

Program Description
Animal Care and Use Program

Alamogordo Primate Facility
Holloman AFB, NM
The National Institutes of Health

Redacted by agreement

December 1, 2017

For
AAALAC International

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Program Description

Instructions for Completing and Submitting the Program Description for the Institutional Animal Care and Use Program

Section 1. Introduction

- A. State the name of the program unit and, if applicable, its parent organization. List all organizations (schools, centers, etc.) included within the program unit.

The Alamogordo Primate Facility (APF) is located on Holloman Air Force Base (HAFB) in southern New Mexico. The APF is a component of the National Institutes of Health (NIH), Office of Research Infrastructure Programs (ORIP) and is included as part of the NIH Intramural Research Program (IRP) PHS Animal Care Assurance and oversight. The program operates under a NIH contract (HHSN276201400013C) managed by Charles River (CR).

- B. Give a brief overview of the institution, its purpose and how the animal care and use program relates to the mission of the institution.

The APF program maintains a colony of 87 group housed chimpanzees using Bio-Safety Level 2 (ABSL-2) containment facilities. Initially, APF was the 'research reserve' colony and does not perform invasive research protocols, but the animals were available to be transferred to another facility for research use by NIH-funded investigators. Currently, animals are being transferred to the National Sanctuary in Keithville, LA. The mission of the APF is to continue to improve the quality of life for captive nonhuman primates by advancing the standards of health care. It is the goal of CR to provide optimal care while developing innovative techniques to improve the health care and management of the colony.

The APF is a government owned, contractor operated (GOCO) facility. The contract is administered by the Office of Research Infrastructure Programs (ORIP) to provide complete care for a colony of chimpanzees owned by the NIH. Most of the animals are veterans of experimental research and some have been exposed to infectious agents such as HIV-1 and Hepatitis C viruses.

Currently, there are a total of [Redacted] employees, of which [Redacted] are Animal Care Staff [Redacted] are Maintenance Staff, and the remainder are Professional and Administrative Staff.

- C. Note that AAALAC International's three primary standards are *the Guide for the Care and Use of Laboratory Animals (Guide)*, NRC, 2011; *the Guide for the Care and Use of Agricultural Animals in Research and Teaching (Ag Guide)*, FASS, 2010, and the

European Convention for the Protection of Vertebrate Animals Used for Experimental and Other Scientific Purposes, Council of Europe (ETS 123). Other regulations and guidelines used (U.S. Department of Agriculture (USDA), Public Health Service (PHS) Policy, Good Laboratory Practice (GLP), Canadian Council on Animal Care (CCAC), etc.) may also apply. Describe which of the three primary standards and other regulations and guidelines are used as standards for the institutional animal care and use program and how they are applied. For example, an academic institution in the United States with an Office of Laboratory Animal Welfare (OLAW) Assurance may use the standards of the *Guide* and PHS Policy for all animals, the Animal Welfare Act regulations for covered species, and the *Ag Guide* for agricultural animals used in agricultural research and teaching (see also *Guide*, pp. 32-33). In the European Union, the standards applied might be the *Guide*, ETS 123, Directive 2010/63, and any country-specific regulations.

Guide for the Care and Use of Laboratory Animals (Guide), NRC, 2011; Animal Welfare Act and Animal Welfare Regulations 2002, U.S. Department of Agriculture (USDA); Public Health Service (PHS) Policy on Humane Care and Use of Laboratory Animals, 2002.

- D. Describe the organization and include an accurate, current, and detailed organizational chart or charts (see **Appendix 4**) detailing the lines of authority from the Institutional Official to the Attending Veterinarian, the Institutional Animal Care and Use Committee/Oversight Body (IACUC/OB), and the personnel providing animal care. Please include the title, name (*Note: For individuals whose information is publically available, provide the titles and names; for individuals whose information is not publically available, you may provide titles only.*), and degree (if applicable) of each individual at the level of supervisor or above. Names of animal care staff below the title of supervisor need not be included, but the titles and number of animal care personnel under each supervisor should be included. If animal care responsibility is administratively decentralized, including the management of satellite housing areas/locations, the organizational chart or charts must include all animal care programs, indicating the relationship between each administrative unit and personnel, the Attending Veterinarian, and the Institutional Official.

The APF functions as a component of the NIH Intramural program and operates under the NIH Intramural Research Program Animal Welfare Assurance (No. A4149-01) and NIH Policy Manual 3040-2, "Animal Care and Use in the Intramural Research Program." The Office of Research Infrastructure Programs (ORIP) does not have a true intramural component, and therefore, the daily oversight for this program was placed under the NIH Intramural Research Program, Dr. Michael M. Gottesman, Deputy Director for Intramural Research as he is the Institutional Official for the NIH IRP. Redacted by agreement

Redacted by agreement

ORIP, at NIH. Redacted by agreement

Redacted by agreement

Redacted by agreement

Cindy Wallace, RN is the Chair of the APF Animal Care and Use Committee (ACUC). Dr. Roger Black is the Attending Veterinarian for the ACUC. The NIH provides assistance with training and technical support.

The APF contract is staffed and managed by the Charles River Insourcing Solutions (IS) department of the Research Model Services Division. Redacted by agreement and oversees the management of the APF contract. To complement the APF technical staff, CR provides experienced support professionals to insure the success of the program.

An Organizational Chart for APF is attached as Appendix 4.

- E. Identify the key institutional representatives (including, but not limited to, the Institutional Official; IACUC/OB Chairperson; Attending Veterinarian; animal program manager; individual(s) providing biosafety, chemical hazard, and radiation safety oversight; etc.); and individuals anticipated to participate in the site visit.

Institutional Representative	Title
Redacted by agreement	
<i>Dr. Roger Black</i>	<i>Attending Veterinarian, Behaviorist, APF</i>
Redacted by agreement	
<i>Mrs. Cindy Wallace</i>	<i>Nurse-Occupational Health and Chair, ACUC</i>
Redacted by agreement	

- F. Briefly describe the major types of research, testing, and teaching programs involving animals and note the approximate number of principal investigators and protocols involving the use of animals. As mentioned in the instructions, please complete **Appendix 5** (Animal Usage) or provide the information requested in a similar format as an Appendix.

The APF contract agreement does not permit invasive research. The approved protocols are for non-invasive clinical and behavioral investigations that improve animal health or colony management. The major activities that APF staff provides are husbandry and veterinary care to the chimpanzees, with the aim of improving

the quality of life for the animals. Currently, there is one ACUC-approved protocol at APF. ^{Redacted by agreement} for the protocol entitled "Care and Maintenance of NIH-owned Chimpanzees".

- G. Note the source(s) of research funding (grants, contracts, etc.) involving the use of animals.

Funding of the APF is via an NIH contract (#HHSN276201400013C) and managed by the Office of Research Infrastructure Programs (ORIP), utilizing CR to provide for the housing and care of the NIH-owned chimpanzees.

- H. List other units (divisions, institutes, areas, departments, colleges, etc.) of your organization that house and/or use animals that are not included in this Description. If any of these are contiguous, physically or operationally (e.g., same IACUC/OB, same animal care staff), with the applicant unit, describe the association. Explain why such units are not part of this program application.
Note: Questions regarding this section should be forwarded to the AAALAC Office.

There are no other units.

- I. Contract Facilities: If the institution contracts for animal care facilities or services for animals owned by the institution, the contractor and its AAALAC International accreditation status must be identified. If a contractor's animal care and use program is not accredited by AAALAC International, a brief description, following this Program Description outline, of the relevant contractor's programs and facilities must be provided. In addition, the species and approximate average number of animals housed in the contract facilities and the approximate distance between the institution's animal facility and the contract facility must be noted. Incorporation of the contractor program into the site visit schedule will be discussed with institutional representatives. If the institution does not contract for animal care facilities or services, so note.

Charles River is the sole contractor.

- J. Note other relevant background that will assist reviewers of this report.

The APF functions as a component of the NIH Intramural Program and operates as a CR contract under the NIH Intramural Research Program Animal Welfare Assurance (#A4149-01) and NIH Policy Manual 3040-2. References are made throughout the description to Programs, Plans, and Policies (Facility Support (FS),

Health and Safety (HS), etc.) and Standard Operating Procedures (SOP).

Section 2. Description

I. Animal Care and Use Program

A. Program Management

1. Program Management Responsibility [Guide, pp. 13-15]

a. The Institutional Official [Guide pp. 13-14]

Describe how program needs are clearly and regularly communicated to the Institutional Official by the Attending Veterinarian, IACUC/OB, and others associated with the program.

The IO, Dr. Gottesman, delegates his daily oversight authority for the NIH IRP to the [Redacted by agreement]. [Redacted by agreement] communicates with the APF Animal Program Director, ACUC Chair and Attending Vet as needed through e-mail and telephonic exchanges. Additionally, [Redacted by agreement] assigns an OACU senior staff member to serve as an observer to the APF ACUC meetings by phone and who conducts annual site visits. All critical or relevant issues regarding the APF animal care program are routinely communicated to Dr. Gottesman by [Redacted by agreement]. The APF management and staff also communicate directly with Dr. Gottesman, if needed or desired.

b. Role of the Attending Veterinarian [Guide, p. 14]

i. Describe the institutional arrangement for providing adequate veterinary care. Although individual name(s) and qualifications will be described below, identify by title the veterinarian(s) responsible for the veterinary care program, including:

- a list of responsibilities
- a description of the veterinarian's involvement in monitoring the care and use of laboratory animals
- the percentage of time devoted to supporting the animal care and use program of the institution if full-time; or the frequency and duration of visits if employed part-time or as a consultant.

Note: If preferred, this information may be provided in a Table or additional Appendix.

[Redacted by agreement]	full time – 100%
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Roger Black, DVM; Attending Veterinarian; full time – 100%

Redacted by agreement

and oversees the entire veterinary program. Dr. Black serves as veterinarian on the APF ACUC. Both veterinarians share clinical duties including daily health observations, annual physical exams, and emergency/weekend/holiday veterinary care coverage.

- ii. List others (e.g., Principal Investigators, veterinarians serving as Principal Investigators, veterinary faculty/staff, technical staff, farm managers) who have a *direct role in the provision of veterinary care* and describe their responsibilities. The Organizational Chart(s) provided in **Appendix 4** must depict the reporting relationship between these individuals and the Attending Veterinarian.

Note: If preferred, this information may be provided in a Table or additional Appendix.

Position Title	Responsibility
Redacted by agreement	Under the direction of the staff veterinarians, they provide general supervision of technical staff in the performance of routine veterinary care.
	Under the direction of the staff veterinarians and the supervisory staff, these individuals assist in all aspects of veterinary care. This would include routine daily observations, monitoring anesthetized animals, giving medications, reinforcing training of specific animal behaviors, assisting with surgery and anesthesia, preparation of surgical packs, conducting laboratory work and the like.

Redacted by agreement	
	Operates diagnostic equipment
	Assists veterinarian/behaviorist

c. Interinstitutional Collaborations [Guide, p. 15]

Describe processes for assigning animal care and use responsibility, animal ownership and IACUC/OB oversight responsibilities at off-site locations for interinstitutional collaborations.

There are no off-site locations or collaborators.

2. Personnel Management

a. Training, Education, and Continuing Educational Opportunities

Describe *how* the IACUC/OB provides *oversight* and *evaluates the effectiveness* of training programs and the assessment of personnel competencies. Describe how training is documented.

Note: Do not include details about the training program, which should be described in the following sections.

i. Veterinary and Other Professional Staff [Guide, pp. 15-16]

For the Attending Veterinarian and other individuals having a direct role in providing veterinary medical care (veterinarians, other professional staff listed above, private practitioners, etc.), provide: name, credentials (including degrees), and a description of their qualifications, training, and continuing education opportunities.

Note: Please do not provide curriculum vitae of personnel; if preferred, this information may be presented in a Table or additional Appendix.

Name	Title	Degree(s) / yrs In Field/ yrs @Facility	Qualifications/Certification
Redacted by agreement			
Roger Black	Attending Veterinarian	D.V.M. 24 yrs / 9 yrs	9 yrs working with NHP; member AVMA, AALAS; licensed NM, USDA certified
Redacted by agreement			
Cindy Wallace	Occupational Health Nurse	ADRN 21yrs / 13 yrs	13 years as an Occupational Health Nurse, CPR Instructor
Redacted by agreement			
Average Years in Field	29.7 yrs		

ii. **Animal Care Personnel** [Guide, p. 16]

- 1) Indicate the number of animal care personnel.

Name	Certification	Type	Exp. LAS	Fac. Exp.
Redacted by agreement	LAT	AALAS	20 yrs	20 yrs
	ALAT	AALAS	13 yrs	13 yrs
	LATg	AALAS	24 yrs	21 yrs
	LAT	AALAS	44 yrs	44 yrs
			33 yrs	24 yrs
	LAT	AALAS	23 yrs	14 yrs
	LATg	AALAS	28 yrs	16 yrs
	LATg	AALAS	36 yrs	16 yrs
	ALAT	AALAS	13 yrs	10 yrs
	LATG, CMAR	AALAS	29 yrs	27 yrs
	LATg, CMAR	AALAS	20 yrs	16 yrs
	LATg	AALAS	26 yrs	16 yrs
	ALAT	AALAS	21 yrs	16 yrs
	LATg	AALAS	26 yrs	16 yrs

- 2) Summarize their training, certification level and type, experience, and continuing education opportunities provided.

Note: If preferred, this information may be provided in a Table or additional Appendix.

The animal care technicians have an average of 18.0 years' experience working with chimpanzees and 25.4 years working with non-human primates. Certification and Registration through AALAS is encouraged by APF for all animal care technicians. All but two are certified. AALAS classes have been taught here at the ALAT, LAT and LATg levels.

Redacted by agreement and Black provide mentoring to aid in successful completion of examinations.

New employees are required to read and acknowledge policies and SOPs which are then reviewed on an annual basis. There are annual training sessions on policies and SOPs with all documentation placed in the employees' file maintained by the OHS Officer, Cindy Wallace.

There is an annual review of policies and SOPs. Training is provided Charles River, APF veterinarians. Employees have the benefit of taking college courses as well.

iii. **The Research Team** [*Guide*, pp. 16-17; 115-116; 122; 124]

- 1) Describe the *general mechanisms* by which the institution or IACUC/OB ensures that research personnel have the necessary knowledge and expertise in the animal procedures proposed and the species used.

N/A. No invasive research is performed at APF.

- a) Briefly describe the content of any required training.

The APF has no traditional research function and therefore no staff dedicated to research. However, ^{Redacted by agreement} completed the NIH training course entitled "Guidelines for Principal Investigators" on August 2008, June 2011, May 2014 and May 2017.

- b) Describe the timing of training requirements relative to the commencement of work.

All animal care staff and veterinarians are properly trained and supervised before they have any direct contact with the animal population. Monthly training sessions are conducted in order to have a well informed and competent staff. Topics such as animal welfare, SOP reviews, and blood borne pathogens are done on-site through webinars, Charles River distributed PowerPoints or in-house instruction.

- c) Describe continuing education opportunities offered.

All veterinarians attend at least one continuing education conference per year for licensure purposes. Animal care staffs have attended state and national AALAS meetings in the past. All staff members have access to the AALAS online learning library. Several of the IACUC members attended IACUC 101, NABR Webinar on new Guide and journal article reviews at ACUC meetings

- 2) Describe the process(es) to ensure surgical and related procedures are performed by qualified and trained personnel, including:
- who determines that personnel are qualified and trained for surgical procedures

- the roles that the Attending Veterinarian and IACUC/OB have in this determination [*Guide*, pp. 115-116]

All surgery conducted at APF is performed for medical reasons to improve the health and quality of life for the APF animals. No research surgical procedures are performed at APF. All individuals performing surgery on APF animals have a degree in veterinary medicine and are licensed by at least one state within the United States. When special expertise is needed we consult with board certified veterinary surgeons to assist with the procedure. We have employed the services of board certified veterinary surgeons from UC Davis and University of Missouri to perform advanced procedures on APF animals. A board certified veterinary cardiologist from the University of Florida is a paid consultant and has also performed minor procedures. All individuals qualifications are reviewed and approved by the entire APF veterinary staff

- 3) Describe the training and experience required to perform anesthesia. [*Guide*, p. 122]

All sedations and anesthesia are performed under the direction of a staff veterinarian. Technicians have periodic training sessions in the operation of anesthetic equipment, monitoring devices, drug dosage and administration of drugs.

- 4) Describe how the proficiency of personnel conducting euthanasia is ensured (especially physical methods of euthanasia). [*Guide*, p. 124]

Euthanasia is performed by a licensed staff veterinarian. They are trained according to the APF humane endpoint policy and euthanasia SOP. All euthanasia is conducted by an AVMA approved method using a commercially available euthanasia solution at the manufactures dosage recommendation after appropriate anesthetic sedation. All veterinarians and animal care technicians are trained to place catheters and give IV injections in support of this activity.

b. Occupational Health and Safety of Personnel [*Guide*, pp. 17-23]

i. Institutional Oversight [*Guide*, pp. 17-19]

- 1) List the institutional entities (units, departments, personnel, etc.) that are involved in the planning, oversight, and operation of the institutional

occupational health and safety program related to animal care and use (e.g., office(s) of environmental health, institutional health services or clinics (*including contracted health services*), industrial hygienists, Institutional Biosafety Committee(s) and/or Officer(s), Radiation Safety Committee(s) and/or Officer(s).

- Include a brief description of their responsibilities and qualifications.
- If contracted services are used, also include their location (e.g., remote offices to which personnel must report).

The APF occupational health nurse in conjunction with the occupational physician (paid consultant) are responsible for the planning and operation of the APF occupational health and safety program. The APF safety committee (representative from each of the facility departments) meets quarterly to discuss and identify safety concerns with the program and facility.

- 2) Describe methods to identify work-related hazards and the processes used to evaluate the significance of those hazards in the context of duties and tasks. Describe both common approaches and differences, if applicable, for categories of personnel such as, but not limited to, researchers, veterinarians, husbandry staff, cage-washing staff, students, housekeeping, physical plant staff, security personnel, IACUC/OB members (including non-affiliated members), contractors, visitors, etc. [Guide, pp. 18-19; see also Chapters 2 and 3 in Occupational Health and Safety in the Care and Use of Research Animals, NRC 1997.]

APF has a program for risk assessment and abatement related to the infectious status of the animals. Chimpanzees show great strength, quick reflexes and a high level of intelligence that foster hazards from bites, scratches, splashes, spitting, throwing of feces and exposures to blood borne pathogens. The APF Occupational Health and Safety Program (HS2102) has been reviewed and approved by our consulting physician as well as the NIH Division of Occupational Health and Safety.

RISK ASESMENT: Institutional policies and procedures are in place to assess the dangers of using hazardous biological, chemical, or physical agents. APF management is responsible for assessing and determining any and all safety risks. APF does this by assessing:

- animal contact
- exposure intensity
- exposure frequency
- physical and biological hazards presented by the animals
 - susceptibility of the employee

RISK ABATEMENT: APF fulfills its obligation to make staff aware of the potential risks in the workplace, and to assure that staff members have the proper training, that training is documented, and that appropriate personal protective equipment (PPE) is provided in the animal areas where identified risks may occur. Much of the work conducted at APF has a zoonotic bio-hazardous potential. Therefore, employee health and safety is a primary concern. APF has instituted comprehensive plans for risk assessment and programs for addressing potential hazards, and for providing appropriate protection. The Occupational Health and Safety (OHS) Nurse and the Colony Manager or Assistant Colony Manager make periodic, scheduled inspections to assure compliance.

