) staffed with personnel who have aircraft flight and/or aviation safety expertise to coordinate aviation activities, review all above-normal risk aircraft operations, and other aviation related activities.
 - 3.2.5 Direct the ASC to review and approve all above-normal risk flights, and aviation safety documents.

- 3.2.6 Provide programmatic approval, direction, overview, and surveillance of all flight activities conducted by RL, and RL Contractors including WFO. Utilize the resources of the ASC in the evaluation of proposed aircraft operations.
- 3.2.7 Ensure review of investigation reports involving Hanford aircraft or related activities, including those submitted per DOE Order 5484.1 or DOE Order 0 232.1, and NTSB regulations, to ensure they are complete, include reasonable corrective actions, and an implementation plan.
- 3.2.8 Ensure that all aviation services contracts contain provisions for compliance with this Manual, and that annual reviews of contractor aviation programs are conducted to evaluate the degree of compliance with this Manual and initiates follow-up actions when applicable.
- 3.2.9 Ensure the Annual End of Fiscal Year Aircraft Cost and Utilization Report is prepared for submission to HQ.
- 3.2.10 Ensure that (as appropriate) the semi-annual Senior Federal Official travel reports are approved and submitted.
- 3.2.11 In the event of Hanford associated aircraft accidents and incidents:
 - 3.2.11.1 Appoint, with the RL Manager's approval, at least one individual to an accident investigation board who has aviation experience as a pilot, aviation operations manager, or Aviation Safety Officer, or who has similar aviation experience outside of operational functions (i.e. Aircrew, NTSB/FAA Inspectors, Airworthiness expertise, human factors, etc.).
- 3.3 The Aviation Safety Officer (ASO), shall:
 - 3.3.1 Upon appointment by the RL Aviation Manager, act as the RL ASO and Chairperson of the ASC.
 - 3.3.2 When appropriate, conduct periodic independent safety reviews of RL and RL contractor aviation operations and activities in accordance with DOE Orders 5482.1B and 440.2, and this Manual.
 - 3.3.3 Provide status reports to the Aviation Manager of reviews of aviation functions and/or activities.
 - 3.3.4 Prepare and submit, with contractor assistance, the End of Fiscal Year Aircraft Cost and Utilization Report to HQ.
 - 3.3.5 Conduct safety reviews of charter operators as contained in section 12.1.8.
 - 3.3.6 On a periodic basis review the contractor and subcontractor Aviations Services procurement process.
 - 3.3.7 When appropriate, exercise the authority to stop payment of requests for reimbursement for aviation services procured outside of this Manual's approval process.
 - 3.3.8 When appropriate, coordinate Hanford aviation related activities as RL/Hanford's representative with the applicable FAA Flight Safety District Office.

- 3.4 RL Division Directors shall:
- 3.4.1 Ensure that any program requiring aviation support is a necessity, and minimize the use of aviation support to only that required to complete the task. Only place mission essential DOE or contractor staff on approved flights.
 - 3.4.2 Ensure that programs, utilizing aviation support, are operating pursuant to an approved contractor aviation safety and operations manual or enforceable protocol, and that above-normal risk aviation operations are not conducted until ASC approval is obtained.
 - 3.4.3 Refer any request for above-normal risk aviation operations by civil or government aircraft operators to the ASO. Permission is granted only if such operations do not compromise the safety of RL or RL contractor personnel, facilities, the related general environment, the general public, or the intent of this Aviation Manual. Request must be received by ASO 30 days in advance of the date of the proposed flight(s) to ensure timely processing and approval.
 - 3.4.4 Ensure that all arrangements for overflights of Hanford made through other DOE sites are coordinated, consistent with this Aviation Manual, with the ASO 30 days in advance of the flight. Notifications to Safeguards and Security Division (SAS) are required a minimum of two days in advance of the flight.
 - 3.4.5 Coordinate with the appropriate Contractor Aviation Point of Contact (APOC) during the "requirements development phase" of contracts or agreements for the acquisition (leased, chartered, or purchased aircraft) of aircraft services at RL.
 - 3.4.6 Coordinate with the RL ASO when there are planned activities that may have an impact on the current Aviation Obstruction lights on Hanford facilities (e.g. removal or shutting off power to existing Hanford facility obstruction lights).
- 3.5 Aviation Safety Committee members shall assist (as requested by ASO) in the:
- 3.5.1 Disposition of above normal-risk activities that will require an ASC meeting. Documentation from the risk assessment management meeting will serve as the basis for an ASC review and action. An ASC meeting may be called upon the request of the ASC chairperson, any contractor APOC or Project manager and RL Management.
 - 3.5.2 Review, preparation and revision of documents related to aviation activities and overview; e.g., DOE Order 440.2 Aviation's Implementation Guide.
 - 3.5.3 Review planned charter aircraft activities for above-normal risk aircraft operations or any other unusual flight activities.
 - 3.5.4 Review any night time use of aircraft.
 - 3.5.5 Review and recommend approval of, or changes to, contractor aviation safety and/or flight operations programs/policy/manuals.