Potential personnel levels of exposure have been assessed using a 'Task Based Risk Assessment and Abatement Program'. This program assesses each individual task for specific hazards/risks and establishes the appropriate precautions that need to be taken to safely perform the task.

INFECTIOUS AGENTS: The types of infectious agents at APF are HBV/HCV/HIV that need to have direct mucous membrane or transdermal access to transmit an infection. This requires direct exposure to the animals' body fluids or excreta. The risk of direct exposure is abated by education about and identification of the biohazards, training on how to reduce the risk of exposure to a minimal level, decontamination, disinfection, good personal hygiene, and the appropriate use of universal precautions and other PPE.

The APF staff operates on the principle that the safest approach to chimpanzees is also the most humane method. This principle is demonstrated with the practice of APF's animal care technicians training a chimpanzee to enter a transfer box on their own. This method is safer and more humane than other methods of necessary animal containment when a chimpanzee needs to be assessed.

RADIATION: Employees who have potential occupational exposure to radiation from X-rays receive training at the time of initial assignment and annually thereafter. Training covers the principles of radiation safety, radiation exposures and dose equivalent limits, radiation quantities and units, and steps to be taken to limit exposure to radiation (SOP HS2209). All employees with potential exposure wear a dosimeter, which is evaluated quarterly by an outside company, documented and monitored by the OHS Nurse.

CHEMICAL CLEANING AGENTS: APF utilizes the Safety Data Sheet (SDS) provided by the chemical manufacturer to evaluate the potential hazards of cleaning chemicals. Staff are trained on the location and use of SDS's upon hire and then annually thereafter by the OHS office. The OHS office manages and updates the SDS binders as necessary.

ALLERGENS: Annual training is provided for the animal care staff on allergen exposure. The facility uses only non-latex gloves to decrease the risk of acquired latex sensitivity (SOP HS2201).

NOISE PROTECTION: Annually, and as necessary, the noise level in the animal areas is monitored in each building. A dosimeter that records noise levels in decibels is attached to an employee in each building for their 8 hour shift, every day for 4 days. A report is then generated demonstrating the noise level for that building as well as the time and level of peak noise levels. This report is evaluated by the OHS nurse and the contracted physician. The records of these noise level dosimeter reports show that the TWA for all buildings housing NHP for the week of monitoring was below 85 decibels TWA for the past three years. Using these reports, it was determined that all animal care staff will carry hearing protection, ear plugs and/or ear muffs with them at all times while in the animal areas to be used at times of increased excitability and noise.

- 3) Describe methods and frequency of reassessing work-related hazards.

Noted above

- 4) Describe institutional programs or methods used to track and evaluate safety-related workplace incidents, including injuries, exposures, accidents, etc. Include the frequency of such assessments. [*Guide*, pp. 18-19]

Employees are responsible for reporting any injury/illness/ potential exposure that is a direct result from their work duties performed at APF. The employee must report their injury/ illness to their supervisor and to the Workman's Compensation Coordinator (WCC) as soon as possible following the incident or suspect of occupational illness. The employee is responsible for initiating the paperwork with the WCC's assistance, immediately following First Aid if circumstances allow or as soon as possible following treatment off-site.

The employee's supervisor is responsible for directing the employee to the OHS department and/or the WCC to ensure correct reporting of all injuries/illnesses and completing any additional paperwork. In some instances the supervisor will need to be involved in additional data gathering and investigation of incidents. The supervisor works closely with the WCC to ensure positive outcomes for all incidents.

The WCC who is also the Occupational Health Nurse is responsible for providing or confirming that First Aid has been provided and ensuring that additional off site medical attention is provided if necessary and

post-accident employee monitoring, if necessary. The WCC files the Worker's Compensation claim online at www.nmmcc.com and also notifies HR at Charles River Laboratories (CRL) within 24 hours of the accident during normal business hours. The WCC creates a new Workers Compensation file for the affected employee and provides confidential case management. The WCC ensures compliance with all OSHA reporting procedures.

The employee must also complete a Corrective Action Preventive Action (CAPA) form to ensure that the root cause of an incident or problem is addressed and that corrective action is implemented. The completed CAPA forms are reviewed by the Safety Committee.

ii. **Standard Working Conditions and Baseline Precautions**

The following section pertains to the Occupational Health and Safety Program for all personnel associated with the animal care and use program. Specific information regarding the use of hazardous agents is included in **subsection iii** below.

1) **Medical Evaluation and Preventive Medicine for Personnel** [*Guide*, pp. 22-23] *Note*: Include blank forms used for individual health assessment as **Appendix 6**.

- a) Describe who (e.g., personnel assigned to job/task categories in I.A.2.b.i.2) above) receives personal medical evaluation as a component of individual risk assessment. Describe who are **not** included and/or exempted from personal medical evaluation. *Note*: Do not include the names of personnel.

All APF employees receive medical evaluations

- b) Describe provisions for allowing an individual (following completion of individual health and job related risk assessments) to decline participation in all or part(s) of subsequently available medical and preventive medicine components of the institutional program, e.g., vaccinations, physical examinations, respiratory protection, as applicable. Provide an estimate (percentage) of personnel associated with the animal care and use program that have declined participation in the medical evaluation program.
Note: Do not include names of the personnel

No APF employees have declined participation in the occupational health program.

c) Describe provisions for assuring confidentiality of medical information.

Only the occupational health physician and nurse have access to individual health records. All records are kept private

d) Describe safety considerations for individuals with incidental exposure to animal care and use (e.g., contractors, personnel working in open laboratories).

Only when maintenance workers are needed to repair dens is there a chance for incidental exposure. Animals are moved away from the repair area in order to protect workers from exposure. The area is also sanitized prior to work being initiated.

e) Describe general features of the medical evaluation and preventive medicine programs, within the context of work duties, including:

- Pre • employment/pre • assignment health evaluation,
- medical evaluations (including periodicity),
- diagnostic tests (e.g., for tuberculosis),
- precautions for working with potentially hazardous species (e.g., nonhuman primates, sheep, venomous species)
- immunization programs, and
- procedures for communicating health related issues.

Prospective and new employees are informed that they are required to submit to medical evaluations for conditional employment offer, during the term of employment, and at termination. The medical evaluation includes, but is not limited to:

- Drug screens
- Hazard communication notice (SOP HS2204)
- Medical history
- TB skin test (Mantoux) or chest x-ray
- Liver enzymes to include ALT, AST, and TBILI
- HAV, HBV, and HCV screening
- HIV screen
- Current Tetanus immunization compliance

A prospective employee is not hired if they are HIV positive or a Hepatitis C carrier.

A periodic medical follow-up is conducted by the following schedule:

TEST SCHEDULE

TB testing PPD every 6 months or annual chest x-ray, if indicated

HIV, Liver enzymes Annually

Hepatitis B titers During and after Hepatitis B Vaccination series

All staff are tested annually for liver function, and if an exposure to a Hepatitis infected animal occurs, for antigen-antibody levels.

Abnormal lab results are assessed by the OHS nurse and the contracted physician to determine if further testing is necessary.

Contact with the chimpanzees is not permitted if an employee develops HIV antibodies or evidence of hepatitis infection. The employee is then referred to a physician. Hepatitis B vaccine is provided and highly recommended by APF at no cost to employees who are at risk of exposure to Hepatitis B virus infected animals. TB skin tests are conducted semi-annually except on personnel who require annual chest X-rays. Tetanus vaccination must be current, and a booster is provided to employees if an injury warrants such action.

Each employee is required to inform his or her supervisor of any contagious illness that has the potential to be detrimental to the nonhuman primates and/or co-workers, whether it causes absence from work or not. Management may restrict an employee from animal contact or ask him or her to see the OHS nurse and/or take sick leave until such time as he or she can be evaluated medically and determined not to be contagious to fellow employees or the animals. Animal Care staff members are also required to inform their supervisors if they have been in contact with a person who is known to have a contagious disease, i.e. chicken pox, influenza. This employee may be restricted from working with the chimpanzees for a specific amount of time.

Female employees must report pregnancies to the OSH Nurse as soon as possible so that every form of protection possible can be provided. Pregnant employees are advised and encouraged to inform their doctor of the hazards of their work and potential exposures. Employees who become immunocompromised must also notify the OHS office to assess the situation for possible change in job duties.

- f) Describe any other entities that provide medical services (e.g., emergency care, after-hours care, special medical evaluation,

contracted services). Include a brief description of their credentials and/or qualifications, and how these entities remain knowledgeable about animal- or institution-related hazards and risks.

The APF retains a [Redacted by agreement] on contract. [Redacted by agreement] has been active in occupational health involving chimpanzees for nineteen years. He is employed by the [Redacted by agreement] in Alamogordo. He has a contact person at CDC in case of a possible exposure. The Safety Officer and manager of the OHP is a Registered Nurse (Cindy Wallace) [Redacted by agreement] and Mrs. Wallace collaborate with APF staff to review, revise, and implement new programs. They advise on specific health problems, provide clinical services, and oversee the APF management of health hazard monitoring and medical aid (SOP HS2205).

2) Personnel Training Regarding Occupational Health and Safety [Guide, p. 20]

Describe general educational program(s) to inform personnel about:

- allergies,
- zoonoses,
- personal hygiene,
- physical injuries in animal facilities (e.g., noisy areas, large quantities of chemicals such as disinfectants, ergonomics) or species used (e.g., nonhuman primates, agricultural animals),
- other considerations regarding occupational health and safety.

Include in the description a summary of the topics covered, including:

- Entities responsible for providing the training
- Frequency of training or refresher training

Note: Do not include special or agent-specific training for personnel exposed to experiment-related hazardous agents; this will be provided in **Section iii.3** below.

All employees initially on hire and annually thereafter receive information on the zoonoses that are specific to our population of nonhuman primates; the routes of exposure, symptoms of the diseases and prevention of disease transmission. All employees receive training on hire and annually thereafter regarding personal hygiene which includes appropriate areas to eat, smoke, and apply cosmetics etc., importance

of showering and hand washing and keeping work areas neat.

Training is provided to all new hires and then annually thereafter from OHS and/or from web based training through the Charles River Training Center e-Learning Campus. This training includes but is not limited to: overview of OHS program, employee medical surveillance, mandatory OSHA training and blood borne pathogen exposure control and safety.

All employees must review and/or be trained on all facility SOP's and policies. Monthly training sessions on various occupational health and safety are provided.

3) Personal Hygiene [*Guide*, p. 20; *Ag Guide* pp. 4-5]

- a) List routine personal protective equipment and work clothing provided and/or required for animal care personnel, research and technical staff, farm employees, etc.

All employees who work in the animal care areas where biohazardous agents are present must use PPE required for that designated area. Single use disposable protective clothing includes gloves, head covers, disposable N-95 masks, Tyvek® coveralls and shoe covers. Other required PPE when near the nonhuman primates includes face shields, earplugs or ear muffs, and safety glasses or goggles.

BSL Area Designations:

a. Non-designated areas: Treatment/preparation areas that have been cleaned and do not have nonhuman primates present are not considered hazardous and PPE is not required.

b. ABSL-1: This is a controlled area with chimpanzees present or soiled by chimpanzees where BSL-1 precautions should be taken. These areas include all buildings where non-infectious chimpanzees are housed and areas where anesthetized/sedated chimpanzees are located. The PPE for these areas include scrubs, disposable mask, gloves, washable boots or shoe covers, safety glasses or face shield, and hearing protection during times of peak excitement.

c. ABSL-2: Includes all areas where live, awake, infected chimpanzees are present and where necropsy, surgery and dental procedures are performed. PPE for this area includes scrubs, fluid resistant disposable coveralls or lab coat, disposable mask N-95, face shields, safety goggles or safety glasses, head coverings, disposable gloves, shoe coverings or reusable footwear that is able

to be sanitized and hearing protection during times of peak excitement.

d. Employees may always increase their level of PPE but must always follow the minimum PPE established for their job task or area of work.

b) Describe arrangements for laundering work clothing.

Contaminated disposable items (Tyvek®) are placed in biohazard labelled plastic bags or placed in rigid plastic impervious containers after each use at the location where it is used. Animal care personnel are responsible for laundering soiled reusable clothing (scrubs) and towels on-site in hot water and non-chlorine bleach.

All contaminated disposable PPE is disposed of in a red biohazard container with a sealing lid. Traffic flow is always from clean areas to contaminated areas. All PPE must be removed and a shower is encouraged before dressing in street clothes and leaving the work place

c) Describe provisions and expected practices for washing hands, showering, and changing clothes, including instances where work clothes may be worn outside the animal facility.

Hand washing facilities with hands-off knee level operation is available in the anteroom of each building to facilitate frequent hand washing for all animal care employees. In addition, locker rooms, showers, and rest rooms with hand washing facilities are provided for Animal Care staff in each of the four animal buildings. Employees must also shower whenever they have direct contact with nonhuman primates, their body fluids, tissue or excreta. Uniforms/scrubs, site-specific shoes, and PPE are required to be worn on the job and are not permitted to be worn off the work site. Traffic flow is always from clean areas to contaminated areas. All PPE must be removed and employees are encouraged to shower before dressing in street clothes and leaving the work place

d) Describe policies regarding eating, drinking, and smoking in animal facilities.

Employees are not permitted to eat, drink, apply make-up, remove

contact lenses, or smoke in animal housing rooms or animal procedure rooms. An employee lounge is provided where employees can eat lunch. Smoking is not permitted inside any building at the APF facilities. Designated smoking areas are located outdoors.

4) Standard Personnel Protection [*Guide*, pp. 21-22]

- a) Describe facility design features, equipment and procedures employed to reduce potential for physical injury inherent to animal facilities (e.g., noisy areas, large quantities of chemicals such as disinfectants, ergonomics) or species used (e.g., nonhuman primates, agricultural animals).

Our entire program is centered on nonhuman primates. The OHS Nurse, Mrs. Cindy Wallace who is a Certified Occupational Health Nurse (COHN), oversees the APF safety training programs and is Chair of the Health and Safety Committee. All training is documented and is filed in a master file and in each employee's personal training file in the OHS office (SOP FS1210).

Special Qualifications and Training. All new employees receive training concerning potential hazards in the work place before starting work. The primary area of concern at APF is the potential for infection with the following viruses: HIV, SIV, HCV, HBV, and HTLV- Initial orientation training covers the following:

Safety Training

Hazardous Communications/Right to Know to include:

Inventory, location, and appropriate storage of hazardous chemicals

Interpreting Safety Data Sheets (SDS)

Correct labelling and use of hazardous chemicals

The appropriate use of PPE when handling chemicals

Location and availability of reference materials, including SDS

Blood borne Pathogens and Exposure Control to include:

Education in how exposure occurs and modes of transmission

How to recognize tasks that result in occupational exposure

Use of universal precautions

The appropriate use and availability of PPE

Biohazard exposure control plan

Zoonoses – Including Bacterial Infections, Acute Dysentery, Shigella, Salmonella, Pinworm, Tuberculosis, and Campylobacter

Occupational Health Program

Respiratory Protection Program

Hearing Conservation

Disaster Plan

Fire Safety

Radiation Safety Program (if required)

Allergens (ex: animal dander)

Good personal hygiene and housekeeping practices

The recognition of, and use of warning labels and signs

Appropriate standard operating procedures (SOP)

Emergency procedures

Reporting of an accident/exposure incident

All employees are trained on the above topics upon hire and then annually thereafter. The veterinary staff and senior animal care technicians conduct regular hands-on training in various technical procedures.

In addition, OHS offers CPR/1st Aid/AED Training to all employees. Those who pass the course receive a two year certification card.

Senior staff participates in the above listed training plus:

Total Quality Management (TQM) program

IACUC training

- b) Describe likely sources of allergens and facility design features, equipment, and procedures employed to reduce the potential for developing Laboratory Animal Allergies (LAA).

According to the Occupational Health and Safety in the Care and Use of Research Animals, NCR, 1997, pg58. Sensitization to primates is

unusual. Allergies to chimpanzees at APF has never been reported.

- c) Describe likely sources of zoonoses and facility design features, equipment, and procedures employed to reduce potential exposure to zoonoses.

All employees of APF with animal contact participate in a medical surveillance program (SOP HS2207 and SOP HS2205). TB tests are performed semi-annually and chest radiographs are performed annually when indicated on all personnel. Vaccination against Hepatitis B virus, tetanus and influenza viruses is provided by the OHS office. Testing of liver enzymes and HIV is done annually. Hepatitis B titers are performed on hire and post vaccination. The use of PPE, good hygiene and husbandry practices, and an ongoing animal treatment program prevent pinworm (*Enterobius vermicularis*) zoonosis. Employees working with animals are subject to contamination by their spit, thrown feces, scratches and bites. Personnel are required to wear the appropriate protective equipment, to include eye protection, N-95 masks, hearing protection during times of peak excitement, head covers, shoe covers, uniforms/scrubs, gloves and other outer garments. With the exception of uniforms/scrubs, these must be removed prior to leaving animal areas (SOP HS2208).

- d) Describe the procedures for the maintenance of protective equipment and how its function is periodically assessed.

ALL PPE's are disposable and used only once. Facial shields and safety glasses/goggles are reused but cleaned after each exposure period in the animal areas. Adherence to the APF PPE SOP is maintained by our quality control program.

- e) Respiratory Protection

- i) Describe situations where respiratory protective equipment is available or required, such as cage washing facilities, feed mills, etc.

N-95 facial masks are worn at all times when in the animal areas. N-95 masks were selected based on their filtering properties and durability. PAPRs are used during all necropsies and when

neutralizing formalin.

- ii) Describe programs of medical clearance, fit-testing, and training in the proper use and maintenance of respirators.

Employees using filtered respirators (N95) receive training in the specific type of respirator before using the respirator and annually thereafter. Training includes the applying and wearing of the respirators as well as the capabilities of the respirator. Fit testing of the respirators is performed annually by the OHS Nurse

- iii) Describe how such respiratory protective equipment is selected and its function periodically assessed.

Based on the species that is being worked with and their susceptibility to respiratory pathogens, APF requires the highest quality respiratory protective equipment. The use of N95 masks is mandatory at APF when coming in contact with chimpanzees. Our OHS Nurse and OHS physician evaluate the effectiveness of all respirator equipment on an annually basis.

f) Heavy Equipment and Motorized Vehicles

- i) Provide a general list of the types of cage-processing equipment used, such as rack/cage washers, tunnel washers, robotics, and bulk autoclaves. Describe training programs, informational signage, and other program policies designed to ensure personnel safety when working with such equipment.
Note: Details of specific equipment installed in animal facility(ies) are to be provided in **Appendix 15** (Facilities and Equipment for Sanitizing Materials).

No heavy equipment is used at APF

- ii) List other heavy equipment such as scrapers, tractors, and farm machinery (manufacturer name, model numbers, etc. are not necessary). Describe training programs, informational signage, and other program policies designed to ensure personnel safety when working with such equipment.
Note: If preferred, this information may be provided in a Table or additional Appendix.

APF uses no heavy equipment in the animal areas. All dens are scrubbed by hand. A hand foamer and high pressure water hose

are used and the colony manager or his designee is responsible for training the animal care staff on their usage

- iii) If motorized vehicles are used for animal transport, describe how the driver is protected from exposure to hazards such as allergens or zoonoses and decontamination methods employed. Also describe instances where vehicles may be shared between animal and passenger transport.

A Redacted by agreement with a climate controlled rear area is used to transport animals between on-site buildings. The driver's area is separate from the animal transport area without any means of contact between the two. Vehicles are not shared between animal and human transport.

- g) Describe safety procedures for using medical gases and volatile anesthetics, including how waste anesthetic gases are scavenged.

Medical grade oxygen is used in the clinic for animal recovery and within the anesthetic machine. All anesthetic gases are directly exhausted out of the room/building through the building exhaust system. There is one primary suite, located in building Redacted by where animals are routinely anesthetized for anesthetic procedures using Isoflurane. The waste gas in this building is scavenged and exhausted to the outside using a plastic, flexible tube and an exhaust system. Commercial carbon filter cartridges are available for use on the infrequent occasion that a chimpanzee is anesthetized in another area. Each cartridge is rated for 12 hours of gas scavenging. The length of each surgery that requires anesthesia is logged on the side of the canister. Canisters are discarded and replaced prior to a total anesthesia time of 12 hours. The surgical suite also has 100% fresh air ventilation.

iii. Animal Experimentation Involving Hazards [Guide, pp. 20-21]

- 1) List, according to each of the categories noted below, hazardous or potentially hazardous agents currently approved to be used in animals that are or will be maintained for more than a few hours following exposure. If the hazardous agent cannot be listed by name for security/proprietary reasons, identify it by the general category of agent and level of hazard.

Note: If preferred, this information may be provided in a Table or additional Appendix.

- a) Biological agents, *noting hazard level* (CDC Biohazard Level, Directive 93/88 EEC, CDC or USDA/DHHS Select Agent, etc.). Examples may include bacteria, viruses, viral vectors, parasites, human-origin tissues, etc.

Animals infected with HIV-1, Hepatitis C virus

- b) Chemical agents, *noting general category* of hazard (toxicant, toxin, irritant, carcinogen, etc.). Examples may include streptozotocin, BrdU, anti-neoplastic drugs, formalin, etc.

10% buffered formaldehyde

- c) Physical agents (radiation, UV light, magnetic fields, lasers, noise, etc.).

X-ray machine

2) Experiment-Related Hazard Use [*Guide*, pp. 18-19; See also Chapters 2 and 3 in *Occupational Health and Safety in the Care and Use of Research Animals*, NRC 1997].

Note: Written policies and standard operating procedures (SOPs) governing experimentation with hazardous biological, chemical, and physical agents should be available during the site visit.

- a) Describe the process used to identify and evaluate experimental hazards. Describe or identify the institutional entity (ies) responsible for ensuring appropriate safety review prior to study initiation.

No research is performed at APF. Previous research performed at APF has involved infectious disease processes such as HIV-1 and Hepatitis C. Animal biosafety level 2 procedures and practices are implemented when working with infected animals at APF.

- b) Describe how risks of these hazards are assessed and how procedures are developed to manage the risks. Identify the institutional entity (ies) responsible for reviewing and implementing appropriate safety or containment procedures.

APF has a limited amount of 10% buffered formaldehyde to preserve tissues during necropsy. The formaldehyde is stored in a bio-safety hood (Class II, Type B2 BSC) in closed containers and only opened when tissues are being added. When no longer needed, the

formaldehyde is neutralized and disposed of according to the manufactures recommendations. A PAPR (powered air purifier respirator) is worn during this process to reduce exposure to hazardous vapors.

- c) Describe the handling, storage, method and frequency of disposal, and final disposal location for hazardous wastes, including infectious, toxic, radioactive carcasses, bedding, cages, medical sharps, and glass.

There is no animal experimentation involving hazards at APF. However, APF houses animals that were previously infected with or exposed to biohazardous agents such as HIV-1, HCV, and HBV. Biosafety level 2 procedures are applied to handle all infectious waste including carcasses. Stericycle of El Paso TX removes all infectious waste from APF.

- d) Describe aspects of the medical evaluation and preventive health program specifically for personnel potentially exposed to hazardous agents.

All employees of APF with animal contact participate in a medical surveillance program (SOP HS2207 and SOP HS2205). TB tests are performed semi-annually and chest radiographs are performed annually when indicated on all personnel. Vaccination against Hepatitis B virus, tetanus and influenza viruses is provided by the OHS office. Testing of liver enzymes and HIV is done annually. Hepatitis B titers are performed on hire and post vaccination. The use of PPE, good hygiene and husbandry practices, and an ongoing animal treatment program prevent pinworm (*Enterobius vermicularis*) zoonosis. Employees working with animals are subject to contamination by their spit, thrown feces, scratches and bites. Personnel are required to wear the appropriate protective equipment, to include eye protection, N-95 masks, hearing protection during times of peak excitement, head covers, shoe covers, uniforms/scrubs, gloves and other outer garments. With the exception of uniforms/scrubs, these must be removed prior to leaving animal areas (SOP HS2208).

3) Hazardous Agent Training for Personnel [Guide, p. 20]

Describe special qualifications and training of staff involved with the use of hazardous agents in animals.

The potential for physical injury in an animal facility housing nonhuman

primates exists daily. Every effort is made to identify and minimize any risk or hazard that might cause injury to the staff members. Equipment is provided, wherever possible, to minimize risk of injury to the employee, and includes walkie talkies, ladders, transfer squeeze cages, syringe poles, and other personal protective equipment. In addition, two or more employees are always required when any direct animal contact (i.e., transferring or anesthetizing a NHP, is necessary). In the rare instance that a nonhuman primate escapes, animal care employees are trained to contain the animal in a secure area and recapture according to SOP FS1201.

The OHS Department and/or web based training through the Charles River Training Center e-Learning Campus provides safety training sessions regarding all aspects of safety, zoonoses and exposure control, radiation safety, hazard communication, respiratory protection, hearing conservation, good personal hygiene and housekeeping practices and instruction in how to use the required protective apparel.

4) Facilities, Equipment and Monitoring [*Guide*, pp. 19-20]

- a) Describe locations, rooms, or facilities used to house animals exposed to hazardous agents. Identify each facility according to the hazard(s) and containment levels (if appropriate).

Note: If preferred, information may be provided in a Table or additional Appendix.

All infected animals are housed separately from non-infected animals. Currently building Redacted houses infected animals. Biosafety level 2 practices are employed when contact with APF infected animals occurs.

- b) Describe circumstances and conditions where animals are housed in rooms outside of dedicated containment facilities (i.e., in standard animal holding rooms). Include practices and procedures used to ensure hazard containment.

All non-infected animals at APF are housed separately from infected animals. Even though not required, biosafety level two practices are employed when contacting noninfected animals at APF.

- c) Describe special equipment related to hazard containment; include methods, frequency, and entity (ies) responsible for assessing proper function of such equipment.

No special equipment is used at APF to handle hazard containment.

- d) Describe the husbandry practices in place to ensure personnel safety, including any additional personnel protective equipment used when work assignment involves hazardous agents.

The potential for physical injury in an animal facility housing nonhuman primates exists daily. Every effort is made to identify and minimize any risk or hazard that might cause injury to the staff members. Equipment is provided, wherever possible, to minimize risk of injury to the employee, and includes walkie talkies, ladders, transfer squeeze cages, syringe poles, and other personal protective equipment. In addition, two or more employees are always required when any direct animal contact (i.e., transferring or anesthetizing a NHP, is necessary). In the rare instance that a nonhuman primate escapes, animal care employees are trained to contain the animal in a secure area and recapture according to SOP FS1201.

ENGINEERING AND ERGONOMICS: Engineering and work practice controls are used, whenever possible, to eliminate or minimize employee exposure. Regular use of PPE, good hygiene practices, routine cleaning and sanitation practices, impervious surfaces, differential air pressures between animal areas and non-animal areas, and control of access to animal areas, all contribute to minimizing employee exposure. Employees ensure that the work site is maintained in a clean, uncluttered, and sanitary condition (HS2208).

- e) Incidental Animal Contact and Patient Areas

- i) List and describe facilities that may be used for both animal- and human-based research or patient areas, including the policies and procedures for human patient protection, facility decontamination, animal transport through common corridors or elevators, and other personnel protection procedures.

There are no areas at APF that serve both human and animal research.

- ii) Describe any *other* circumstances in which animals or caging equipment are transported in common use corridors or elevators (e.g., have the potential to come in contact with individuals not associated with the animal care and use program), and measures taken to mitigate risks associated with such use.

There are no such areas at APF.

B. Program Oversight

1. The Role of the IACUC/OB [Guide, pp. 24-40]

a. IACUC/OB Composition and Function [Guide, pp. 17; 24-25]

Please provide a Committee roster, indicating names, degrees, membership role, and affiliation (e.g., Department/Division) as **Appendix 7**.

i. Describe Committee membership appointment procedures.

The IO has delegated this authority to [Redacted by agreement]
[Redacted by agreement] The ACUC chairman is appointed by the IO. Normal length of term is 3 years. ACUC members are nominated by the Chair and approved by [Redacted by agreement] Length of term for members can vary.

ii. Describe frequency of Committee meetings. Note that **Appendix 8** should contain the last two IACUC/OB meeting minutes.

Quarterly

iii. Describe the orientation, training, and continuing education opportunities for IACUC/OB members. [Guide, p. 17]

New members of the APF ACUC are given an orientation to IACUC and are instructed in their duties and responsibilities by the Chairperson. Members are provided a copy of the Guide for the Care and Use of Laboratory Animals (8th edition), the Animal Welfare Act and Animal Welfare Regulations (9CFR), the PHS Policy on Humane Care and Use of Laboratory Animals, and a copy of The IACUC Handbook (2nd edition). In addition, all members read and approve the APF ACUC SOP (FS1105-03), on an annual basis. Members also complete the AALAS web-based course, *Essentials for IACUC and Working with the IACUC; non-VA version*, once every 3 years. All current ACUC members are scheduled to attend the *ACUC Member Training* course, offered by the NIH OACU via teleconference, in order to meet the PM 3040-2 requirements. Additional committee training is conducted by the ACUC Chair at least semi-annually, either at regularly scheduled APF IACUC meetings or at specially convened meetings to attend webinars offered by NABR or similar organizations.

b. Protocol Review [*Guide*, pp. 25-27]

A blank copy of your institution's protocol review form should be provided as **Appendix 9**. Also include forms used for annual renewal, modifications, amendments, etc., as applicable.

- i. Describe the process for reviewing and approving animal use. Include descriptions of how:
- the IACUC/OB weighs the potential adverse effects of the study against the potential benefits that may result from the use ("harm-benefit analysis"),
 - protocols that have the potential to cause pain or distress to animals are reviewed and alternative methodologies reviewed,
 - veterinary input is provided, and
 - the use of animals and experimental group sizes are justified.

Note: Make sure you address each of the items above.

Protocols for review are submitted to the Scientific Advisory Committee (SAC). If approved, [Redacted by agreement] and the [Redacted by agreement]

[Redacted by agreement] provide administrative review and approval and then submit the protocol to the IACUC. All protocols are handled in one of two ways:

- Full Committee Review—The protocol is reviewed at a convened meeting of the full committee. Protocols are pre-reviewed by all IACUC members before the meeting convenes. Approval or other action will be by majority vote of a quorum of members.
- Designated Review— A copy of the proposed protocol is given to each member; including the name of the investigators, species used, number of animals, and procedures to be conducted. They will be asked to review the work and indicate within 5 working days if they wish to call a meeting to review the protocol. If no member calls for a full meeting, the Chairperson assigns two members to review the entire protocol and approve, require modification to allow approval, or return for full committee review. The protocol may not be rejected and the two reviewers must be in agreement. All new members are briefed on the committee's designated review policies and procedures when they join the IACUC.

Investigators will be notified in writing in a timely manner as to the action taken by the committee.

All protocols are reviewed annually on or near the anniversary of approval and are resubmitted for a de novo review every three years. These times may be shortened as desired by the IACUC.

- ii. Describe the process for reviewing and approving amendments, modifications, and revised protocols. If applicable, include a description/definition of “major” vs. “minor” amendments.
Note: If preferred, this information may be provided in a Table or additional Appendix.

Amendments, modifications and revised ASPs have been conducted by full committee review or by designated member review (DMR).

c. Special Considerations for IACUC/OB Review [*Guide*, pp. 5; 27-33]

i. Experimental and Humane Endpoints [*Guide*, pp. 27-28]

- 1) Describe the IACUC/OB’s review of “humane endpoints,” i.e., alternatives to experimental endpoints to prevent or in response to unrelieved animal pain and distress.

There are no experimental endpoints established due to our established conditions of no research. Humane care and quality of life endpoints are established on a case by case basis in conjunction with the APF endpoints SOP and the ARAC Guideline.

- 2) For studies in which humane alternative endpoints are not available, describe the IACUC/OB’s consideration of animal monitoring and other means used to minimize pain and distress (e.g., pilot studies, special monitoring, other alternatives).

N/A

- 3) Identify personnel responsible for monitoring animals for potential pain and distress and describe any mechanisms in place to ensure that the personnel have received appropriate species- and study-specific training.

Monitoring of animals is done by AALAS certified technicians under the supervision of the APF veterinary staff. Technicians receive training from APF veterinarians, Charles River and AALAS.

- ii. **Unexpected Outcomes that Affect Animal Well-being** [*Guide*, pp. 28-29]
Describe how unexpected outcomes of experimental procedures (e.g., unexpected morbidity or mortality, unanticipated phenotypes in genetically-modified animals) are identified, interpreted, and reported to the IACUC/OB.

N/A

iii. Physical Restraint [*Guide*, pp. 29-30]

Note: This section is to include only those protocols that require prolonged restraint. Brief restraint for the purpose of performing routine clinical or experimental procedures need not be described.

- 1) Briefly describe the policies for the use of physical restraint procedures or devices. Include, if applicable, the IACUC/OB definition of "prolonged."

No physical restraint is used at APF as part of any study. Squeeze cages are used to give injections and conduct other short medical/clinical procedures and/or observations. Invasive research is not performed at APF.

- 2) Describe animal restraint devices that are used or have been used within the last three years. For each device, briefly describe
 - the duration of confinement
 - acclimation procedures
 - monitoring procedures
 - criteria for removing animals that do not adapt or acclimate, and
 - provision of veterinary care for animals with adverse clinical consequences.

Note: If preferred, this information may be provided in a Table or additional Appendix.

Transfer and recovery caging with a moveable back are used at times to limit an animal's movement for drug administration. Duration of time is less than one minute. Animals are weighed every other month using the transfer cages so animals are acclimated to their use. Only 3 animals in the colony do not use the transfer cage. However, these three animals are trained to present for drug administration.

iv. Multiple Survival Surgical Procedures [*Guide*, p. 30]

Note: One survival surgical procedure followed by a non-survival procedure is not included in this category.

- 1) Describe the IACUC/OB's expectations regarding multiple survival surgery (major or minor) on a single animal.

N/A. No multiple major experimental surgical procedures are performed at APF. Only medical surgical procedures are performed to improve the

quality of life of an animal.

- 2) Summarize the types of protocols currently approved that involve multiple major survival surgical procedures

Note: If preferred, this information may be provided in a Table or additional Appendix.

N/A

- v. **Food and Fluid Regulation** [*Guide*, pp. 30-31]. *Note:* This does not include pre-surgical fast.

Summarize the types of protocols that require food and/or fluid regulation or restriction, including:

- justification
- species involved
- length and type of food/fluid regulation
- animal health monitoring procedures and frequency (e.g., body weight, blood urea nitrogen, urine/fecal output, food/fluid consumption)
- methods of ensuring adequate nutrition and hydration during the regulated period

Note: If preferred, this information may be provided in a Table or additional Appendix.

N/A There is no prolonged food or fluid restriction. Food fasting for 12-18 hours prior to sedation is only for clinically warranted examinations or surgery (SOP AC3201).

- vi. **Use of Non-Pharmaceutical-Grade Drugs and Other Substances** [*Guide*, p. 31]

Describe the IACUC/OB's expectations regarding the justification for using non-pharmaceutical-grade drugs or other substances, if applicable.

N/A

- vii. **Field Investigations** [*Guide*, p. 32]

Describe any additional considerations used by the IACUC/OB when reviewing field investigations of animals (non-domesticated vertebrate species), if applicable.

N/A

viii. Animal Reuse [*Guide*, p. 5]

- 1) Describe institutional policies regarding, and oversight of, animal reuse (i.e., on multiple teaching or research protocols).

N/A

- 2) Briefly describe the types of activities currently approved that involve the reuse of individual animals.

Note: A list of specific protocols involving reuse of animals should be available during the site visit.

N/A

- 3) Describe other instances where the final disposition of animals following study does not involve euthanasia, including adoption, re-homing, rehabilitation, etc.

Note: A list of specific protocols involving reuse of animals should be available during the site visit.

N/A

2. Post-Approval Monitoring [*Guide*, pp. 33-34]

- a. Describe mechanisms for IACUC/OB review of ongoing studies and periodic proposal/protocol reviews (e.g., annual, biennial, triennial, or other frequency).

The sole ASP was reviewed in 2017 by the full IACUC. In addition, we have a post-approval monitoring (PAM) procedure. PAM has been conducted by a 2-member designated member review (DMR) sub-committee. This sub-committee consists of 2 IACUC members (including a non-affiliated member) who are not veterinarians and who report their findings back to the full committee. PAM was conducted once in 2017. Daily animal care/veterinary

health rounds and IACUC semi-annual facility and program reviews are also performed.

- b. Describe the process and frequency with which the IACUC/OB reviews the program of animal care and use.

Facility inspections are conducted in March and September and program reviews are conducted in June and December. The whole committee participates in the reviews and inspections, and present findings to the full committee at the scheduled meetings. Reports of these reviews are sent to the Institutional Official via the Director, OACU semi-annually as part of the NIH reporting process.

See appendix 9

- c. Describe the process and frequency with which the IACUC/OB conducts facility and laboratory inspections.
- Describe the rationale or criteria used for exempting or varying the frequency of reviewing satellite holding facilities and/or animal use areas.
 - If contract facilities or contractor-provided personnel are used, describe procedures used by the IACUC/OB to review such programs and facilities.
- Note:* A copy of the last report of these reviews should be included as **Appendix 10**.

APF operates under the NIH Animal Welfare Assurance (No. A4149-01), and provides animal usage numbers for the NIH IRP USDA Annual Report (51-F-0016). This is a federal facility and not routinely inspected by USDA, however due to the sensitivity of the species held, APF has volunteered to submit to USDA inspections and the facility is fully compliant with USDA Animal Welfare Regulations. The last APF USDA inspection was conducted on October 10, 2017. There have been no deficiencies found by inspectors in any of the ten USDA inspections since CR assumed management responsibilities for the program.

- d. If applicable, summarize deficiencies noted during external regulatory inspections within the past three years (e.g., funding agencies, government, or other regulatory agencies) and describe institutional responses to those deficiencies. *Note:* Copies of all such inspection reports (if available) should be available for review by the site visitors.

N/A

- e. Describe any other monitoring mechanisms or procedures used to facilitate ongoing protocol assessment and compliance, if applicable.

In addition to scheduled semi-annual facilities' inspections and program reviews, USDA inspections, and visits from NIH officials, a daily clinical meeting is held each morning. The veterinary/behavioral and animal care staffs meet with the colony manager to discuss all clinical cases or animals that need additional assessment. Each morning the building supervisors report the health status of all animals to the colony manager. The veterinary/behavioral and animal care staffs observe cases as part of their daily clinical daily rounds. The attending veterinarian reports all medical cases to the director. The professional staff members meet as needed to review significant clinical cases.

3. Investigating and Reporting Animal Welfare Concerns [Guide, pp. 23-24]

Describe institutional methods for reporting and investigating animal welfare concerns.