- 3.5.6 Review and recommend approval of changes to contractor generated aviation operations checklists for charter aircraft flight activities.
- 3.5.7 Review accident/incident reports involving aviation operations conducted by RL or RL contractors.
- 3.5.8 Advise ASO on aviation related matters as requested.
- 3.6 The RL Research and Development contractor (owned aircraft program) shall establish and maintain an aviation safety program to include but not be limited to the following:
 - 3.6.1 Prepare and keep current manuals for the training, qualification, use, and guidance of flight, maintenance, ground, and management personnel in conducting its aviation operations.
 - 3.6.2 Use 14 CFR 91 and 135, as appropriate, and aircraft manufacturer operations and maintenance instructions as minimum guides in the preparation of aviation operation and maintenance manuals.
 - 3.6.3 Conduct self-appraisal activities of aviation operations and activities in accordance with DOE Order 5482.1B.
 - 3.6.4 Report aviation accidents and incidents in accordance with DOE Order 5484.1 or 225.1, whichever is applicable, and 49 CFR 830.
 - 3.6.5 Notify ASO of planned flight activities that are within the approved PNNL Flight Operations manual scope.
 - 3.6.6 Develop/prepare a risk assessment or safety assessment document prior to performing any above-normal risk flight operations, subject to this Manual. This is to be submitted to ASC for pre-flight approval.
- 3.7 RL Contractors shall:
 - 3.7.1 Utilize aviation support only as necessary to support program needs, and conduct aviation operations only if an internal risk assessment indicates that such use is appropriate. Charter contractors shall be chosen which best meet the requirements and criteria outlined in DOE Order 440.2 and this Aviation Manual.
 - 3.7.2 Select APOCs (to include subcontractors where applicable) with aviation experience and provide their names to RL ASO. APOCs are responsible for contractor development and implementation of aviation safety manuals, procedures, and protocols consistent with DOE Order 440.2 and the associated DOE Headquarters Aviation Implementation Guide. They are to be knowledgeable of all contractor aviation activities and make appropriate notifications or approval requests to RL.
 - 3.7.3 Support the ASC with staff assignments of personnel with aircraft operations and safety expertise.
 - 3.7.4 Notify RL ASO of all planned flight activities involving DOE projects or WFO.

- 3.7.5 Ensure that all arrangements for overflights of Hanford made through other DOE site contractors are coordinated, consistent with this Aviation Manual through cognizant contractor APOCs, 30 days in advance of the flight.
- 3.7.6 Ensure that the contractor APOC notifies the RL ASO in advance of all aviation activities.
- 3.7.7 Conduct aircraft operations only after receiving prior approval from the appropriate official/organization.
- 3.7.8 Notify RL SAS Division of a Hanford overflight a minimum of two calendar days in advance of planned overflight.
- 3.7.9 Prepare and submit, with APOC assistance, the End of Fiscal Year Aircraft Cost and Utilization Report to the RL ASO.
- 3.7.10 Assist RL, when there has been such travel, with the preparation and submittal of the semi-annual Senior Federal Official travel reports.
- 3.8 Aviation Point of Contact shall:
 - 3.8.1 Have approval authority for normal risk aviation activities with advanced notice to the ASO. A completed Aviation Safety Plan (Appendix 5) shall accompany the initial request for aircraft service contract. Upon request, a copy of the plan will be provided to the ASO.
 - 3.8.2 Complete ASC approved aviation operations checklists for all aviation activities.
 - 3.8.3 Conduct aviation contractor site surveys for charter or leased aircraft operations using the ASC approved checklist.
 - 3.8.4 Ensure an Aviation Safety Plan is completed for above-normal risk operations for ASC review and approval.
 - 3.8.5 Coordinate with contractor Technical and Procurement personnel prior to awarding a charter operator contract or purchase order to ensure services are reviewed and approved to meet the requirements of this manual.
 - 3.8.6 Provide a Customer Satisfaction Survey Form (Appendix 6) which will be submitted to the APOC following completion of the mission.
 - 3.8.7 Approve the contractor End of Fiscal Year Aircraft Cost and Utilization Report.
 - 3.8.8 Assist RL (as appropriate) in the preparation and submittal of the semi-annual Senior Federal Official travel reports.

4.0 APPLICABLE STANDARDS

- 4.1 DOE O 440.2, "Aviation," and associated Implementation Guide;

- 4.2 DOE O 225.1, "Accident Investigations;"
- 4.3 DOE O 231.1, "ES&H Reporting;"
- 4.4 DOE O 5482.1B, "Appraisal Program;"
- 4.5 DOE O 5484.1, "Environmental Protection, Safety and Health Protection Information Reporting Requirements;"
- 4.6 Title 14 Code of Federal Regulations (CFR), Chapter 1; Federal Aviation Regulations (FAR);
- 4.7 Title 41 CFR, Federal Property Management Regulations, Parts 101 and 109;
- 4.8 Title 29 CFR Occupational Safety and Health Standards;
- 4.9 Title 49 CFR 830, National Transportation Safety Board Regulations;
- 4.10 Title 49 CFR, Subchapter C, Part 171, "Hazardous Material Regulations;"
- 4.11 Public Law 103-411, The Independent Safety Board Act of 1994;
- 4.12 Federal Aviation Administration Advisory Circular AC-1.1, "Government Aircraft Operations;"

5.0 AVIATION PROGRAM MANAGEMENT

As noted in Section 3 of this document, the RL Hanford Site "aviation" management responsibilities impact various line, safety and administrative personnel. The key aviation management personnel and processes are discussed in this section.

5.1 DOE-RL Aviation Manager

The RL Aviation Manager acts as the Aviation Management Official at the RL site. The RL Aviation Manager is the primary representative of RL on the DOE Headquarters Aviation Board of Directors and is responsible for providing all required reports and documentation to DOE Headquarters. The position of RL Aviation Manager is a collateral duty function assigned to the Director of the RL Office of Environment, Safety and Health. The RL Aviation Manager is responsible for the appointment of an Aviation Safety Officer and the establishment of an Aviation Safety Committee. The RL Aviation Manager has stop-work authority and is generally responsible for overview of aviation operations within the scope of this document. However, unless specifically designated, he does not exercise direct operational control of specific aviation activities. The Aviation Manager has the authority to stop payment of requests for reimbursement for services procured outside of the approval process.

5.2 DOE-RL Aviation Safety Officer

The RL Aviation Safety Officer has the overall responsibility to overview compliance with aviation safety requirements. The position of Aviation Safety Officer is a collateral duty function appointed by the Aviation Manager. The Aviation Safety Officer acts as the Chairperson of the Aviation Safety Committee and has primary responsibility for the conduct of aviation contractor evaluations. The Aviation Safety Officer has stop-work authority for all RL aviation operations, however, he does not exercise direct operational control of specific aviation activities. The Aviation Safety Officer also acts as the review authority for all contractor /subcontractor safety manuals, programs, and plans. On a periodic basis, the Aviation Safety Officer will review the Aviations Services procurement process. The Aviation Safety Officer has the authority to stop payment of requests for reimbursement for services procured outside of the approval process.

The Aviation Safety Officer provides status reports to the Aviation Manager and assists in the preparation of the End of the Year Aviation Report to DOE Headquarters and the semi-annual Senior Federal Official travel reports. In the event of an RL aviation accident, the Aviation Safety Officer should act as the Point of Contact between RL and the National Transportation Safety Board.

5.3 RL Programmatic Division Directors:

RL Programmatic Division Directors are responsible for overview of aviation operations conducted on behalf of their respective divisions. RL Programmatic Directors shall screen requests for aviation support to ensure that aviation operations are limited to essential activities, and only specifically authorized DOE and contractor personnel are involved as passengers or crewmembers.

RL Programmatic Division Directors, or their designees, shall communicate with the RL Aviation Manager and Aviation Safety Officer so that there is a common understanding of the nature and scope of planned aviation activities and that those activities are conducted in accordance with the requirements of this Manual. A more detailed description of the RL Programmatic Division Director's aviation-related functions is given in the Responsibilities section of this document.

5.4 Aviation Points of Contact:

Each RL contractor shall have a designated Aviation Point of Contact (APOC). All requests for aviation support services from contractor organizations shall be communicated through the APOCs. APOCs shall assist contractor managers in the development of proposed aviation-related projects. An Aviation Safety Plan (Appendix 5) shall be completed as a part of the formal proposal process. Once a project has been formally proposed, the APOC shall coordinate with the Contractor's Project sponsor the nature and scope of the project to the Aviation Manager, Aviation Safety Officer, affected RL Programmatic Division Director, and the Aviation Safety Committee, if required. After the proposed project has been submitted, the APOC shall provide any additional information required and communicate the status of the proposal back to the project's contractor sponsor.

The APOC's will have approval authority for normal risk aviation activities with advanced notice to the ASO.

5.5 Aviation Safety Committee

The Aviation Safety Committee (ASC) shall be established by the Aviation Manager and chaired by the Aviation Safety Officer. The committee shall be composed of DOE and contractor personnel with aviation expertise. The purpose of the committee is to evaluate requests for aviation support services which have an above normal risk level, as defined in this document, or any other unusual flight activities. The ASC shall approve, disapprove, or suggest modifications to aviation-related requests. ASC meetings are held at the discretion of the chairperson, by request from any of the APOCs, or Project and/or RL Management.

5.6 Aviation Contractors

Multiple RL organizations contract for charter and leased aircraft on an as-needed basis. The aviation specific management structure of the primary contractor is addressed in this subsection.

5.6.1 Pacific Northwest National Laboratory (PNNL)

PNNL shall acquire Aviation Services utilizing normal procurement procedures. If possible a dedicated Aviation Services buyer shall be assigned. All Aviation Services requests shall comply with the requirements stated in this Manual. Also, PNNL must develop an internal procedure for procuring Aviation Services and have the procedure approved by the RL ASC. Any aviation services procured outside of the ASC approved review process will be considered an unauthorized expenditure or an unallowable cost.

PNNL also operates a Battelle Memorial Institute-owned Gulfstream-1 (G-1) aircraft based at the Tri-Cities Airport. Although both federal and non-federal clients use the G-1, the primary customer for the aircraft is DOE. Because of the unique relationship between PNNL and Battelle, the G-1 is regarded as a DOE-owned aircraft for purpose of this document. However, when operating for non-DOE customers, DOE does not exercise overview for the safety of aircraft operations. Battelle personnel are full participants in the RL and DOE-wide aviation program.

The G-1 operates as a flying laboratory for research, testing, and evaluation. The PNNL aviation Operations Department consists of the following personnel: a Director of Operations; a Chief pilot; a Director of Maintenance; a Check Airman; a Manager for research aircraft operations;

three pilots; and one maintenance technician. The Director of Operations, is named to the RL Aviation Safety Committee and is the DOE-RL Aviation Point of Contact for Charter and leased aircraft operations.

5.6.2 RL Contractors Other than PNNL

All RL Contractors other than PNNL, to include subcontractors, shall acquire Aviation Services utilizing normal procurement procedures. If possible a dedicated Aviation Services buyer shall be assigned by each contractor. All Aviation Services requests shall comply with the requirements stated in this Manual. Also, each contractor must develop an internal procedure for procuring Aviation Services and have the procedure approved by the RL ASC. Any aviation services procured outside of the ASC approved review process will be considered an unauthorized expenditure or an unallowable cost.

6.0 AVIATION OPERATIONS

6.1 Aircraft (charter/lease) managed by RL Contractors for RL can perform the following, and other, types missions; 1) aerial photography, 2) wildlife monitoring and capture, 3) aerial mapping, 4) remote sensing, 5) atmospheric research, 6) aerial application of herbicide, 7) passenger transport, or other flight activities.