Individual have numerous methods of reporting Animal Welfare concerns. Concerns may be directed to the Facilities Director, Facility veterinarian or any IACUC member. The Charles River animal welfare specialist (Cindy Wallace),

Redacted by agreement

may also be contacted. Charles River also have an anonymous hotline that employees may call if there are animal welfare concerns. The

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Redacted by agreement or the Intuition Official (Michael Gottesman) may also be contacted if animal welfare concerns arise.

4. Disaster Planning and Emergency Preparedness [Guide p. 35]

Briefly describe the plan for responding to a disaster potentially impacting the animal care and use program:

- Identify those institutional components and personnel which would participate in the response.
- Briefly describe provisions for addressing animal needs and minimizing impact to animal welfare.

Note: A copy of disaster plan(s) impacting the animal care and use program must be available for review by the site visitors.

APF Disaster Plan

Purpose/Scope:

This plan applies to all Alamogordo Primate Facility (APF) animals and to all personnel responding to an emergency or disaster involving APF animals or animal facilities. It shall be posted in each building next to the First Aid Kit.

- A. The purpose of this plan is to establish procedures for notification of key personnel, and housing options to be followed by emergency/ disaster response teams, and levels of care to be provided during emergency/disaster response to animals housed in APF facilities.
- B. This disaster plan takes into account both personnel and animals and is part of the overall Occupational Health and Safety Program (HS2102) for the animal facility. APF is committed to providing quality care to all animals that are housed in its facilities. APF is also committed to providing a safe work environment for its employees and to ensure that no danger is posed to the community by the animals housed at the APF.

Definitions & Responsibilities:

Disaster Response Teams –Each team is headed by a veterinarian and staffed by mission essential personnel. Teams shall remain in contact by walkie talkie and/or cell phone. A team shall visit each damaged building to assess animal and personnel, infrastructure damage, respond appropriately and report back to the FD on status. A team leader will locate personnel not accounted after an evacuation.

Mission-Essential Personnel –Staff members on a list of personnel that is filed with base security for authorization to enter HAFB during the event of FPCON D or base closure. The list is updated periodically. All members of the disaster response teams shall be drawn from this list, which appears in the Appendix. The list can also be found on the APF Telephone Roster posted in each building.

ACUC – Animal Care and Use Committee

HAFB– Holloman Air Force Base

NCATS – National Center of Advancing Translational Sciences

Plan:

Basic Disaster Leadership

The Facility Director or designee is designated as official responder within the institution and after evaluating the situation should participate and direct the appropriate aspects of the response to a disaster to include communication with on-site personnel.

Annual Training

Training on the Disaster Plan shall be conducted annually, in accordance with USDA guidelines. Specifically, all personnel shall be notified in advance of an "All-Hands Meeting," to be convened specifically for this training purpose. Personnel shall convene in the APF Conference Room, located in Building Redacted by The Director shall make a presentation based on this Plan using PowerPoint® slides and covering all the high points. A question/answer and discussion session shall follow, to address any new or outstanding issues or concerns. A standard sign-in sheet shall be used to

document attendance and participation in this annual training, to be filed by the Training Coordinator. In addition, in accordance with USDA contingency plan requirements (USDA/APHIS, 2013), when changes are made to the Disaster Plan, the FD shall inform all staff of such changes within 30 days.

Disaster Response Procedures

The individual observing the disaster shall notify the Facility Director (FD), the Attending Veterinarian or the Colony Manager. The notified person is responsible for notifying the remaining two.

The FD or designee, will ascertain the nature of the disaster and the extent of response required.

Any visitors to APF should be directed to a safe location (for example, administrative offices or a vehicle) (See FS1103 Visitor's Policy).

The FD or his designee will notify all disaster response team members and/or mission essential personnel as needed.

A Disaster Response Team shall visit each damaged building to assess animal and personnel, infrastructure damage, respond appropriately and report back to the FD on status.

Responsibilities for Notification of Disaster

The Facility Director or his designee (e.g., the APF Security Officer) will notify HAFB Security Forces Control (575-572-7171), Alamogordo Department of Public Safety (DPS) (575-439-4300) and HAFB Fire Department (575-479-7228 or 575-572-1117) as needed, to coordinate activities.

The FD shall also notify the Division of Comparative Medicine, NCATS and the

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and the Redacted by agreement

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After resolution of the disaster a report will be made by the FD to the APF ACUC Chair, regarding the nature of the disaster and the course of action that was taken.

The FD or his designee shall serve as communication coordinator to establish and maintain all communications with on- and off-site personnel during the disaster.

Personnel Evacuation

Evacuation routes are posted in each building.

Accounting for Personnel. In the event of disaster, all personnel shall assemble on the Northwest side of the parking lot. Supervisors shall perform a headcount, as in a fire-drill, to account for all their personnel on site that day. Anyone missing shall be contacted by cell phone or walkie-talkie to ascertain their location and condition. The names of anyone not accounted for shall be given to the Disaster Response Team Leaders, who shall look for those persons during their surveys.

Radio frequencies for each work group are Admin 2-1, AC 5-0, and Maintenance

1-1. They are also posted in each building on the telephone roster. The Security Officer has a HAFB Security Forces band radio.

Personnel shall remain assembled in the parking lot, unless directed to relocate to a safe distance to be determined by HAFB personnel.

Animal Welfare and Evacuation

During the response to a disaster, the regulations of the Animal Welfare Act will be followed. The Attending Veterinarian or designee will make determinations regarding animal welfare. Until such time as a veterinarian is on site the Colony Manager or Assistant Colony Manager, will be in charge.

In the event that the buildings of APF need to be evacuated, and personnel are working with an anesthetized, unrestrained chimpanzee at the time, the chimpanzee will be confined to a transfer cage so that if the animal recovers from the anesthesia during the disaster, it will not endanger personnel.

Every attempt will be made to capture any escaped animals and return them to their home cages, according to FS1201 entitled "Capturing Loose Chimpanzees". If an animal's identity or home cage is in question, it will be placed in a cage singly until it can be positively identified.

If military responders are involved they will follow the guidelines set forth in their document "QRC36 – APF Escaped Chimpanzee SFM".

Any ill, injured, or dead animal(s) will be brought to the attention of FD. Ill or injured animals will be triaged and treated as appropriate.

On-Site Evacuation

Animals may need to be evacuated to another building if there is structural damage or a hazard to their housing area.

The FD or designee will determine the best area for relocation of animals based upon their viral status and the number requiring housing.

APF has an additional building (Redacted by agreement) to temporarily relocate the NHPs if necessary. This would require relocation of standby aluminum housing sick cages and recovery cages from the clinic to temporarily hold up to 16 animals.

Animals will be counted and inventoried by ID number (tattoo) before transport and moved in accordance with AC3204 Transfer of Chimpanzees between On-Site Locations. A head count will be taken, after their arrival.

Off-Site Evacuation

In the event of complete damage or destruction to all APF holding facilities, every attempt will be made to relocate our affected animals to any of 3 nearby chimpanzee facilities. In addition, there may be unoccupied space appropriate for temporary housing in an emergency in Alamogordo. The Director of Alamogordo Public Safety may have further information if necessary. The FD shall communicate with NIH officials regarding the

desirability and feasibility of moving such animals. These three facilities are: the Michale E. Keeling Center for Comparative Medicine and Research in Bastrop, TX (contact person: [Redacted by agreement])

[Redacted by agreement]

the Texas Biomedical Research Institute in San Antonio, TX (contact person: Dr. [Redacted by agreement]) and

Chimp Haven in Keithville, LA (contact person: [Redacted by agreement])

[Redacted by agreement]

If relocation of all affected animals proves impossible, those not expected to respond to treatment or any requiring extensive medical support or surgical care will be euthanized. Humane euthanasia will be performed in accordance with APF Humane Endpoints SOP (VM-7101) taking into account the severity of injuries and likelihood of survival, APF veterinarians shall triage and consult with officials from the NIH [Redacted by agreement]

[Redacted by agreement]@nih.gov; and [Redacted by agreement]

[Redacted by agreement]@od.nih.gov) prior to any decisions.

Potential Disasters

History

The Tularosa Basin, in which Alamogordo and Holloman AFB are located, is a high desert environment surrounded by mountains. Weather events such as tornados, hurricanes, hail, deep snow, etc. are infrequent. High winds and heavy rains do occur, although these are typically of short duration.

Holloman AFB is home to numerous types of military aircraft. A low probability of a plane crash exists.

Base security precludes entry of unauthorized personnel onto the base, and hence into the APF. Therefore, terrorism by animal rights organizations is unlikely. However, terrorist acts on the U.S. result in the elevation of the Fort Protection Condition (FP Con), and can result in base closure and inability to come to work for non-Mission Essential personnel.

Any substances considered to be chemical, biological, or radiological hazards are properly stored and used in relatively small quantities at APF, thus minimizing the opportunity for a catastrophic incident involving these agents.

Risk Assessment of hazards on the base is conducted periodically by the environmental safety personnel of the Air Force. Based upon a recent evaluation, there are no significant chemical or explosive hazards in our sector of the Air Force base.

Potential Disasters and Their Responses

Fire

APF facilities are constructed of non-flammable materials such as concrete and metal. Electrical fires therefore comprise the primary hazard. Bottled gas may pose danger in the event of fire. When heated, tanks can act as

projectiles, resulting in damage to the facility and in injury or death to disaster response personnel. Injury or death may result from smoke inhalation, burns, and/or asphyxiation due to oxygen depletion.

APF employees are not to enter a burning building without the approval and assistance of firefighting personnel. (2) If the fire is in the interior of a building, every effort will be made to move all animals to the outside runs and secure them there. (3) Removal of bottled oxygen from at risk areas should occur concurrently with, or immediately after removal of animals from the facility. The oxygen tanks in the clinics are mobile, secured to a dolly (on wheels), and should be moved outdoors away from the threat of the fire, if possible to do so without risk of injury to personnel. (4) The location of fire extinguishers is posted in each building of the facility. In the event of a fire, air handling equipment will be turned off to prevent the transfer of smoke and fumes from one area to the next. Air handlers are equipped with an automatic shut-down function.

Wind Damage

High winds are frequent in the Tularosa Basin, but usually are of short duration. The damage anticipated from winds is primarily to the exterior of buildings and outside structures such as the play yards. Dust and sand damage is possible, as well as non-native allergens blown in by the wind.

In the case of severe weather, animals will be moved inside and secured, and facilities inspected prior to release.

Plane Crash

Being located on Holloman AFB, there is a relatively high level of airborne traffic around the APF. If a plane crash did occur, it could be accompanied by fire from highly flammable jet fuel.

In the event of a jet crash or large scale fuel fire, our Facility Director or the Security Officer will be contacted by the Air Force authorities or first responders and advised of the appropriate course of action.

Computer Damage

Sabotage or damage to the computer or server containing the animal records would entail loss of valuable information.

Back-ups are performed nightly. The computers for HVAC monitoring and control are standalone so that each zone functions independently from the other. Therefore, if the main computer fails, each building will maintain normal temperature and humidity. We could also use a laptop computer to monitor buildings.

Terrorism/Bomb Threats/Suspicious Packages/Base Closure

In the event of terrorist acts against the U.S., Holloman AFB restricts entry onto the base, except for essential personnel. Bomb threats will most likely be received during normal business hours.

Suspicious Packages are handled in accordance with FS1223 Suspicious Package Identifying & Handling Policy.

In the event of base closure, the staff members on the mission-essential list filed

with HAFB security Forces Control have full authorization to enter HAFB and will report to work as needed.

Electrical Power, Water or HVAC Outage

Utilities outages are possible for a variety of reasons and could alter environmental control of animal housing and thereby negatively impact animal health or welfare.

In the case of a power outage, there is a 1000-kilowatt emergency backup generator which provides power to the 1300 complex. A portable generator is available as well.

In the case of loss of water pressure APF owns a large-capacity water trailer that holds enough potable water to provide drinking water for the animals until water lines are repaired.

Feed Supply Interruption

Enough feed is stored to last a minimum of three weeks. Feed can be obtained from SNPRC in San Antonio, TX or UTMDA in Bastrop, Texas, using one of APF's trucks. Fruits, vegetables and breads would suffice for maintaining the NHPs on a short-term basis.

Community Illness

In the event of a local epidemic, personnel who are able will report for duty. Augmentation of personnel will be sought from local resources (eg. former employees), as needed.

The Occupational Health nurse will be in contact with local healthcare providers, HAFB officials, and CDC informational centers. These resources shall be used to advise the Facility Director on human health precautions and procedures.

In accordance with Public Health Services (PHS) Policy, the IACUC meetings can be extended to every 6 months during a disaster.

Shelter in Place

In the event of base closure or various emergencies, APF/CRL staff members may be unable to vacate the premises and may need to stay on-site for overnight or longer. In such an event, staff can shelter in place in one of several possible locations on-site, including the Conference Room in

Redacted by agreement the offices in Redacted by agreement or the vacant room at Redacted by

Redacted by agreement The Conference Room has 2 refrigerators/freezers, an oven with stove-top, cookware and eating utensils, sinks, fresh water, plus a computer with internet access, a TV and a telephone. Secondly, Redacted by agreement

Redacted by agreement includes a kitchen with refrigerator/freezer, fresh water, with phone and Internet available in the various offices. Finally, Redacted by agreement is about

Redacted by agreement northeast of the main facility and may avoid any damage if Redacted by agreement

Redacted by agreement are affected by an emergency. All three potential shelter-in-place locations are equipped with restrooms.

Personal Protective Equipment

Personal Protective Equipment (PPE) will be used in accordance with SOPs (HS2102 Occupational Health & Safety Program & HS2208 Personal Protective Equipment). The APF is typically supplied with enough personal protective equipment to last at least one month. Any additional PPE for hazardous substances released into the environment will be determined by HAFB personnel according to the substance involved.

Recovery

The FD shall assess and document damage with the facility cameras or cell phones and with the Disaster Response Team assessments and status reports. Model numbers/serial numbers for damaged equipment will be recorded if possible prior to disposal.

Details of the assessment shall be transmitted to NIH officials to await their appropriate response.

Animal care will continue on a reduced manpower schedule, as necessary. In the event that there are not sufficient personnel, additional help will be sought as described above in D.2.h). (1).

Every attempt will be made to return to normal working hours, as circumstances permit.

The FD, NIH and IACUC shall debrief as soon as possible after the disaster to assess and review suggestions for improving the response.

Emotional support for any traumatized personnel is available through CRL resources and the Occupational Health nurse and contract physician.

II. Animal Environment, Housing and Management

Note: Complete each section including, where applicable, procedures performed in farm settings, field studies, aquatic environments, etc.

A. Animal Environment

Note: Facility-specific details regarding mechanical system construction and operation is requested in Section IV.B.5. and **Appendix 11**; current (measured ***within the last 12 months***), detailed (by room) performance data must also be provided as indicated in **Appendix 11**.

1. Temperature and Humidity [*Guide*, pp. 43-45]

- a. Describe the methods and frequencies of assessing, monitoring, and documenting that animal room or housing area temperature and humidity is appropriate for each species.

Note: If preferred, this information may be provided in a Table or additional Appendix.

All buildings housing nonhuman primates are heated and cooled by centralized forced air HVAC systems. The HVAC heat is provided by steam boiler units located in [Redacted by agreement]. There is also a redundant supplemental radiant heat system in the floors of the chimpanzee buildings. The HVAC units are computer controlled to provide interior temperatures of 72°F ±10° and a relative humidity of 50% ±20%. Commercial power is supplied by Texas-New Mexico power. An auxiliary generator is located on site and provides backup power to all buildings. This meets the recommended ranges in the Guide for "Sheltered Housing". Continuous performance of this equipment is logged daily by computer and the high-low thermometers. The system is checked by the after-hours technician for alarms and they contact maintenance personnel when normal operating parameters have been breached. The maintenance staff performs preventive maintenance and repairs as scheduled by the PM software system (SOP FS1220). See HVAC information in Appendix 10.

Currently, the HVAC system has two, 200-ton air-cooled chillers which provides refrigerated air conditioning to Buildings [Redacted by agreement] administrative area of [Redacted by agreement] and the animal dens in [Redacted by agreement]. In buildings [Redacted by agreement] and [Redacted by agreement] the animal dens are provided air conditioning with a highly efficient evaporative cooling. The system has performed well in the past and has been able to maintain the indoor space at least 15° lower temperature than ambient air, maintain the humidity at the appropriate level (30-50%), and is much more economical.

- b. List, by species, set-points and daily fluctuations considered acceptable for animal holding room temperature and relative humidity.

Note: If preferred, this information may be provided in a Table or additional Appendix. [*Guide*, pp. 44 and 139-140]

Chimpanzees. The HVAC units are computer controlled to provide interior temperatures of 72°F ±10° and a relative humidity of 50% ±20%.

- c. Temperature set-points in animal housing rooms and/or environmental conditions are often outside of the species-specific thermoneutral zone. Describe the process for enabling behavioral thermoregulation (e.g., nesting material, shelter, etc.) or other means used to ensure that animals can control their thermoregulatory environment. Include a description of IACUC/OB approved exceptions, if applicable. [*Guide*, p. 43]

The HVAC system with the backup diesel generator ensures that power and the correct environmental temperatures are always maintained.

2. Ventilation and Air Quality [Guide, pp. 45-47]

- a. Describe the methods and frequencies of assessing, monitoring, and documenting the animal room ventilation rates and pressure gradients (with respect to adjacent areas).

Note: If preferred, this information may be provided in a Table or additional Appendix.

The ventilation system in all buildings is forced, 100% fresh air, via the air-conditioning and heating units. Ventilation rates and pressure gradients are measured and documented by the maintenance department annually or after equipment failure or replacement. The HVAC system provides a minimum of 10-15 room air changes per hour. See detailed room information provided in Appendix 10.

- b. Describe ventilation aspects of any special primary enclosures using forced ventilation.

Special forced-air primary enclosures are not used

- c. If any supply air used in a room or primary enclosure is recycled, describe the percent and source of the air and how gaseous and particulate contaminants are removed.

No rooms or primary enclosures have recycled air.

3. Life Support Systems for Aquatic Species [Guide, pp. 84-87]

- a. Provide a general description of institutional requirements for enclosures using water as the primary environmental medium for a species (e.g., aquatics).

N/A

- b. Provide a general description of overall system(s) design, housing densities, and water treatment, maintenance, and quality assurance that are used to ensure species appropriateness.

Note: Facility-specific tank design and parameter monitoring frequencies should be summarized in **Appendix 12** (Aquatic Systems Summary).

N/A

4. **Noise and Vibration** [*Guide*, pp. 49-50]

Describe facility design features and other methods used to control, reduce, or prevent excessive noise and vibration in the animal facility.

Excessive noise from adjacent areas is limited due to the design and arrangement of the animal buildings. Ample space between buildings, and doors between each section of four runs, mitigates any noise from an individual run. The design and construction of the animal facilities is adequate without the need for intentional noise abatement. Noise is a concern with adult socially housed chimpanzees at feeding times and in the presence of strangers. Loud vocalizations and cage rattling can be disturbing. Although chimpanzee vocalizations are well tolerated by conspecifics, there is the possibility of damage to the ears of employees. Therefore, noise levels are measured for four consecutive days in each animal building and recorded annually and as necessary. The dosimetry monitoring program recorded peaks of up to 126 decibels, lasting for under 30 seconds with an average below 85 decibels over an eight hour period. Hearing protection is provided for all personnel to be worn while working in animal areas when the animals are vocalizing.