6.2 Chartered and leased aircraft are contracted by individual site contractors in accordance with local procurement and approval guidelines. The requirements and approval process are stated in the "Charter Aircraft" section of this manual.

6.3 The PNNL-Battelle G-1 aircraft is operated for RL using the DOE-RL reviewed Flight Operation Manual (PNNL MA-530).

6.4 Operational Requirements - All RL Aviation Operations

Aircraft in service to RL shall be operated in accordance with the applicable parts of 14 CFR and or equivalent international or military standards appropriate to the operation and type of aircraft in service. These standards shall remain applicable even though the activity is considered a public aircraft operation.

6.5 Training - For personnel involved with aviation operations.

6.5.1 All RL and contractor personnel involved in the use or control of aviation resources shall receive appropriate aviation safety training within one calendar year after being assigned aviation duties.

6.5.2 The following training shall be considered the minimum necessary for personnel assigned RL Aviation Safety Officer or contractor Aviation Point of Contact:

- ! Safety around aircraft
- ! General knowledge of aircraft capabilities
- ! Aviation Incident Reporting System
- ! Attend a one week 14 CFR Part 135, or equivalent, Safety Inspector course

- ! Attend one DOE, or other Aviation related Organization, sponsored aircraft accident prevention seminar in 12 months of being assigned to an aviation safety position

6.5.3 Recurrence: As required

7.0 AVIATION SAFETY

7.1 The primary purpose of this section is to outline a RL aviation safety program.

7.2 DOE-RL Aviation Safety Program

The RL Aviation Safety Program shall include, but is not limited to, the following components:

7.2.1 RL Aviation Safety Committee

The RL Aviation Manager shall establish a site-wide Aviation Safety Committee chaired by the RL Aviation Safety Officer. The purpose of the committee is to evaluate proposed aviation-related projects with above normal risks or any other unusual aviation activity, and to enhance site-wide communication regarding aviation safety and operational issues. The committee should be composed of DOE and contractor personnel with aviation experience and expertise. The Aviation Safety Committee may approve, disapprove, or suggest modifications to aviation-related requests. Aviation Safety Committee meetings are held at the discretion of the chairperson, by request from any APOC, or by Project and/or RL Management.

7.2.2 Aviation Oversight

The DOE Aviation Safety Officer, or his designee, shall perform periodic evaluation of each active RL aviation contractor, including the PNNL-Battelle G-1 aviation operation. Aviation Services vendors shall be evaluated utilizing the RL approved aviation checklist prior to the award of a contract for aircraft services.

7.2.3 Participation in the Department-Wide Aviation Program

The participation of all RL and contractor aviation Safety personnel in the DOE-wide aviation program is strongly encouraged.

7.2.4 Safety Awards Program

The HQ safety awards program is an important part of a good aviation safety program. While it may not be necessary for Hanford to develop their own aviation safety awards program, the RL Aviation Manager and Safety Officer should participate in the existing DOE and Hanford contractor programs. The DOE Aviation Implementation Guide details the DOE Headquarters-level aviation awards program.

Hanford will not develop a local Safety Awards Program however, RL will participate in the existing DOE Safety Awards Program. All personnel involved in aviation safety may qualify for the appropriate award under the existing DOE program.

7.2.5 Aircraft Pre-Accident Plans

RL shall have a plan, coordinated with the Hanford Emergency Preparedness organization, in place which dictates procedures that should be followed in the event that an aircraft crashes on the RL site. The plan should be modified prior to the approval of any special aviation operation not previously covered by the plan.

Requests for aviation services involving off-site operations should be accompanied by an emergency contacts list which includes the Aviation Safety Officer. If the flight involves special materials or sensitive operations, an accident contingency plan should be a part of the required aviation safety documentation.

All flight operations should include a flight manifest.

7.2.6 Accident/Incident Reporting System

The Department and its contractors are subject to several accident/incident reporting systems including the DOE -wide Unusual Occurrence Reporting System, the National Transportation Safety Board requirements identified in 49 CFR 830, and the DOE Aviation Information Reporting System (AIRS, which is currently under development). DOE and DOE contractors shall comply with these regulations to the extent required.

7.2.7 Participation in Special Aviation Exercises

Where reasonable and appropriate, the RL Aviation Manager and Aviation Safety Officer may participate as observers in special aviation exercises. These activities may include G-1 operations and a sampling of the chartered activities conducted by RL contractor organizations.

7.3 DOE Contractor Aviation Safety Programs

7.3.1 PNNL-Battelle G-1 Aviation Organization Safety Program

The PNNL safety program is incorporated into the Flight Operations Manual.

7.3.2 Charter Aircraft Safety Programs

Many commercial aviation operators have active aviation safety programs, however, Federal Aviation Regulations do not require formally established programs. The existence (or non-existence) of these programs should be taken into consideration when determining the suitability of an aviation vendor.

8.0 AVIATION MAINTENANCE

8.1 All aviation organizations conducting operations in service to RL shall comply with the manufacturers' maintenance program and applicable Federal Aviation Regulations. Commercial operators shall adhere to the requirements of their FAA-approved operating specifications and maintenance program regardless of their status as public aircraft.

9.0 AVIATION REPORTING REQUIREMENTS

- 9.1 Reports and/or notifications shall be made as required in DOE Order 5484.1 or DOE Order 232.1, and Contractor program description documents.
- 9.2 Additional notifications (i.e., near misses, pilot errors, unusual events, etc.) as required.
- 9.2.1 All accidents involving Hanford associated aircraft shall be reported promptly to RL Manager/Aviation Manager/ASO, the HQ Senior Aviation Management Official, the NTSB, and the Federal Aviation Administration, as required.
- 9.2.2 An aviation related occurrence could include: a fatality or fatalities; lost workday injuries to crew members, ground crew, or other personnel assigned to aviation operations; injuries to passengers or members of the general public; downtime for aircraft; and explosion or fire involving an aircraft; substantial damage to property, and classified, radioactive, high explosive or other hazardous cargo. (Level of investigation for these occurrences not already requiring Type A or B investigation shall be determined by the head of the Operations Office organization.) Investigations shall comply with all applicable Federal Aviation Administration, U.S. Department of Transportation, NTSB regulations, and state accident reporting requirements.

10.0 ACCIDENT INVESTIGATION

- 10.1 Accidents involving Departmental aircraft shall be investigated according to the instructions given in DOE 441, "Department of Energy Accident Investigation Requirements," and the associated implementation guidance.
- 10.2 DOE organizations shall immediately notify HQ, the NTSB and FAA of any aircraft accidents.
- 10.3 In accordance with the Independent Safety Board Act of 1994, the NTSB is charged with investigating DOE aviation accidents where fatalities or significant aircraft damage is involved.
- 10.3.1 Unless a deviation is approved, the NTSB will determine and publish the probable cause of the aircraft accident.
- 10.3.2 DOE Accident Investigation Boards (AIBs) shall coordinate their investigations with the NTSB and incorporate the final NTSB report into the final DOE AIB report.
- 10.3.3 The DOE and NTSB investigations shall be done in parallel; communication between the DOE AIB and the NTSB investigator are essential and should be made a priority.
- 10.4 An ASO from the DOE EH organization shall monitor the accident investigation.
- 10.4.1 The EH ASO shall be present, or represented, at the geographic location of the accident and assist in the early stages of the investigation.

- 10.4.2 The EH ASO shall function as a resource for the AIB Chairman and provide advice and assistance as requested by the AIB Chairman.
- 10.5 Every effort shall be made to ensure that AIB members have some basic knowledge of aviation operations prior to their assignment to the AIB. A basic knowledge of aviation is particularly important in the selection of an AIB chairperson.
- 10.6 AIBs are encouraged to seek advise from technical experts. Technical experts that may be able to contribute to the investigation include manufacturer's technical representatives, the FAA, the military, and private consultants which are subject matter experts.

11.0 USE OF MILITARY AIRCRAFT

- 11.1 Military aviation organizations operating on DOE property or with DOE personnel on board their aircraft will coordinate their activities with the RL ASO.
- 11.2 Responsibility for the safety of aviation missions over Hanford under military operational control rests solely with the military organization conducting the aviation activity. However, the oversight for aviation safety for all military flight(s) funded by DOE and operating over the Hanford Site is the responsibility of the RL ASO.

12.0 AVIATION CHARTER OPERATIONS

12.1 ADMINISTRATIVE REQUIREMENTS/CHARTER APPROVAL PROCESS

- 12.1.1 The need for an aviation support project is identified by an RL contractor sponsor and applicable DOE-RL Division.
- 12.1.2 The project's sponsor objectively evaluates the proposal to ensure that the need for flight operations is essential, and that only the necessary Hanford personnel will participate as passengers or crewmembers. The project's sponsor also conducts an internal risk evaluation of the proposed project.
- 12.1.3 The project's sponsor communicates the scope and nature of the required aviation support to the APOC. The APOC evaluates the proposal to determine if it is a "normal" or "above normal" risk project.
- 12.1.4 Following the evaluation of the proposed project: when the proposed project falls into the "above normal" risk category, the APOC will assist the Project manager in preparing an Aviation Safety Plan (Appendix 5). When there is a determination that the proposed project is a "normal risk" mission, the APOC can approve the project.
- 12.1.5 The APOC notifies the ASO of all proposed projects, and when applicable, forwards him a copy of the completed Aviation Safety Plan.

- 12.1.7 When the APOC has determined that the proposed project has an **above normal risk** (as defined in this Manual), the proposal is submitted to the ASC. The Committee may approve, disapprove, or suggest modifications to the proposal.
- 12.1.8 After the project has been approved, the RL ASO and/or APOC conducts a safety assessment of the proposed aviation contractor.
- 12.1.9 The Aviation Safety Plan should be modified and the Aviation Manager should be notified if a change of aviation contractor, aircraft, pilot or mission parameter is required due to the outcome of the safety assessment, or a modification in the mission.
- 12.1.10 After the mission has been conducted, the APOC, when applicable, should ensure that a Customer/Sponsor Satisfaction Survey (Appendix 6) is completed and filed with the ASO.
- 12.1.11 A flow chart depicting this process is included as Appendix 3 of this manual.