B. Animal Housing (all terrestrial, flighted, and aquatic species)

1. **Primary Enclosures**

Note: A description of primary enclosures used (e.g., cages (conventional, individually-ventilated cage systems (IVCS), etc.), pens, stalls, pastures, aviaries, tanks) should be included in **Appendix 13**.

- a. Describe considerations, performance criteria and guiding documents (e.g. *Guide*, *Ag Guide*, ETS 123 and/or other applicable standards) used by the IACUC/OB to verify adequacy of space provided for all research animals, including traditional laboratory animal species, agricultural animals, aquatic species, and wildlife when reviewing biomedical, field and agricultural research studies.

The space requirements in the *Guide for the Care and Use of Laboratory Animals* 8th edition are used at APF.

- b. Describe space exceptions to the guiding documents (*Guide*, *Ag Guide*, ETS 123, and/or applicable standards), indicating the references, considerations and performance criteria used (e.g., by the IACUC/OB) to verify adequacy of space provided for all animal species covered by the program. [*Guide*, pp. 55-63]

There are no exceptions.

2. Environmental Enrichment, Social, and Behavioral Management [*Guide*, pp. 52-55; 63-65: *Ag Guide*, Chapter 4]

a. Environmental Enrichment

- i. Describe the structural elements of the environment of primary enclosures that may enhance the well-being of animals housed (e.g., resting boards, privacy areas, shelves/perches, swings, hammocks).

All socially-housed chimpanzees at APF are contained in “Sheltered Housing” with outdoor runs and indoor dens that have heat and air conditioning. Animals have free choice between outdoor runs and indoor dens via a movable door flap, allowing the chimpanzees control over their microenvironment. Structures added for enhanced well-being and to increase species-typical activity levels include benches, artificial termite mounds perches, tire swings, barrels, suspended ropes, resting nets, and climbing bars. Additional mobile items such as purchased and constructed toys, foraging devices, and balls are also provided to individual or group housed animals as needed to alleviate self-injurious, or other undesirable behaviors. Food and forage dispensers are attached to the external caging of the indoor runs for ease of foraging access by the animals and for sanitation purposes by the human caretakers.

- ii. Describe nonstructural provisions to encourage animals to exhibit species typical activity patterns (e.g., exercise, gnawing, access to pens, opportunity for exploration, control over environment, foraging, denning, burrowing, nesting materials, toys/manipulanda, browsing, grazing, rooting, climbing).

Additional mobile items such as purchased and constructed toys, foraging devices, and balls are provided.

b. Social Environment [*Guide*, p. 64]

- i. Describe institutional expectations or strategies for social housing of animals.

Except for those individually-housed for medical treatment or quarantine, all chimpanzees are housed in large social groups in order to provide physical

contact and communication between conspecifics. In order to provide contraception, they are housed in same-sex social groups. Experienced staff members familiar with the animals' social histories make recommendations for social group composition, in order to provide all animals with compatible den mates. Group size generally consists of six animals and varies between three and twelve animals. By opening doors to connecting runs two groups of twelve animals each have been successfully formed. These larger groups have 24/7 access to outdoor play-yards, offering additional room for species-typical activities, such as group foraging and affiliative social behavior, including play.

Animal Care Technicians observe animals throughout the normal duty day. Any instances of inappropriate aggression or other problematic behaviors are reported to the veterinary/behavioral staff. Any animals exhibiting behavior that is deemed undesirable (primarily including hyper-aggression, self-injurious behavior and stereotypy) are scheduled for a series of routine behavioral observations, in order to assess the nature of the problem, its incidence and its severity. These behavioral data are used to objectively quantify and characterize the problematic behavior and to suggest possible solutions, on a case-by-case basis. For example, reports of stereotypic and self-injurious behavior are reported to the veterinary/behavioral staff, who implements systematic behavioral observations on reported animals. These observations are used to assess the nature and incidence of the behavioral dysfunction. The veterinary/behavioral staff and behavioral technician then devise strategies to encourage desirable alternative activities, usually involving foraging behavior, that are tailored to each animal's individual behavioral propensities and unique personality characteristics. Regarding chimpanzee hyper-aggression, the criteria for removal of an animal from a social group include repeated performance or receipt of excessive aggression. If necessary, social groups are reconfigured to prevent psychological trauma or physical injury. Direct contact or access between enclosures is then eliminated, in order to prevent inter-cage aggression involving groups housed in adjacent dens.

- ii. Describe exceptions to these expectations (e.g., veterinary care, social incompatibility) and other typical justification approved by the IACUC/OB for housing animals individually.

All animals at APF are socially housed.

- iii. Describe steps taken with isolated or individually housed animals to compensate for the absence of other animals (interaction with humans,

environmental enrichment, etc.).

When necessary due to illness or need for direct observation, singly-housed chimpanzees are provided with additional enrichment activities and given extra play/social time with the animal care staff. Every effort is made to house such animals with auditory, olfactory, and visual access to a familiar conspecific, typically a denmate with a strong affiliative bond to the animal in question. These strategies have been shown to positively influence the psychological wellbeing of animals that, due to various medical requirements, are temporarily housed apart from their usual social group. Any environmental enrichment exemption is recorded by the attending veterinarian and reviewed at least every 30 days by the attending veterinarian.

c. Enrichment, Social and Behavioral Management Program Review [*Guide*, pp. 58, 69]

Describe how enrichment programs and exceptions to social housing of social species are regularly reviewed to ensure that they are beneficial to animal well-being and consistent with the goals of animal use.

The behavioral husbandry program is directed by the veterinary/behavioral staff and mandates weekly delivery and assessment of new enrichment activities and devices to simulate naturalistic foraging. Monthly reports summarize the success of these new interventions and are distributed to the director, attending veterinarian, and colony manager. Successful interventions are recommended for incorporation in the daily enrichment activities implemented by animal care.

d. Procedural Habituation and Training of Animals [*Guide*, pp. 64-65]

Describe how animals are habituated to routine husbandry or experimental procedures, when possible, to assist animals to better cope with their environment by reducing stress associated with novel procedures or people.

Positive reinforcement training (PRT) is used to habituate animals to new and desirable routine veterinary procedures. Such procedures have included transfer box training, heel-stick training for glucose and glycated hemoglobin testing, and alert injection training. Other procedures as added as deemed desirable, in order to reduce the possibility of animals' experience of stress.

e. Sheltered or Outdoor Housing [*Guide*, pp. 54-55]

- i. Describe the environment (e.g., barn, corral, pasture, field enclosure, flight cage, pond, or island).

The sheltered outdoor runs for the chimpanzees are 240.5 ft² (15' W x 16' L x 12' H) each and are contiguous with the indoor dens. The roofs and cage fronts of all runs are constructed of galvanized square tubing frames with 2-inch square, double-crimped wire mesh. Rubber flaps have been installed over some of the guillotine doors to allow free access between the indoor dens and outdoor runs during times of extreme hot or cold weather.

- ii. Describe methods used to protect animals from weather extremes, predators, and escape (windbreaks, shelters, shaded areas, areas with forced ventilation, heat radiating structures, access to conditioned spaces, etc.).

Windbreaks, shelters, shaded areas, areas with forced ventilation, heat-radiating structures, and access to conditioned spaces are all used to protect animals from weather extremes.

- iii. Describe protective or escape mechanisms for submissive animals, how access to food and water is assured, provisions for enrichment, and efforts to group compatible animals.

Submissive chimpanzees can escape through openings to an adjacent section of the den or run area, either outside or inside. Other devices used to provide escape routes and visual barriers are hanging devices, elevated perches and barrels.

Every effort is made to group compatible animals. The individual personalities and the housing histories of the chimpanzees are known, and assessments of compatible groups are made regularly. Groups are observed by the animal care staff several times daily to assess health, behavior and compatibility. If behavioral signs of severe or repeated aggression or an escalation in aggression are observed, adjustments are made in the group composition (AC3101, SOP AC3200).

f. Naturalistic Environments [*Guide*, p. 55]

- i. Describe types of naturalistic environments (forests, islands) and how animals are monitored for animal well-being (e.g., overall health, protection from predation).

Seven outdoor exercise areas are attached to [Redacted by agreement] providing a naturalistic environment while making it possible to form very large social groups. It also provides the height and space to perform species typical behaviors such as brachiating, running, climbing, and play behaviors. The six large exercise areas are 20' W x 20' L x 24' H. The larger exercise area is 24' W x 24' L x 14' H and provides an additional 576 ft². The exercise areas are fully outside and exposed to the elements and have grass or soil floors for foraging opportunities. [Redacted by agreement] has three exercise yards (Primadomes®) and [Redacted by agreement] has one exercise yard (Primadome®). Each Primadome® has 863 ft² of floor space and a vertical height of 35 feet for brachiation.

- ii. Describe how food, water, and shelter are provided.

Food, water, and shelter are provided *ad lib* in the primary containment housing. There are two water dispensing stations (Lixits®) in the large exercise yards and one in the small yard. Supplemental enrichment foods and produce are given daily to all animals.

- iii. Describe how animals are captured.

When it is necessary to capture animals, they are isolated indoors. All members of a social group are trained to shift into the indoor dens. Animals to be captured are either separated from the group in the 1/3 side or moved into transfer boxes. There have been no difficulties capturing an animal when necessary and no animal has been darted since 2001

C. Animal Facility Management

1. Husbandry

a. Food [Guide, pp. 65-67]

- i. List type and source of food stuffs.

Commercial laboratory animal feed, manufactured by Purina Mills, Inc. (PMI) is used at APF. PMI Lab Fiber-Plus Monkey Diet Jumbo (20% protein, 5% fat, 10% fiber) are fed to chimpanzees. All primate diets are supplemented with regular produce such as oranges, carrots, and bananas currently from Quality Fruit & Veg Co., El Paso, TX, on a daily basis. Apples and cherries are supplied by Nichols Farms, La Luz, NM. All fresh

produce is rinsed prior to feeding and a week's supply of the produce is used before the next shipment arrives. The Enrichment Plan includes a variety of additional fruits, vegetables, and other feed items, obtained weekly from Quality Fruit & Veg Co., El Paso, TX and Nichols Farms, La Luz, NM.

ii. Describe feed storage facilities, noting temperature, relative humidity, and vermin control measures, and container (e.g., bag) handling practices, for each of the following:

- vendors (if more than one source, describe each)
- centralized or bulk food storage facilities if applicable
- animal facility or vivarium feed storage rooms
- storage containers within animal holding rooms

Feed is shipped every six months by truck directly to our facilities from PMI. It is stored in walk-in coolers with temperatures between 4°C and 21°C. Produce is closely checked upon receipt and rejected if there is any evidence of potential contamination or poor quality (SOP ACS4201). The main bulk feed storage facility for receiving feed shipments is a walk-in cooler in [Redacted by agreement]. This cooler has a capacity of 1200 bags. All bags are stored on pallets and are moved to the front prior to receiving new shipments to assure proper rotation of the feeds. Bags of feed with the oldest milling date are used first. Any feed older than 180 days from the milling date is discarded, based on the vendor's recommended storage standards. From the main storage facility, feed is distributed biweekly to four smaller walk-in coolers. There is one walk-in cooler in each of the animal buildings with a capacity of approximately 100 bags. The five coolers together can store approximately 1,600 bags of feed at any one time. The cooler temperatures where feed is stored are monitored each workday. If a cooler fails to maintain the proper temperature, the Colony Manager is notified and the temperature is corrected by the maintenance department. A rapid turnover rate precludes any deterioration of feed quality. Each of [Redacted by agreement] buildings housing chimpanzees also have refrigerators for storage of other fresh foods. The refrigerators are maintained at a temperature between 4°C and 21°C (SOP ACS4208). All fruit and vegetables are fed within the week that they are received. All local vendors (from Quality Fruit and Veg. Co., El Paso, TX and Nichols Farms, La Luz, NM) undergo a QA audit by an APF veterinarian on a periodic basis.

- iii. Describe special food preparation areas, such as feed mills and locations where special diets are formulated, if applicable. Include in the description sanitation and personnel safety practices (noting that respiratory protection is described in Section 2.1.A.2.b. ii. Standard Working Conditions and Baseline Precautions above).

Food preparation areas are limited to the kitchen area of each building. The Animal Care Staff prepares special food/treat items in the kitchen area of each building. There is also an Enrichment Lab in Redacted by agreement where novel produce and forage devices are prepared.

- iv. Describe how food is provided to various species (*ad libitum*, limited amounts, types of feeders).

Feed is provided according to the National Research Council's (NRC) recommendations for nonhuman primates. APF meets or exceeds the NRC's recommendations. Approximately 65 biscuits per chimpanzee provide 2,825 kcal per day, or approximately 52 kcal/kg/day. Each chimpanzee is fed this amount of the commercial diet daily, unless otherwise ordered by the veterinary staff. For all animals, biscuits are placed in feeders from the outside of the cage.

- v. Describe special food quality control procedures including procedures for rotating stock, monitoring milling dates, nutritional quality, bio load, chemical contaminants, etc.

Quality control procedures for all of the feeds and other foodstuffs consist of daily inspection by Animal Care and the enrichment technician. Questionable foods are discarded. Rotation of stored stocks is emphasized using the milling dates of each type of food. The manufacturer provides nutritional quality and content for commercial products. All feed meets the Guaranteed Analysis as specified on the feedbag label and is verified by periodic lot analysis at PMI in quality control laboratories. Records of shipment and delivery are kept in the walk-in cooler until archived. Any visual deterioration of fresh foods or commercial feeds requires immediate disposal. An aggressive vermin control program is in place in storage areas. Daily temperature checks are conducted and recorded.

b. Drinking Water [*Guide*, pp. 67-68]

- i. Describe the water source, treatment or purification process, and how it is provided to the animals (e.g., bowls, bottles with sipper tubes, automatic watering, troughs, ponds, streams).

A dedicated copper supply line provides potable domestic water to the main animal holding complex. There are two water sources for APF. Water is supplied by the City of Alamogordo from January through April, and by HAFB owned wells the rest of the year. Water received from the city is filtered and disinfected at the city plant, and again with chlorine gas at the on-base pumping station, as is water from the wells. Water testing is performed by the city on a routine basis using standard tests and methods. Rechargeable sand filters are used prior to dispersal to the APF. Water not used for animal is also conditioned with a water softener. Non-softened water is provided to the chimpanzees via water dispensing stations (Lixits®) supplying each den or individual cage.

- ii. Describe methods of quality control, including monitoring for contaminants.

Quality control for potable water, beyond that done by the city, includes quarterly testing by USAF Bioenvironmental Engineering at HAFB. Animal drinking water is of human use quality with no microbial, inorganic, organic or radiological contaminant exceeding the standards of the Environmental Protection Agency and the NM Environment Department.

- iii. If automatic water delivery systems are used, describe how they are maintained and sanitized.

Water lixits are checked and flushed daily by the animal care staff. The procedure is then recorded in a log. Lixits are sanitized biweekly.

c. Bedding and Nesting Materials [*Guide*, pp. 68-69]

- i. Describe type(s) and how used for various species.

Bedding is not used for chimpanzees at APF. Natural grass is the substrate in the chimpanzees' outdoor exercise yards. Periodic use of shredded paper, clothing, hay and bamboo leaves is employed. Cargo nets are used in the indoor areas to simulate nests.

- ii. Describe bulk bedding storage facilities, if applicable, including vermin control measures.

N/A –no bedding is used at APF

- iii. Describe quality control procedures, including monitoring for contaminants.

N/A –no bedding is used at APF

d. Miscellaneous Animal Care and Use Equipment

- i. Describe motorized vehicles and other equipment (e.g., trailers) used for transporting animals, noting the type and how the cargo compartment is environmentally controlled, if applicable.

A Redacted by agreement and a Redacted by agreement are used for transporting feed, animals in transport cages, and miscellaneous equipment from building to building. Three utility vehicles are used to transport animal cages, feed, and materials at the facility. A half-ton truck and two vans are used to carry a welder and other heavy equipment to job sites (SOP FS1221).

- ii. Describe other animal care related equipment used in the animal care program (specialized equipment for exercise or enrichment, high pressure sprayers, vacuum cleaners, tractors, trailers, spreaders, etc.).

Animal care-related equipment used in the animal program includes 31 high-pressure hot water cleaning units/stations throughout the animal housing buildings. These are for the purpose of cleaning animal dens/pens, runs/exercise areas, walkways/corridors and other animal care equipment including all individual caging.

e. Sanitation [*Guide*, pp. 69-73]

i. Bedding/Substrate Change

- 1) Describe frequency of contact and non-contact bedding change for each species and enclosure type (solid-bottom or suspended) or pen.

N/A – no bedding is used at APF

- 2) Describe any IACUC/OB approved exceptions to frequencies recommended in the *Guide* or applicable regulations and the criteria used to justify those exceptions.

N/A – no bedding is used at APF

- 3) Note the location where soiled bedding is removed from the cages/enclosures and where clean bedding is placed into the cages/enclosures.

N/A – no bedding is used at APF

ii. **Cleaning and Disinfection of the Micro- and Macro-Environments**

Note: A description of the washing/sanitizing frequency, methods, and equipment used should be included in **Appendix 14** (Cleaning and Disinfection of the Micro- and Macro-Environment) and **Appendix 15** (Facilities and Equipment for Sanitizing Materials).

- 1) Describe any IACUC/OB approved exceptions to the *Guide* (or applicable regulations) recommended sanitation intervals.

There are no exceptions to the *Guide* or other regulations regarding recommended sanitation intervals

- 2) Assessing the Effectiveness of Sanitation and Mechanical Washer Function

- a) Describe how the effectiveness of sanitation procedures is monitored (e.g., water temperature monitoring, microbiological monitoring, visual inspections).

Microbiological monitoring of cages is performed quarterly after sanitation using RODAC™ plates testing to assess the effectiveness of sanitation procedures (SOP ACS4206). Testing determines the number of viable bacterial colonies after treatment with a commercially obtained sanitizer. Cages are tested in random order to insure that sanitation procedures are followed properly. Cultures are incubated in-house and results reported to the colony manager and attending veterinarian. Cages that do not meet the standards outlined in the SOP are re-sanitized and re-tested. A subsequent failed test results in retraining of the animal care technician in the procedures for proper sanitation of cages, and a third RODAC plate

test of the cage.

- b) Describe preventive maintenance programs for mechanical washers.

N/A – no mechanical washers at APF

f. Conventional Waste Disposal [*Guide*, pp. 73-74]

Describe the handling, storage, method and frequency of disposal, and final disposal location for each of the following:

- i. Soiled bedding and refuse.

Refuse is discarded into trash bags in the animal buildings and disposed of in the Otero County sanitary landfill using a contracted disposal service. The trash bags are held in metal, covered dumpsters located at each animal building, until picked up by the contractor. Pickup is routinely done twice weekly or more often if needed.

- ii. Animal carcasses.

Animal carcasses, body parts, or tissues from necropsy are disposed of weekly as biohazard waste. They are kept refrigerated in a secured morgue refrigerator and disposed of by a commercial firm on an as needed basis.

(b)(4)

g. Pest Control [*Guide*, p. 74]

- i. Describe the program for monitoring and controlling pests (insects, rodents, predators, etc.). Include a description of:
- monitoring devices and the frequency with which devices are checked
 - control agent(s) used and where applied, and
 - who oversees the program, monitors devices, and/or applies the agent(s).

A licensed and certified pesticide applicator is on staff and oversees the program. The pest control program is coordinated by the animal colony manager, and the facility director approves any changes to the program. The HAFB environmental controls supervisor approves all pesticides.

The current pest control program consists of four stages.