12.2 OPERATIONAL REQUIREMENTS

- 12.2.1 All aviation operations shall be conducted in accordance with the applicable Federal Aviation Regulations and the aviation contractor's Federal Aviation Administration-issued Operations Specifications. This provision applies regardless of the status of the activity as a public aircraft operation.
- 12.2.2 All aviation organizations shall, as a minimum, comply with 14 Code of Federal Regulations (CFR) Part 91.
- 12.2.3 All aviation organizations conducting passenger operations shall be certificated under 14 CFR Part 135 or 121, as applicable.
- 12.2.4 All charter and leased aircraft must be equipped in accordance with applicable Federal Aviation Regulations.
- 12.2.5 All charter and leased aircraft must be maintained in accordance with applicable Federal Aviation Regulations, manufacturers' overhaul and maintenance manuals and bulletins.
- 12.2.6 Minimum pilot-in-command (PIC) qualifications are as follows; 1) FAA Commercial Pilot Certificate with the appropriate category (airplane, rotorcraft) and (class single/multi-engine, land, water, helicopter) rating, 2) a second-class medical certificate, 3) 1200 hours in category, 4) 100 hours PIC in class, 5) 100 hours in category during the previous 12 months, 6) 25 hours PIC in make and model of aircraft to be flown, 10 hours of that time must have been in make and model within the preceding 6 months. Pilots shall be named in the contract by the aviation services vendor and any pilot changes shall be approved by the ASO or APOC. Also, the pilot must be certified for the specific types of operations to be conducted.
- 12.2.7 A VFR or IFR flight plan shall be filed for each flight, unless security dictates otherwise.
- 12.2.8 Organizations that conduct operations below 500 feet AGL, except those involved in powerline and pipeline patrols, shall have obstacle maps that have been reviewed, and updated as applicable, within 30 days of the planned flight. The maps will indicate the height (AGL) of new and existing obstacles to flight on the planned route of flight.
- 12.2.9 All IFR operations shall be conducted in multi-engine aircraft certified for instrument flight and crewed with two current instrument rated pilots.
- 12.2.10 Charter aircraft pilots operating over the Hanford site shall provide radio or FAA approved cellular telephone contact, with the Hanford Patrol Operations Center prior to entering and exiting the RL airspace. All pilots should maintain radio contact to render position reports to the Hanford Patrol Operations Center when possible. The contracting organization shall ensure advanced notification with the Hanford Patrol Operations Center prior to a contracted flight entering Hanford airspace.

- 12.2.11 Contracted or leased aircraft PICs shall provide detailed safety and emergence in-flight briefings for Hanford passengers participating in aerial flight. Special safety equipment and communications head gear required for a particular operation will be specified and provided by the aviation services contractor.
- 12.2.12 The charter operator shall acknowledge that he/she is responsible for reporting accidents/incidents in accordance with the requirements of 49 CFR 830.

13.0 RADIATION AERIAL SURVEILLANCE OPERATIONS

- 13.1 In the event of an airborne radioactive plume emanating from the Hanford Site which requires aerial surveillance and tracking, the Hanford Emergency Preparedness Program Coordinator will coordinate necessary aerial support with the Aerial Monitoring System (AMS) located at Las Vegas, Nevada. AMS is a DOE emergency response asset. If any other aviation support is required or utilized, the RL ASO must be notified.

14.0 FISH AND WILDLIFE MONITORING OPERATIONS

- 14.1 Wildlife monitoring performed by PNNL utilizing aircraft will be reviewed by the APOC and if the task is determined to be in the "above normal risk" category the ASC must approve the flight(s). However, if the category is considered "normal risk" the contractor APOC can approve the operation.
- 14.2 The U. S. Fish and Wildlife Service, located in Umatilla, Oregon and the Washington State Department of Fish and Wildlife, located in Yakima, Washington conduct periodic fish and wildlife survey flights along the Columbia River and over the Northern part of the Site.
- 14.3 When flights are scheduled at the Hanford Site by RL or its contractors both agencies will be notified. This action will eliminate any possible flight conflicts.
- 14.4 The agencies may be contacted at the following telephone and FAX numbers:

Washington State Department of Fish and Wildlife:
Regional Director, Yakima, Washington, (509) 457-9317, FAX (509) 575-2474.

Note: Fish counting flights are scheduled out of the Yakima Office. Wildlife flights are scheduled out of the Battleground, Washington Office ((509) 576-6073)

U. S. Fish and Wildlife Service:
Umatilla, Oregon Office (541) 922-3232, FAX
(541) 922-4117.

15.0 MEDICAL EMERGENCY AIR TRANSPORT OPERATIONS

- 15.1 DOE-RL recognizes local and regional Emergency Medical Service (EMS) organizations as the appropriate entities to determine and coordinate medical emergency air transport activities for the Hanford Site. The Hanford occupational medical contractor and fire department integrate with local and regional EMS organizations to ensure adequate medical emergency care, including air transport, for people on the Hanford Site.
- 15.2 To the extent possible, and in conjunction with local agencies, pre-identified civilian and military medical emergency air transport organizations should provide Site qualified operational personnel. Requirements for Site qualification include a Site orientation, with emphasis on landing sites, by the RL ASO or designee. Emergency landing sites will be pre-identified, reviewed annually and updated as appropriate by the ASC.
- 15.3 Nothing in this section shall jeopardize personnel health and safety. See Appendix 4 of this Guide for Emergency Provisions.

16.0 AERIAL FIRE SUPPRESSION OPERATIONS

- 16.1 Acquiring Aerial Fire Suppression support during summer fire seasons is planned for the Hanford Site. Aerial Fire Suppression will be a last resort activity and will only be requested when all other means of containing or controlling a Site fire has been exhausted. Prior to requesting this support the Hanford Fire Department will select an individual(s) and train that individual(s) to act as a "Site Air Drop Coordinator." The level of training required will be determined by the Chief of the Hanford Fire Department.
- 16.2 To ensure the safety of all Site personnel and equipment the following conditions shall be met; 1) no fire retardant drops will be made on facilities, 2) all roads that traverse the drop zone will be *restricted* so that vehicle or pedestrian traffic will not be allowed in the area of the drop, and 3) a Site-wide all employee message will be sent by the Hanford Patrol Operations Center (*time permitting*) **in advance of any Aerial Fire Suppression operation**. Prior to any Aerial Fire Suppression chemical drop the Hanford Fire Department will submit a request to Hanford Patrol to restrict access to the affected area.
- 16.3 Request for Aerial Fire Suppression support from the National Forest Service shall be initiated by the Chief, of the Hanford Fire Department or his/her designated alternate by contacting the *on-call RL Emergency Executive*. Further notifications within RL shall be the responsibility of the RL on-call Emergency Executive.