1. The first stage is inspection and monitoring. This helps identify potential problems with respect to pest entry on a proactive basis. Additionally, this inspection time identifies harborage areas that can be sealed to prevent pest activity.
2. The second stage involves eliminating residual feed and debris that contributes to the efficacy of the pest control program.
3. Thirdly, judicious use of approved baits (Trapper pest monitors, Catchmasters, rodent bait), growth inhibitors (Archer), and residual insecticides (Demand CS, Tempo SC Ultra) are used to maintain a pest free environment. All bait stations and rodent live traps are placed out of reach of the primates and monitored daily. Insecticide spraying is done after primates have been temporarily moved out of an area and the area is sanitized before the animals are returned.
4. Finally, monitoring devices and inspection are used to evaluate the efficacy of the program and provide quality assurance to the facility and APF staff.

- ii. Describe the use of natural predators (e.g., barn cats) or guard animals (e.g., dogs, donkeys) used for pest and predator control, if applicable.

N/A

- iii. Note how animal users are informed of pesticide use and how animal users may opt out of such use in specific areas.

Not applicable, as pesticides are not used indoors in animal areas when occupied.

h. Weekend and Holiday Animal Care [Guide, pp. 74-75]

- i. Describe procedures for providing weekend and holiday care. Indicate who (regular animal care staff, students, part-time staff, etc.) provides and oversees care and what procedures are performed.

Full-time animal care technicians provide afterhours monitoring on weekends and holidays on a prescribed schedule. At least one supervisory staff individual provides supervision on weekends and holidays. All necessary basic animal care duties are performed on weekends/holidays, which includes checking water, feeding, observations of each animal, veterinary treatments, and essential cleaning (daily wash downs). The after

hour technicians monitor the buildings and inspect all animal areas every 2-4 hours. They are provided with a cell phone, the on-call veterinarian list, and a phone roster. The roster includes home phone and cell phone numbers (SOP FS1204).

- ii. Indicate qualifications of weekend/holiday staff if not regular staff.

N/A

- iii. Describe procedures for contacting responsible animal care and/or veterinary personnel in case of an emergency.

There are two veterinarians available each day and one is assigned to be on call each weekend or holiday. The other veterinarian is the backup. The veterinarians rotate for the on-call schedule. The schedule is distributed to all animal areas. The on call veterinarian is called every day on the weekend or holiday at approximately 7:30- 8:00 AM by the weekend supervisor. A status report is given after all the animals have been inspected. Procedures for contacting responsible veterinary personnel in case of an emergency are in the Contacting On-Call Veterinary Staff SOP (FS1204). Emergency contact lists provide names, telephone, cell phone and portable pager numbers. All key staff members, supervisors, and veterinarians have cell phones for emergency contact. The emergency contact procedures are in effect 24 hours a day all year.

2. Population Management [Guide, pp. 75-77]

a. Identification

Describe animal identification methods for each species (e.g., microchips, cage/tank cards, collars, leg bands, tattoo, ear tags, brands).

Each animal is identified with a unique number tattooed on each animal's chest and/or inner thigh. Also, each den has an identification sheet with each animal's name under its picture.

b. Breeding, Genetics, and Nomenclature

- i. Describe the program for advising investigators on the selection of animals based on genetic characteristics.

N/A

- ii. Describe the program for advising investigators on using standardized nomenclature to ensure proper reporting of the identification of the research animals with regard to both the strain and substrain or the genetic background of all animals used in a study.

Animals are identified by genus, species, and subspecies (if known)

- iii. Describe genetic management techniques used to assess and maintain genetic variability and authenticity of breeding colonies, including recordkeeping practices (*Guide*, pp. 75-76).

N/A

- iv. For newly generated genotypes, describe how animals are monitored to detect phenotypes that may negatively impact health and well-being. Note that the methods used to report unexpected phenotypes to the IACUC/OB should be described in section 2.1.B.1.c.ii, "Unexpected Outcomes that Affect Animal Well-Being."

N/A

III. Veterinary Care [*Guide*, pp. 105-132]

Note: Complete each section, including, where applicable, procedures performed in farm settings, field studies, aquatic environments, etc.

A. Animal Procurement and Transportation [*Guide*, pp. 106-109; *Ag Guide*, pp. 8; 45; 50-57]

1. Animal Procurement

Describe the method for evaluating the quality of animals supplied to the institution (from commercial vendors, other institutions, etc.).

No animals have been received by APF in the past 17 years.

2. Transportation of Animals

Describe how animals are transported between outside sources and the institution and within the institution, including loading, unloading, level of biosecurity, immune status and specific pathogen status (consider all species, including aquatic and semi-aquatic species).

Animals to be received must be delivered by licensed transporter. When animals are sent to other NIH investigators, they travel with a specified, licensed trucking company or via a licensed air carrier if this is preferable with respect to the health and welfare of the animals. These USDA licensed carriers use climate-controlled vehicles or compartments and have trained personnel accompanying the animals throughout the journey. This vehicle is sanitized before and after use. See Shipping of Animals, SOP ACS4202.

Animals transported within the institution are transported in transport boxes, placed inside a climate-controlled vehicle. This vehicle is sanitized after use.

B. Preventive Medicine

1. Animal Biosecurity [*Guide*, pp. 109-110]

- a. Describe methods used to monitor for known or unknown infectious agents. Note that if sentinel animals are used, specific information regarding that program is to be provided below.

Animals are segregated by infectious status. Separate dens and/or buildings are used.

- b. Describe methods used to control, contain, or eliminate infectious agents.

All infectious animals (HCV, HIV, HBV) are housed in a specific building and separated from the non-infectious animals. Individuals entering the infected animal area must wear the appropriate PPE. Individuals working or observing animals will go to non-infected areas first and infected areas last. Infected and non-infected animals never come in contact with each other.

2. Quarantine and Stabilization [*Guide*, pp. 110-111]

- a. Describe the initial animal evaluation procedures for each species.

As the need arises, a chimpanzee quarantine procedure of 3 months' duration (5 weeks strict quarantine plus 7 weeks limited quarantine) is in place. During strict quarantine, 3 tuberculin skin tests are administered at 2 week intervals along with 3 physical exams, a chest radiograph, defined serology profile for hepatitis B and C, HIV-1 and HTLV, rectal microbial culture plus fecal parasite exam, CBC, blood chemistry profile and reference serum. During limited quarantine, 2 additional tuberculin skin tests are administered during weeks 9

and 12. See Quarantine and Isolation, SOP VMACS6201. After a behavioral evaluation, animals are grouped by a graded process of indirect to direct contact with potential den mates. Once determined compatible, animals are placed in social groups.

- b. Describe quarantine facilities and procedures for each species. For each species, indicate whether these practices are used for purpose-bred animals, random-source animals, or both.

Animals are quarantined by infectious status and shipment. Facilities for quarantine of new chimpanzees are located in [Redacted by agreement]. All mechanical, including negative pressure ventilation, and architectural design factors are included to protect the colony at large. Quarantine animals are cared for by a dedicated staff. When re-entry or additional care is required, personnel must shower out prior to entering other colony facilities. Animals are cared for in a "clean- to dirty" order, with quarantine animals last in the order of care for routine observations and treatment. Chimpanzees that come from other facilities in the USA are quarantined in [Redacted by agreement]. Separation by health status is based on virus type determined by DNA sequencing and by polymerase chain reaction (PCR) based quantization of viral load. [Redacted by agreement] houses infectious chimpanzees and [Redacted by agreement] house serologically negative animals.

- c. Describe the required/recommended stabilization period for each species.

The APF houses only chimpanzees. The colony contains both purpose-bred and wild-born. These 2 segments (purpose-bred and wild-born) of the chimpanzee population are not separated by species once they have passed quarantine.

3. Separation by Health Status and Species [Guide, pp. 111-112]

- a. Describe the program for the separation of animals by species, source, and health status. If the animals in different status are not maintained separately, describe circumstances in which mixing occurs and explain the rationale for mixing.

Chimpanzees that come from other facilities in the USA are quarantined in [Redacted by agreement]. Separation by health status is based on virus type determined by DNA sequencing and by polymerase chain reaction (PCR) based quantization of viral load. [Redacted by agreement] houses infectious chimpanzees and

house serologically negative animals.

- b. Describe situations where multiple species may be housed in the same room, area, or enclosure.

N/A

- c. Describe isolation procedures and related facilities for animals.

Individual enclosures (sick rooms) are available for ill animals in each holding building, either one per room or several animals in the same room to prevent stress from isolation. Separate equipment and personnel are used for quarantined patients. Change of footwear, PPE and, where necessary, shower out is practiced by staff when leaving isolation areas. Negative pressure ventilation is maintained inside isolation areas.

In addition, recovery areas are located adjacent to the procedural areas for extended treatments or observations.

C. Clinical Care and Management [Guide, pp. 112-115]

1. Surveillance, Diagnosis, Treatment and Control of Disease [Guide, pp. 112-113]

- a. Describe the procedure(s) for daily observation of animals for illness or abnormal behavior, including:
- the observers' training for this responsibility
 - method(s) for reporting observations (written or verbal)
 - method(s) for ensuring that reported cases are appropriately managed in a timely manner.

Observations are made by animal technicians frequently during the regular duty day, assessing activity, appearance, vocalization, feeding behavior, and alterations in visible anatomy or physiologic functions such as respiratory rate, and at least once every 2-4 hours during afterhours. When necessary, observation is continual (e.g. recovery post-anesthesia) or hourly when prescribed by a veterinarian. A veterinarian also makes rounds of all animal areas daily during the normal work week (Monday through Friday). On weekends and holidays, reports are made verbally directly to the veterinarian on-call via a morning phone call.

The facility and animals are provided oversight by at least one APF employee 24 hours a day. Observations of emergency conditions are communicated to the duty veterinarian as needed 24/7. All medical observations are ultimately

communicated forward through the Colony Manager or Assistant Colony Manager and into the individual case records for each chimpanzee. Training of the Animal Care staff includes, but is not limited to, the Technician Certification Program of the American Association for Laboratory Animal Science (AALAS). Additional classes are taught by the senior supervisory and veterinary staff, other staff scientists, or visiting lecturers in various aspects of animal care. All Standard Operating Procedures (SOPs) are taught and tested, as are safety regulations. The CPR course of the American Heart Association is given annually. Each level of staff has a proficiency requirement for filling their respective position(s). See also Animal Observation and Monitoring for Veterinarians VMAC7103 and Chimpanzee Monitoring & Observation AC3100.

- b. Describe methods of communication between the animal care staff and veterinary staff and the researcher(s) regarding ill animals.

The procedure described above in paragraph 1) a) applies. The chain of command is from the observer to the building supervisor to the Colony Manager to the veterinarian or, if the case warrants, directly to the first available veterinarian (SOP FS1204, FS1203). Communication is usually relayed through the chain of command for coordination, but there is open communication between the clinical staff and all those who observe the nonhuman primates.

APF has a staff of Redacted by veterinarians Redacted by agreement is available in the immediate area at all times. Urgent cases are seen and treated as soon as possible. Animals not requiring immediate attention are observed by the veterinarians during daily rounds.

When the veterinarian examines the animal, diagnosis prescribed treatments are documented and entered in the animal's record.

- c. Describe the preventive medicine and health management/monitoring programs (e.g., physical examination, TB testing, vaccination, hoof/nail trimming, teeth cleaning/floating, vendor surveillance, use of sentinel animals) for each species.

Chimpanzees routinely receive a physical exam plus CBC, serum chemistry and virology profile, TB test and dental exam annually, antiparasitic treatment every 4 months and tetanus boosters every 10 years. Additionally, abdominal ultrasonography of each animal's liver, both kidneys, and either uterus or prostate is conducted at the annual physical examination. (SOP VMAC5208) If any illness, injury or change in their condition requires diagnostic or therapeutic care, treatment is initiated. Alert rather than anesthetized procedures are facilitated by the positive reinforcement training program. For special

procedures or treatments, consulting specialists are utilized.

2. Emergency Care [Guide, p. 114]

- a. Describe the procedures to ensure that emergency veterinary care is continuously available for animals during and outside of regular work hours, including access to drugs or other therapeutics and equipment.

An AALAS certified technician is on site 24 hours/day. All veterinarians are scheduled for on call duty during off hours and weekends.

- b. Describe the authority of the Attending Veterinarian or his/her designee relative to the emergency treatment of animals in the program.

All staff veterinarians have the authority to treat and euthanize animals at APF. All veterinarians are licensed in the state of New Mexico, have DEA licences, and are USDA accredited.

3. Clinical Record Keeping [Guide, p. 115]

- a. Describe the procedure for maintaining medical records and documenting treatment of ill animals including: clinical laboratory findings, diagnoses, treatments, medical progress records, etc. Identify the species for which individual records are maintained and where such records are kept.

Individual medical/clinical paper records are maintained on each animal, including all laboratory data and examination findings. Historical files on each animal are maintained in building Redacted by agreement. Archival records are maintained by the information technologist and access is controlled. Veterinarians can access records at any time via a coordinated controlled access process. Clinical cases are discussed each morning, and then examined by a veterinarian. Progress notes are documented using the "SOAP" format, and written treatment plans are developed by the veterinarians. Veterinary technicians then document administration on medical treatment forms which become part of the animal's record. Forms such as ICU sheets, physical examination forms and cardiac evaluation forms all become part of the animal's medical record.

- b. Identify individual(s) (titles, not necessarily names) responsible for maintaining such records and identify where the records are maintained and who, including

the IACUC/OB has access to the records.

The information technologist has the responsibility of maintaining all veterinary medical records. All APF veterinarians have access to these records. All records are maintained in [Redacted by agreement] located in [Redacted by agreement]

- c. Describe the role of the Attending Veterinarian in recordkeeping.

It is the role of the APF veterinarian to oversee and manage the entire veterinary medical recordkeeping process.

4. **Diagnostic Resources.** Describe available diagnostic methods used in the program including:

- a. In-house diagnostic laboratory capabilities.

Vet-Scan and Vet-Scan HMT (Abaxis Corp) are used to provide in-house chemistries and complete blood counts. In addition, microscopic examination is performed to assess for pin worms (*Enterobius vermicularis*) by tape tests. Fecal flotation for internal parasites is also performed. Urispec 11-way reagent strips are utilized for urinalyses. Also, Gram's stain and methylene blue are available for microbiology or cytology.

- b. Commercially provided diagnostic laboratory services.

Special examinations, such as hematology, chemistry, complete urinalysis (with exam of sediment, for example), microbiology or immunology and histopathology, are available through commercial laboratories. Antech and Tri Core Laboratories are among several which have been used to perform tests not performed in-house. The diagnostic laboratory and professional staff at Charles River are also available for specialized testing.

- c. Necropsy facilities and histopathology capabilities.

Necropsy is performed on all animals that die or are euthanized at APF. A necropsy suite with stainless steel equipment (downdraft table, instrument cabinets, class II biosafety cabinet, necropsy instruments, electric bone saws, electronic balances and a walk in cooler) is located in [Redacted by agreement]. The veterinary staff performs gross necropsies with the aid of trained animal technicians. Charles River provides an ACVP board certified veterinary pathologist for histopathologic diagnosis on biopsy/necropsy specimens. The histology services of Antech are also used for additional special stain

diagnostics.

d. Radiology and other imaging capabilities.

Capabilities include:

Real-time Ultrasonography and Echocardiography: Siemens Acuson X300

Radiography: Summit radiograph unit D800-XL 125, Curix 70 Plus-USV-WM
Digital dental radiograph unit.

Film Processing: Automatic developer-Konica SRX-101 processor.

Support Equipment: A 6 panel viewing box and hot lamp as well as lead aprons, thyroid protectors and gloves (2 sets) are available.

Also available for diagnosis are a flexible fiberoptic endoscope, laryngoscopes, a Woods' lamp and (2) otoscope/ophthalmoscope

5. Drug Storage and Control

a. Describe the purchase and storage of controlled and non-controlled drugs.

Redacted by agreement

b. Describe record keeping procedures for controlled substances.

Redacted by agreement

Redacted by agreement (See Controlled Substance

D. Surgery [*Guide*, pp. 115-123]

1. Pre-Surgical Planning [*Guide*, p. 116]

Describe the process(es) used to ensure adequate pre-surgical planning, including: identifying personnel; locating equipment, supplies, veterinary involvement for selecting analgesic and anesthetic agents and facilities; planning; and pre- and post-operative care.

All surgical procedures are performed by a licensed veterinarian or surgical specialist under the direction of the veterinarian. When circumstances permit (non-emergencies), veterinarians provide the colony manager with a list of the anticipated equipment and procedural needs. Preoperative, intraoperative and postoperative care instructions are reviewed with the technicians prior to beginning the surgical procedure. A veterinarian does a cage-side evaluation immediately before initiating any sedation or anesthesia. All preanesthetic procedures and observations are documented in the patient's records. (SOP VMS8205).

2. Surgical Facilities [*Guide*, pp. 116-117, 144-145]

List building name(s) and room number(s) or other locations (coded, if confidential) where surgical procedures are performed. For each, describe:

- the type of species (including rodents, fish, agricultural species, etc.)
- nature of procedure(s) (major/minor/emergency, survival and non-survival, etc.)
- the amount of use [heavy (daily), moderate (weekly), or light]
- major surgical support equipment available (gas anesthesia machines, respirators, surgical lights, etc.)
- facilities for aseptic surgery, surgical support, animal preparation, surgeon's scrub, operating room, and postoperative recovery
- construction features of the operating room(s), including interior surfaces, ventilation, lighting, and fixed equipment used to support surgical procedures and other means of enhancing contamination control

Note: If preferred, the information requested in this section may be provided in Table.

The surgical suite is located in Redacted by agreement All procedures are done on chimpanzees and are usually minor, applied to benefit the health of the animal and are survival in nature. The rate of use of the surgical suite is light, one or two procedures per year on average. There are facilities for aseptic surgery, surgical support, animal preparation, surgeon's scrub, operating room, and postoperative

recovery. Support equipment for survival surgery is located in or near the operating room in Redacted
by
agreement and includes;

Isoflurane gas anesthesia machine with vaporizer

Datascope monitor for recording ECG, blood pressure, blood oxygen

Fluid-filled thermal pads

Thermocare TC3000 Convective Warming System

Suction units

Microwave for I.V. warming

Electrocautery-disposable battery powered and permanent units.

3. Surgical Procedures [Guide, pp. 117-118]

- a. Describe the criteria used to differentiate major from minor survival surgery, including classification for certain procedures (e.g., laparoscopic technique).

Survival and non-survival research studies are not conducted at the APF. Surgical procedures are performed for veterinary purposes to improve the welfare of the animals. These may include procedures that require entry into a body cavity (major) or may involve repair of a skin wound (minor). All major surgical procedures are performed under general (isoflurane) anesthesia in the operating room. Minor procedures are performed in the clinic, with animals under chemical anesthesia. Non-survival surgeries are not performed; however, if an animal has a condition that is determined during surgery to be non-survivable, that animal may be euthanized while still under anesthesia (Euthanasia SOP VM7201, Humane Endpoints Policy VM7101).

- b. How is non-survival surgery defined?

The only non-survival surgery that could possibly be performed is if an animal has a condition that decreases the quality of life and euthanasia is elected.

4. Aseptic Technique [Guide, pp. 118-119]

- a. Describe procedures, equipment, and protective clothing used for aseptic surgery. Include patient and surgeon preparation.

A broad area is clipped around the surgical site. The area may also be shaved or depilated. Loose hair is vacuumed away. The area is scrubbed with an appropriate surgical scrub (e.g.: chlorhexiderm, povidone-iodine, or hexachlorophene). The incision site is always scrubbed outward in larger and larger circles. The area is wiped with alcohol (70% Isopropyl) with a clean gauze sponge, starting at the center of the site, working outward in enlarging circles until all scrub is removed. Steps 2 and 3 are repeated twice. A new piece of gauze is always used for each new activity. When the animal is positioned, a final scrub using Steps 2 and 3 with sterile gloves is performed. The surgeon or surgical assistant then places sterile surgical drapes around the site to avoid contamination during surgery. The entire animal, surgical table and instrument stand are covered with sterile drapes. The surgeon performs a 10-15 minute hand/arm scrub with a disposable brush and appropriate surgical scrub (e.g.: chlorhexiderm, povidone-iodine). Surgeons wear a sterile disposable gown, gloves and face mask.

- b. Describe methods used to sterilize instruments and protective clothing, including a description of approved liquid sterilants and instrument exposure time(s) required for each, if applicable.

All surgical instruments and materials are steam autoclaved with heat indicator strips enclosed to ensure proper temperature/sterilization levels are reached. Biological indicator strips (Attest™) are placed in the autoclave. All protective surgical clothing used is disposable and manufacturer sterilized. Cidex® (glutaraldehyde 2.4%) is used as a liquid sterilant on rare occasions. Contact time is 15-45 minutes.

- c. Describe methods for instrument re-sterilization between serial surgeries.

Cidex® (glutaraldehyde 2.4%) is used as a liquid sterilant on rare occasions. Contact time is 15-45 minutes.

- d. Indicate how effectiveness of sterilization is monitored.

Biological indicator strips (Attest™) are placed in the autoclave.

- e. Describe surgical support functions provided by the program to investigators.

All surgical procedures at APF are for the health and wellbeing of the animal and not a part of any research protocol involving investigators.

5. Intraoperative Monitoring [Guide, p. 119]

Describe monitoring and recording requirements for each species, including the type of record(s) maintained. Also note monitoring of anesthesia during non-survival procedures.

Intra operative monitoring is performed by a senior level technician and supervised by a licensed veterinarian. Heart rate, blood pressure, SpO2 and an ECG are all continuously recorded by the multichannel physiological monitor. Heart and respiration rates are obtained manually every 5 minutes and recorded by the technician. Isoflurane and oxygen levels are also continuously monitored and recorded.

6. Postoperative Care [*Guide*, pp. 119-120]

Describe the postoperative care program, including who is responsible for overseeing and providing the care, types of records maintained (e.g., perioperative), where the records are maintained, etc.

A veterinarian is responsible for supervising the other staff members who provide postoperative care of the patient and record these events. Trained technicians observe recovery of the patient from anesthesia and report problems to the veterinarian. At least one of the veterinarians is available nearby during recovery. Continual observation of the patient is performed by a trained technician until the patient fully recovers from anesthesia. Monitoring may continue throughout the night if needed.

E. Pain and Distress [*Guide*, pp. 120-121]

1. Describe how and by whom pain and distress are assessed.

Appearance and behavior are assessed as described in b. 1) a), above and any indications of pain, discomfort or distress observed are reported to the supervisor /Colony Manager or directly to the veterinarian, who then determines the need for either alert or anesthetized examination to make a full determination and prescription (minimal-continued observation/no immediate medication, or topical, oral or injectable medication) according to his/her evaluation. In general, pain relief is given at the discretion of the veterinarian in accordance with current clinical veterinary practices. Pain scoring, as well as medication recommendations for each pain assessment category, has recently been added to our Pain and Distress Assessment Policy (VM7102). If pain cannot be alleviated or if, in the opinions of the veterinarians, euthanasia is the best outcome, the Humane End Points Policy, VM7101, and the Euthanasia SOP, VM7201, are followed.

2. Describe training programs for personnel responsible for monitoring animal well-being, including species-specific behavioral manifestations as indicators of pain and distress.

As noted previously, all technicians are involved in a continuous training program offered by Charles River, APF veterinarians and APF Animal Care program. They are tested and evaluated on an annual basis. The average APF technician has over 20 years of chimpanzee experience within the APF colony and are well versed in the clinical/ behavioral signs that animal's exhibit.

F. Anesthesia and Analgesia [*Guide*, pp. 121-123]

1. List the agents used for each species.

Note: If preferred, this information may be provided in Table or additional Appendix.

Analgesics: Acetaminophen, Acetaminophen and Codeine, Ibuprofen, Acetylsalicylic acid, Buprenorphine, Ketoprofen, Tramadol

Anxiolytics: Diazepam

Anesthetic Agents: Telazol, Ketamine, Isoflurane

Local anesthetics: lidocaine, bupivacaine, flurbiprofen

Anesthetic and analgesic agents are used alone or in combination with other agents. The use of the medications listed above is further described in Pain and Distress Assessment Policy, VM7102, as well as in the following: Sedation SOP VMAC5209, Analgesia SOP VM7200, and Anesthesia SOP VMAC5201. In some circumstances novel therapeutics may be instituted based upon current literature recommendations or in consultation with specialists in the field.

The Enrichment Plan, AC3101, describes some of the nonpharmacological therapies that may aid in alleviation of pain and distress in chimpanzees.

2. Describe how the veterinarian provides guidance and advice to researchers concerning choice and use of anesthetics, analgesics or other pain moderating methods.

Veterinarians prescribe pain moderating methods after assessing the patient's condition and continue to monitor the patient's response to further determine the need for modification of the dose/agent administered. Pain and Distress Assessment Policy (VM7102) is used as a guideline by the veterinarian for determination of the need for analgesics, as well as for assistance with choosing the appropriate pharmacotherapeutic medications. In some circumstances novel therapeutics may be instituted based upon current literature recommendations or in consultation with specialists in the field.

3. Describe the monitoring of the effectiveness of analgesics, including who does the monitoring. Include in the description any non-pharmacologic means used to diminish pain and distress.

All such drugs are given by the order and under the supervision of a staff veterinarian. Routine cases are observed as noted above while active clinical cases are monitored for response to analgesics/anesthetics directly by the veterinarian. In either case, the agent, dose and response are recorded in the patient's record. Adjustments to therapeutic plans and drug dosages may be made by the veterinarian based upon clinical observations.

4. Describe how the veterinarian(s) and the IACUC/OB evaluate the proposed use of neuromuscular blocking agent to ensure the well-being of the animal.

Neuromuscular blocking agents are not used at APF.

5. Describe policies and practices for maintaining and ensuring function of equipment used for anesthesia.

All anesthesia equipment is checked monthly to ensure they are functioning properly. Soda lime is replaced after each use and has an expiration date.

G. Euthanasia [*Guide*, pp. 123-124]

1. Describe approved methods of euthanasia, including humane slaughter (for additional guidance, see pertinent AAALAC Reference Resources). Include:
 - consideration of species, age, condition (e.g., gestational period, or neonatal) and
 - location(s) for the conduct of the procedure.

Note: If preferred, this information may be provided in Table or additional Appendix.

Based on the recommendations in the AVMA Guidelines on Euthanasia (June 2013) an intravenous overdose of a barbiturate-based solution is administered. Animals are initially sedated with Telazol prior to administration of the euthanasia solution. Following administration of the euthanasia solution, absence of pulse and respiration is verified by at least one veterinarian.

2. Describe policies and practices for maintaining and ensuring function of equipment used for euthanasia.

IV injection of euthanasia solution is the only method used at APF. Proper documentation of amounts and time are recorded.

3. Describe the methods used to confirm death of an animal.

A licensed veterinarian confirms the death of all animals at APF by cardiac auscultation.

IV. Physical Plant [Guide, pp. 133-155]

A. Facilities Overview

Provide a brief introduction to the animal housing and use facilities. Note that this overview should augment the information provided in **Appendix 2** (Summary of Animal Housing and Support Sites), which includes area, average daily census, and person responsible for each site. Please use consistent terminology for the buildings/areas/sites described in the Location section of the Appendix. Please do not repeat information, but supplement the descriptions provided elsewhere to assist the reviewers understanding of the interaction between facilities, special housing locations, and separate procedural areas.

The nonhuman primate holding facility is a 6 acre complex located on the HAFB. It consists of [Redacted by agreement] animal buildings arranged [Redacted by agreement] with predominantly [Redacted by agreement] exposure. The buildings are connected [Redacted by agreement] [Redacted by agreement]. The main building complex was completed in 1992, and thus is the newest chimpanzee facility in the US. Improvements are continuously made to ensure that the facilities are modernized and maintained in excellent condition.

B. Centralized (Centrally-Managed) Animal Facility(ies)

In this section, describe each centralized or centrally-managed animal housing and use facility. Include in **Appendix 3** the floor plans of each on 8.5" x 11" or A4 paper. Ensure that the drawings are legible and the use of each room is indicated (animal housing, procedure room, clean cage storage, hazardous waste storage, etc.). Note that a separate section for describing "satellite housing areas" is included below.

Separately describe **each** Location or Animal Facility, addressing each of the features outlined below (1-8). A complete description of each must be provided; however,

common features among locations or facilities may be indicated as such and do not need to be repeated.

1. General arrangement of the animal facilities (conventional, clean/dirty corridor, etc.).
2. Physical relationship of the animal facilities to the research laboratories where animals may be used.
3. Types of available animal housing spaces used, such as conventional, barrier, isolation/quarantine, hazard containment (infectious, radioactive, chemical), "animal cubicles" or facilities specifically designed for housing certain species such as ponds, pastures, feedlots, etc.
4. Finishes used throughout the animal facility for floors, walls, ceilings, doors, alleyways, gates, etc. (note any areas that are not easily sanitized and describe how these are maintained).
5. Engineering features (design, layout, special HVAC systems, noting exhaust air treatment, if applicable) used in hazardous agent containment.
6. Security features, such as control of entry, perimeter fences, gates, entryways, cameras, guards; identify and describe exceptions for individual facilities or areas incorporating fewer or additional security features than the general features described.
7. Consideration for facilities with exterior windows, if applicable, including management of environmental conditions (i.e., temperature and photoperiod control) and potential security risks.
8. Storage areas for flammable or hazardous agents and materials (e.g., disinfectants, cage-washing chemicals, pesticides, fuel).

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C. Satellite Animal Housing Facilities

In addition to the Appendices summarizing Heating, Ventilation, and Air-Conditioning (**Appendix 11**) and Lighting Systems (**Appendix 16**), summarize animal housing areas that are not centrally-managed or maintained in (**Appendix 17**), "Satellite Animal

Housing Areas.”

1. Describe the criteria used to determine/define a “Satellite Animal Housing Area,” which may include remote housing facilities or laboratories temporarily or consistently housing animals.

There are no satellite animal housing areas at APF

2. Describe the process used by the IACUC/OB to authorize, provide oversight of, and ensure compliance with *Guide* standards for the housing of animals outside of centrally-maintained facilities. Include a description of Attending Veterinarian access and physical security.

N/A

D. Emergency Power and Life Support Systems

Note: Complete a Heating, Ventilation, and Air-Conditioning (HVAC) Summary (**Appendix 11**) and Lighting Summary (**Appendix 16**) for each Location described in the Summary of Animal Housing and Support Sites (**Appendix 2**).

1. Power [*Guide*, p. 141]

For each Location, Centralized Animal Facility, and Satellite Housing Facility, provide a brief description of the following:

- Availability of emergency power and if so, what electrical services and equipment are maintained in the event the primary power source fails.
- History of power failures, noting frequency, duration, and, if emergency power was not available, steps taken to ensure the comfort and well-being of the animals present and the temperature extremes reached in animal rooms during the failure.

Electric power is available in all animal rooms. All electric receptacles and switches are moisture-proof and on GFI breakers.

Emergency power is provided for the APF animal facilities by a back-up generator, located in Redacted by agreement The 1000 KW generator has the capability to provide power to the entire APF facility. In the event of a power outage, the generator starts automatically, and provides electric service to all the animal buildings, coolers, HVAC's and support facilities. The back-up generators are monitored for operational function monthly. Monitoring is documented as specified in (SOP FS1216). There is an average of five weather-related power failures per year at HAFB, lasting from 10 min to eight hours. These power failures generally occur around summer rainy season. In each case, the generator has initiated on-line power within 20 seconds.

- 2. Other System Malfunctions.** If not previously reported, describe animal losses or health problems resulting from power, HVAC, or other life support system (e.g., individually ventilated cages) failures, and mechanisms for reporting such incidences. AAALAC International Rules of Accreditation (Section 2.f).

N/A

E. Other Facilities [*Guide*, pp. 144, 150]

1. Other Animal Use Facilities [*Guide*, pp. 146-150]

Describe other facilities such as imaging, irradiation, and core/shared behavioral laboratories or rooms. Include a description of decontamination and methods for preventing cross-contamination in multi-species facilities.

N/A

2. Other Animal Program Support Facilities

Describe other facilities providing animal care and use support, such as feed mills, diagnostic laboratories, abattoirs, etc.

N/A

According to the privacy principles on the protection of natural persons with regard to the processing of personal data and on the free movement of such data, we wish to advise you that the personal data in the Program Description will become part a permanent file owned by AAALAC International, and that can be shared with AAALAC International offices and representatives in order to perform an evaluation of the institution's animal care and use program and provide accreditation services. The institution has the option of exercising rights of data access, rectification, cancellation, and opposition at: accredit@aaalac.org

Appendix 1: Glossary of Abbreviations and Acronyms

Please provide a Table defining abbreviations and acronyms used in this Program Description.

Abbreviation/Acronym	Definition
APF	Alamogordo Primate Facility
NIH	The National Institutes of Health
CRL	Charles River Laboratories

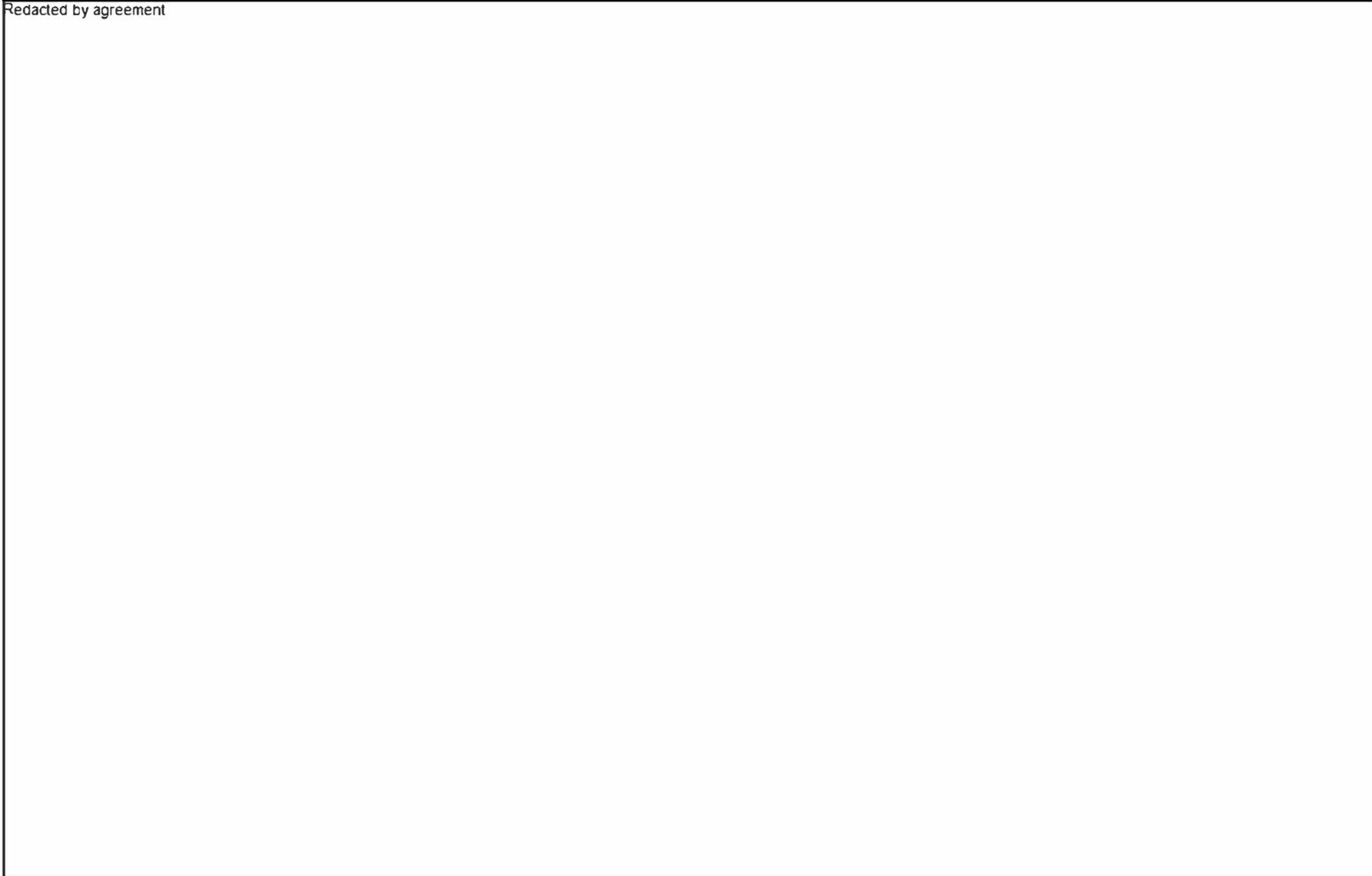
Appendix 2: Summary of Animal Housing and Support Sites

Briefly summarize in the following Table the animal facility or facilities, noting the number of areas in which animals are housed (buildings, floors, farms, satellite housing facilities, etc.), the total square footage/metres (or acreage) for animal care and use, and the total square footage/metres (or acreage) for necessary support of the animal care and use program covered by this Description (water treatment plant/area if housing aquatic or amphibian species, cagewashing facilities, service corridors, etc. and additional areas to be considered are enumerated in the *Guide*). Detailed information for satellite housing facilities is requested in Appendix 17. Include only one line entry for satellite housing facilities in this table to provide the total square footage for all satellite housing areas listed in appendix 17. If more than one facility/site, note the approximate distance (yards/miles or meters/kilometers) to each facility from a reference point such as from the largest animal facility. A campus/site map (with a distance scale) may be included as an additional Appendix (Appendix 2.1) to provide this information. See Instructions, Addendum A - Animal Facility Square Footage/Meters Compilation Form for guidance in calculating the size of your animal care and use program.