17.0 POWER LINE PATROL OPERATIONS

- 17.1 Helicopter powerline patrols are flown over the Hanford Site on a routine basis by the Bonneville Power Administration (BPA). To ensure maximum safety for Site personnel and BPA aircrews an annual ground and flight hazards briefing will be given to BPA personnel at their location in Portland, Oregon during a scheduled Safety Meeting.

- 17.2 The briefing will include as a minimum; 1) the location of all surface contaminated areas, 2) review of radiation signage, 3) the proper notification procedures when transition onto the Hanford Site, and 4) Site emergency communication procedure to be used in the event of an aircraft emergency (to include a precautionary landing).
- 17.3 Powerline Patrol aircraft are flown at lower altitudes than the standard altitude (500 feet AGL) established by the Richland Operations Office (RL) Aviation Manager. The aircraft will operate at altitudes of 50 feet (approximately 250 feet AGL) above, and at a lateral distance of 75 feet from powerline towers. The lower altitudes will be approved by a letter of agreement between BPA and RL. This letter of agreement allows the aircrew to land the aircraft, if necessary, to check problems areas, therefore, a ASC ground briefing will be necessary.
- 17.4 All aircraft flying below 1000 feet AGL are restricted from flying over any building/facility, burial ground or tank farm.
- 17.5 BPA sector pilot(s) or the Portland, Oregon Operations Officer will be required to notify RL's ASO and Director, Safeguards and Security prior to any flights being performed. Notification can be accomplished by sending a copy of the monthly BPA flight schedule to either of the individual identified above. Also, the pilot must contact Hanford Patrol Operations Center by radio using the following Very High Frequency (VHF) 123.05 just prior to entering the Hanford Site reservation boundaries.

APPENDIX 1

DEFINITIONS

Above-Normal Risk Operations. Any operation not normally accepted by the public or any operation that presents undue hazard to the aircraft or will not provide adequate response time for the pilot to react to an inflight emergency. This is further defined as:

- " Flights below 500 feet AGL for both fixed and rotary wing aircraft.
- " Night flights conducted over the Hanford Site below 1000 feet AGL.
- " Fixed wing aircraft operating at airspeeds that are within 10-knots of published stall speeds for all flight regimes and flights that require maneuvering that involves abrupt changes in attitude, abnormal acceleration or any flight configuration that is not considered within normal flight parameters.
- " Operations to be conducted in close proximity (500 feet horizontally) to power lines, facilities, and other structures; e.g. stacks, towers, etc.
- " Flights that require 14 CFR 91.119 altitude waivers.
- " Helicopter operations that require hovering for 10 minutes or more, at altitudes of 100 feet AGL or less (excluding normal hovering altitude of three feet or less).
- " Flights that carry or dispense hazardous chemicals/material or transport radioactive materials.
- " Or any other unusual flight activities; e.g., hostile political situation, wildlife herding or darting, etc.

Checklist (Charter or Lease Aircraft Operations). A contractor developed and RL ASO/ABC approved internal checklist to ensure aviation operation compliance with DOE Order 440.2, and this Manual.

Contractor. A primary contractor to DOE/RL at Hanford, and their subcontractors.

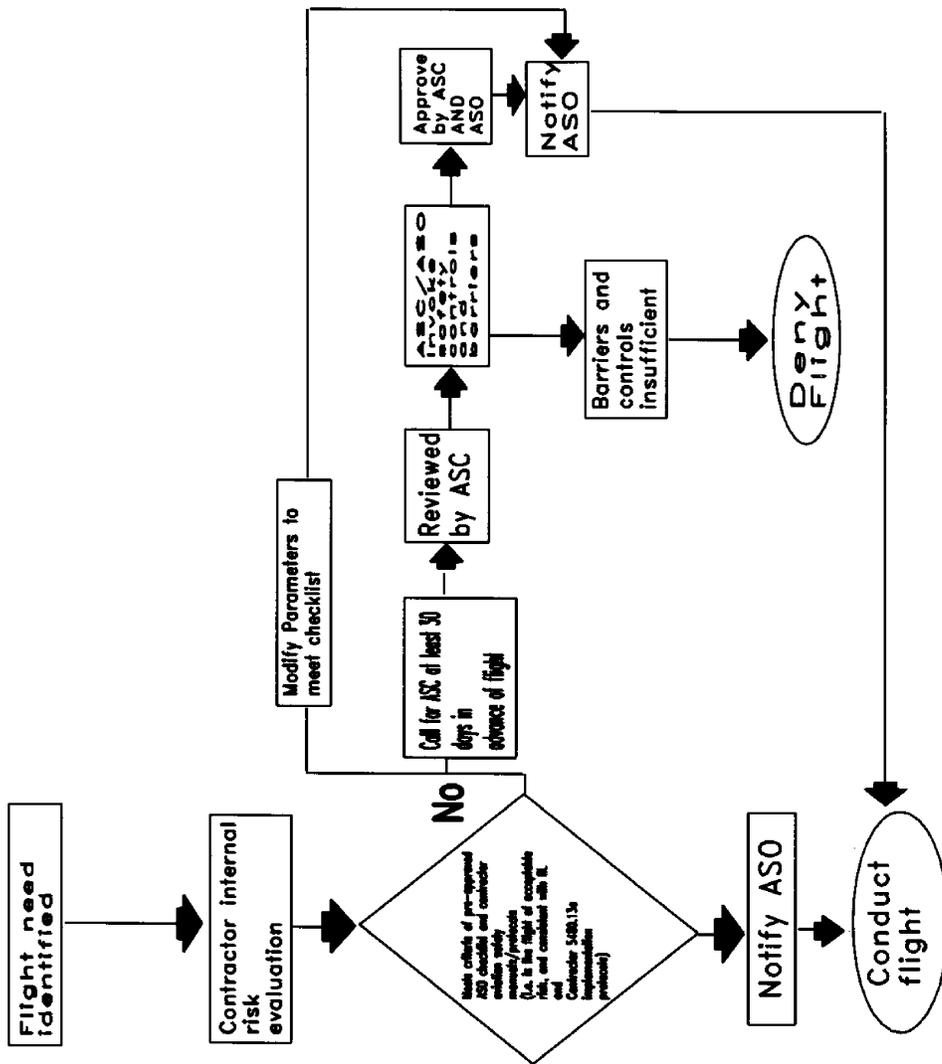
Normal Aviation Operations. Normal aviation operations are routine in nature and do not fall within the definition of "above normal risk operations" as previously defined. If the status of an operation is in question, consult directly with the Aviation Manager or Aviation Safety Officer.

WFO. Work For Others (work performed for non-DOE clients under related services contract provisions).

APPENDIX 2

ACRONYMS

AGL	Above Ground Level
AIB	Accident Investigation Board
APOC	Aviation Point of Contact
ASC	Aviation Safety Committee
ASO	Aviation Safety Officer
CFR	Code of Federal Regulations
DOE	U.S. Department of Energy
ESH	RL Office of Environment, Safety and Health
FAA	Federal Aviation Administration
HQ	DOE Headquarters
NTSB	National Transportation Safety Board
PNNL	Pacific Northwest National Laboratory
RL	DOE, Richland Operations Office
SAS	Safeguards and Security Division
WFO	Work For Others



APPENDIX 3 APPROVAL PROCESS FOR CHARTER AIRCRAFT

APPENDIX 4

EMERGENCY PROVISION

In the event the RL Manager, the Director SAS, or their designees, determine the need for immediate use of aircraft support to site emergencies, or critical law enforcement activities, they may immediately authorize the flight(s), on their authority, without ASO and/or ASC review.

APPENDIX 5

AVIATION SAFETY PLAN

RL ORGANIZATIONAL INFORMATION

1. Name, address, and phone number of organization requesting charter operation.
2. Name, title, address, and phone number of person representing requesting organization.

MISSION INFORMATION

1. Purpose and brief description of requested charter operation. This shall include flight hours and/or route miles of aircraft operation for the contract. Is this a WFO project?
2. Explain why this mission is essential to RL.
3. Listing of crew or passengers aboard the aircraft and functions performed requiring their presence.
4. Description of contacts with appropriate divisions, operations, or political entities for coordination with any other tests or operational activities that could impact this planned aviation operation.
5. Description of planning with local airport, flight control authorities, and security agencies.
6. Description of any local notice to airmen temporary flight restrictions.
7. Description of minimum weather requirements, if different from basic VFR conditions.
8. Description of documents, checklists, restrictions, criteria, or other guidance provided to charter operator by AL covered prime contractor.

CHARTER OPERATOR INFORMATION

1. Charter operator's name, address, phone number, and FAA air carrier/commercial operator certificate number.
2. Does charter operator have operational control over any associated subcontract flight operations for the project? Does the air services contractor have control over the aircraft maintenance program? Are these controls defined in a wet lease or interchange agreement?
3. Does the charter operator have suitable flight following?
4. Is the charter operators qualified for the type of aircraft to be flown?
5. Does charter operator have a suitable flight and ground crew training program for the safe handling of the types of materials and cargo to be transported?
6. Does charter operator have the ability to secure any necessary exemption permits from the FAA?

7. Can the operator evidence experience in this type of mission?

PILOT INFORMATION

1. Does the pilot in command have the following required certifications and experience:
 - o FAA Commercial Pilot Certificate with the appropriate category and class rating
 - o A second-class medical certificate,
 - o At least 1200 hours in aircraft category,
 - o At least 100 hours PIC in aircraft category during the previous 12 months,
 - o At least 25 hours PIC in make and model of aircraft.
2. Are pilots full-time employees of the operator? Provide a copy of the airman's certificate number and date of most recent medical certificate.
3. Copy of airman's most recent proficiency/qualification check for required crew members to be used on this charter, FAA form 8410-1, or equivalent.
4. Are the pilots fully certified for the type of aircraft to be flown?
5. Are pilots and copilots certified for instrument flight?
6. Has the pilot ever been grounded for disciplinary reasons or been subject to FAA enforcement actions?
7. Can the pilot evidence experience in this type of mission?

AIRCRAFT INFORMATION

1. Type of aircraft by manufacture, model/type, and year of manufacture.
2. Aircraft registration number.
3. Is charter aircraft owned or leased? If leased, provide lessor's name and address.
4. Is aircraft fully equipped for instrument (all-weather) flight?

APPENDIX 6

CUSTOMER/SPONSOR SATISFACTION SURVEY

These surveys will be conducted electronically by the APOCs after the flight(s) have been made, and will address the following topics:

- " Passenger safety briefing
- " Condition/cleanliness of aircraft
- " Pilot/crewmember professionalism
- " Flight conducted in safe manner