Redacted by agreement

MAP OF PREMISES

Redacted by agreement

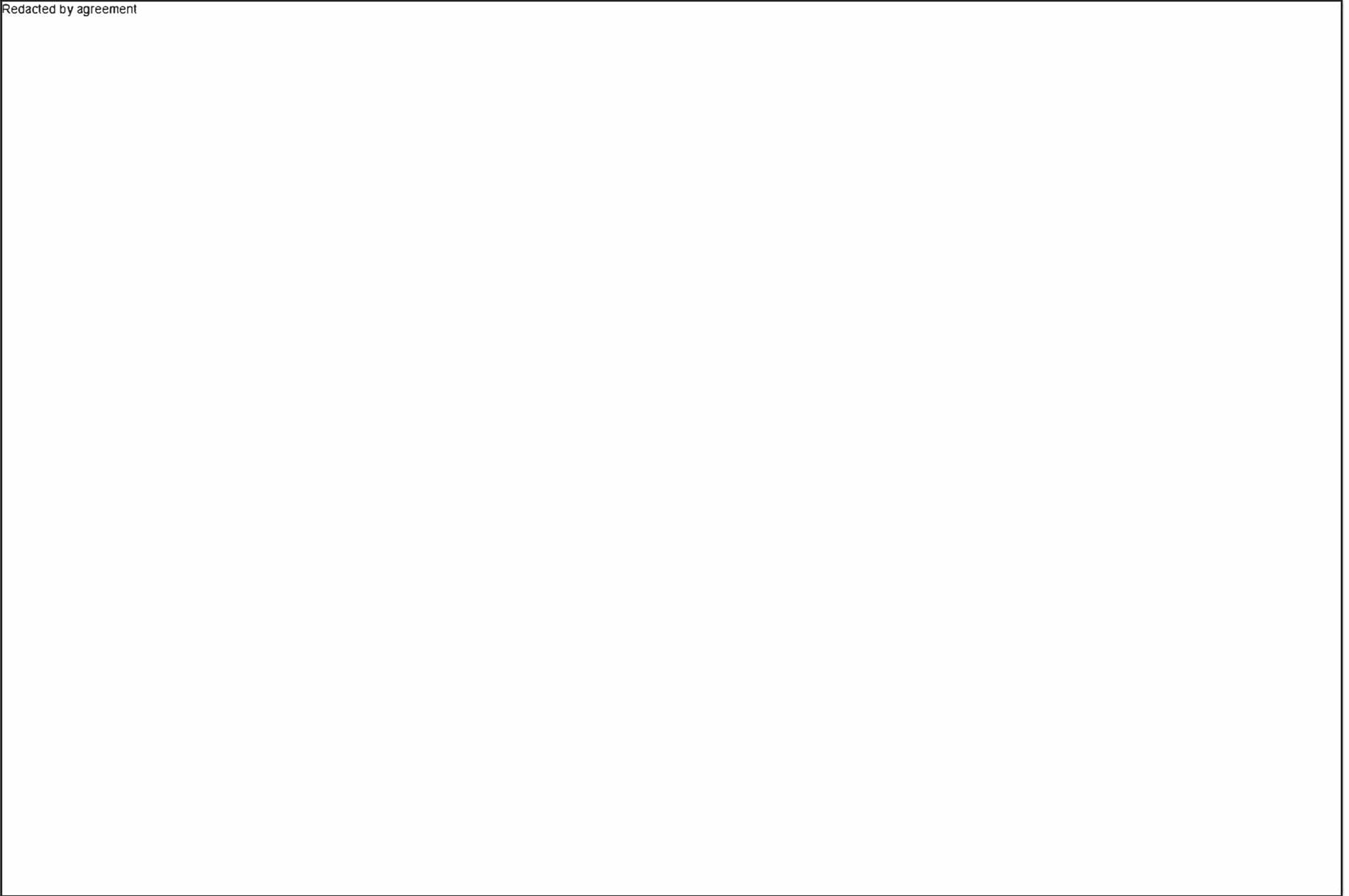


Appendix 3: Line Drawings

Provide floor plans of each centralized animal housing facility. Plans should be provided on 8.5" x 11" or A4 paper. Ensure that the drawings are legible, including room numbers if used, and the use of each room is indicated (animal housing, procedure room, clean cage storage, hazardous waste storage, etc.) either directly on the drawing or in a Key/Table.

Appendix 3: Line Drawings

Redacted by agreement



Appendix 3: Line Drawings

Redacted by agreement

Appendix 3: Line Drawings

Redacted by agreement



Appendix 3: Line Drawings

Redacted by agreement

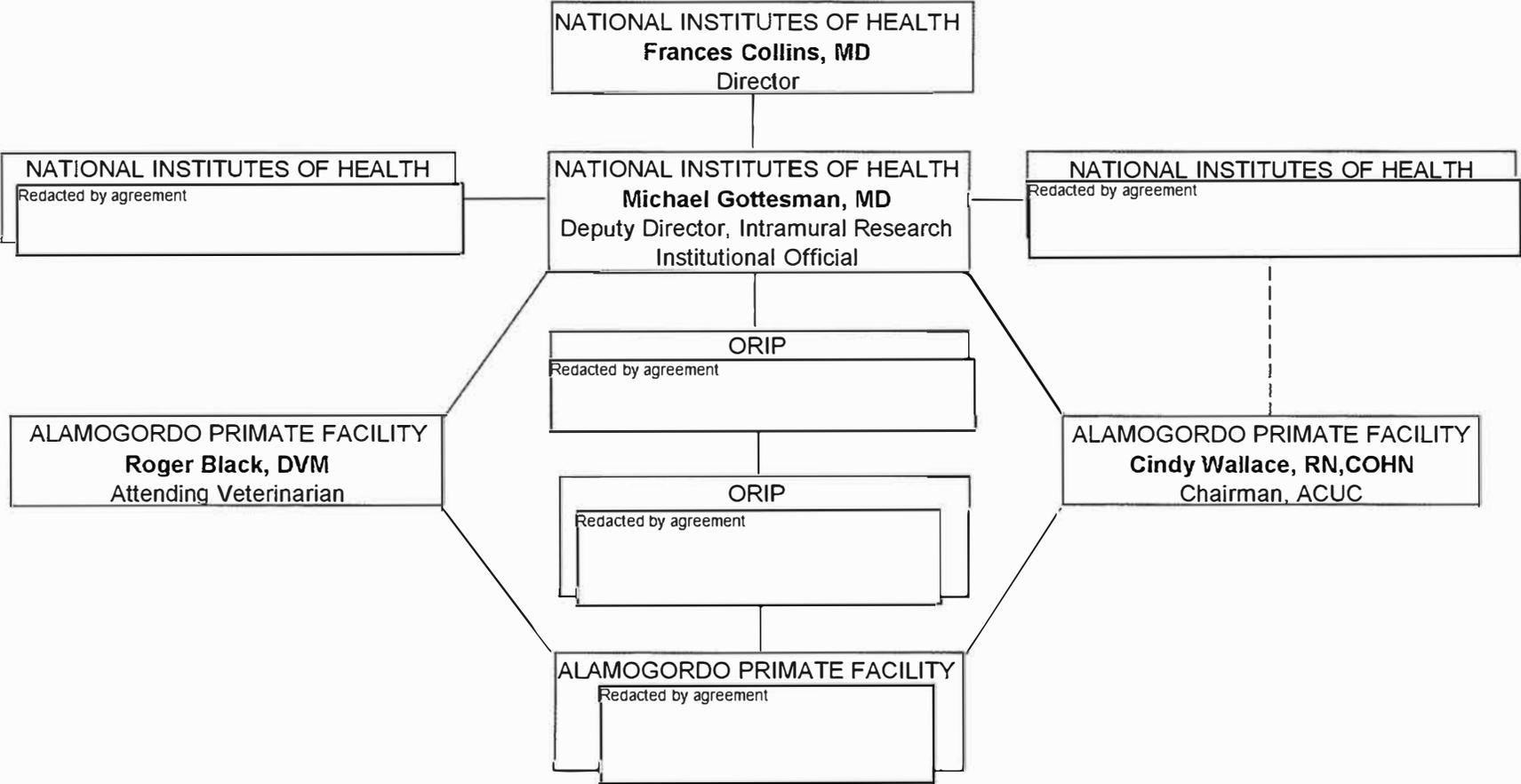


Appendix 4: Organizational Chart(s)

Provide an accurate, current, and detailed organization chart or charts that detail the lines of authority from the Institutional Official to the Attending Veterinarian, the IACUC/OB, and personnel providing animal care. If applicable, include personnel responsible for managing satellite housing areas/locations and depict the reporting relationship between the Attending Veterinarian and other(s) having a direct role in providing veterinary care.

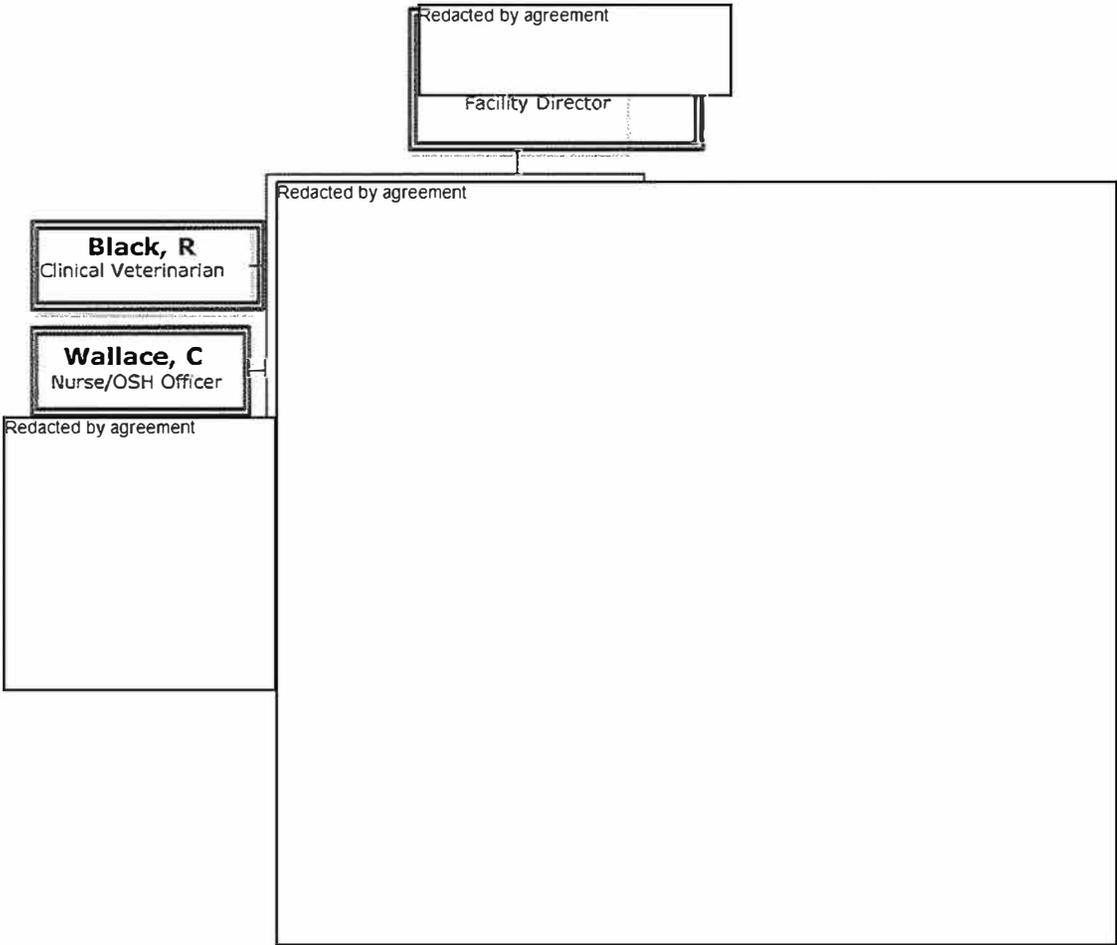
ALAMOGORDO PRIMATE FACILITY

REGULATORY LINE OF AUTHORITY



FOOTNOTE: The APF functions as a component of the NIH Intramural Program and operates as a CR contract under the NIH Intramural Research Program Animal Welfare Assurance (#A4149-01) and NIH Policy Manual 3040-2.

Appendix 4: Organizational Chart(s)



Appendix 5: Animal Usage

In order to assist the site visitors in their evaluation of the animal care and use program, please provide the information requested below. Information should be provided for all animals approved for use in research, teaching or testing, including those which may be used or housed in laboratories outside the animal care facility. Of particular interest is information on those animals which are used in research projects involving recovery surgical procedures, behavioral or other testing requiring chairing or other forms of restraint, or exposure to potentially hazardous materials. An alternate format is acceptable as long as the information requested is provided.

Project/Protocol Title	IACUC/OB Number	Principal Investigator	Species	Total Number of Animals Approved	Pain & Distress Category (1)	Special Considerations (use checkmark if applicable)					
						SS (2)	MSS (3)	FFR (4)	PR (5)	HAU (6)	NCA (7)
Care and maintenance of NIH-owned Chimpanzees	2017-01	Redacted by agreement	Pan Trog.	288	0	0	0	0	0	0	0

(1) If applicable, please provide a description / definition of any pain/distress classification used within this Appendix in the space below. If pain/distress categories are not used, leave blank.

- (2) Survival Surgery (SS)
- (3) Multiple Survival Surgery (MSS)
- (4) Food or Fluid Regulation (FFR)
- (5) Prolonged Restraint (PR)
- (6) Hazardous Agent Use (HAU)

Appendix 5: Animal Usage

(7) Non-Centralized Housing and/or Procedural Areas (NCA), i.e., use of live animals in any facility, room, or area that is not directly maintained or managed by the animal resources program, such as investigator laboratories, department-managed areas, teaching laboratories, etc.

Pain/Distress Classification Description/Definition, if applicable:

N/A

In the Table below, provide an approximate annual usage for all species:

Animal Type or Species	Approximate Annual Use
Pan Troglodytes	n/a

Animal Type or Species	Approximate Annual Use

[Create additional rows by pressing TAB in the bottom-right box.]

Appendix 6: Personnel Medical Evaluation Form

Provide a **blank** copy of form(s) used by medically-trained personnel to review individual health assessment, individual risk assessment, health history evaluation, health questionnaire, periodic medical evaluation, etc. If form(s) are not used, include a description of how such evaluations are performed in the Program Description (Section 2.I.A.2.b.ii.1.d), Section 2 (Description). I (Animal Care and Use Program). A (Program Management). 2 (Personnel Management). b (Occupational Health and Safety or Personnel). ii (Standard Working Conditions and Baseline Precautions). 1) (Medical Evaluation and Preventive Medicine for Personnel). d).

Alamogordo Primate Facility

Employee Medical Evaluation

Employee Name: _____ Date of Birth: _____
Date of Hire: _____ Position: _____

Medical: (check all that apply)

Lab work Completed – Date _____

- | | |
|--|-------------------------------------|
| <input type="radio"/> Liver Function Panel- | <input type="radio"/> WNL |
| <input type="radio"/> HIV- | <input type="radio"/> WNL |
| <input type="radio"/> Acute Hepatitis Panel- | <input type="radio"/> WNL |
| <input type="radio"/> Hepatitis B Titer- | <input type="radio"/> Result: _____ |

Tuberculosis Screen

- Negative PPD – TB skin test- within last 6 months-
Date of PPD: _____ Results: _____
Name of TB Test Administrator: _____
- Negative Chest X-Ray within one year-
Date of last Chest X-Ray: _____

Immunizations

Appendix 6: Personnel Medical Evaluation Form

- Hepatitis B Series-
 - #1 _____ date given
 - #2 _____ date given
 - #3 _____ date given
- Date of Hepatitis B titer: _____ Result: _____
- Tetanus- _____ date last booster given
- Influenza- _____ date given

Employee read and signed the 'Occupational Health Hazards Notification and Consent Form'.

_____ Date

Occupational Risk Assessment: _____ **Position:** _____

The Employee in this position has direct contact with NHP's. **Yes** **No**
(If yes then employee will receive additional training on working with NHP's.)

Respirator Fit Test

- Will employee be required to wear a Respirator? **Yes** **No**
- Employee completed Respirator Fit Questionnaire Date: _____
- Employee passed/failed the Respirator Fit test with _____ Respirator

Personal Protective Equipment (PPE)

- Employee received instruction
- regarding when PPE should be used
 - where PPE should be used
 - the workable limits of PPE
 - don and doffing order and disposal of PPE

Appendix 6: Personnel Medical Evaluation Form

- Reviewed PPE SOP

Blood Borne Pathogens (BBP) & Exposure control

Employee received instruction on

- known BBP at APF; route of exposure; symptoms of BBP; and how to protect against BBP's
- Bite & Scratch Kits locations and use instructions
- hand washing
- sharps and sharps containers

Hearing Conservation

Employee received instruction on

- anatomy and function of the ear
- types and causes of hearing loss
- care & use of hearing protection

Other training includes: Hazard Communication/MSDS's/Injury, Allergy & Zoonosis/Accident Reporting and First Aid/Employee Illness Policy.

Appendix 7: IACUC/OB Membership Roster

Please provide a Committee roster, indicating names, degrees, membership role, and affiliation (e.g., Department/Division).

APF IACUC Membership Roster

<u>Name</u>	<u>Job Title</u>	<u>Education</u>	<u>IACUC Role(s)</u>	<u>Phone</u>	<u>Email</u>
Cindy Wallace	Occupational Health Nurse	R.N., C.O.H.N.	chairperson	Redacted by agreement	
Dr. Roger Black	Attending Veterinarian	D.V.M.	veterinarian		
Redacted by agreement					

Appendix 8: IACUC/OB Minutes

Please provide the latest two Minutes of the IACUC/OB meetings.

Attached

Alamogordo Primate Facility (APF)

Minutes of the Animal Care and Use Committee Meeting

Friday June 2, 2017

The second quarter meeting of the APF IACUC was called to order by the Chair at 10:00 am.

Voting members in attendance: Ms. Cindy Wallace,

Redacted by agreement

Redacted by agreement

Voting members absent: Dr. Roger Black

Guests in attendance:

Redacted by agreement

Non-Voting members / Off Site Guests in attendance by telephone:

Redacted by agreement

Redacted by agreement

Old Business:

The two minor deficiencies that were found on the Facility Inspection in March have been corrected: 1. Chipped paint and flooring in the animal area. All areas are constantly being re-painted and re-furnished. As areas are determined to be in need of repair, they will be moved to the top of the list. 2. Out of date inspection tag on the fire extinguisher in the transport truck. Extinguisher was immediately replaced. All extinguishers were re-inspected/re-certified at the time

New Business:

1. Alternate non-affiliated member, Redacted by agreement has moved and will no longer be on the APF IACUC roster. At this time, the position of Alternate non-affiliated member will not be filled.

2. Semi-annual Program Review

The Program review was completed by two teams using the Semiannual Program Review Checklist from the *Guide for the Care & Use of Laboratory Animals: 8th Edition* as a basis for the review.

Team A: Institutional Policies & Responsibilities, Sec. 1-12 (pp. 2-6)

All areas were considered 'Acceptable' or 'not applicable' to the program at APF.

Team B: Veterinary Care, Sec. 1-6 (pp. 7-8)

All areas were considered 'Acceptable' or 'not applicable' to the program at APF.

A motion was made that the APF Facilities meets or exceeds the standards of the PHS policy, the *Guide* and the AWA Regulations. The motion was seconded and a vote was taken:

In favor 5; opposed 0; abstained 0.

The Program Review forms were signed and returned to the Chair.

3. Triennial *De Novo* Protocol Review

The protocol, "Care and Maintenance of NIH-owned Chimpanzees" 2014-01.2 was reviewed by the PI, co-PI and the members of the IACUC prior to the meeting. There were no changes to the protocol other than updating personnel names and dates.

A motion was made to accept this protocol with the minor changes. The motion was seconded and a vote was taken:

In favor 5; opposed 0; abstained 0.

4. Quarterly Morbidity & Mortality Report

The current census at APF is 109. One death was reported since the last IACUC meeting resulting in a 0.9% mortality rate. This chimp was euthanized due to chronic renal, hepatic and cardiac issues and humane endpoints being met. There have been 4 deaths reported for the contract year, resulting in a 2.9 % mortality rate. The primary cause of mortality continues to be cardiac and/or renal complications. The status of the three identified Type -2 diabetic chimps remains unchanged.

The APF contracted cardiologist is expected June 14th and 15th to continue evaluating at risk members of the colony by echocardiography.

5. Report on relocation of APF Chimpanzees

There have been 25 chimpanzees relocated to Chimp Haven since October 2016. The shipments that were scheduled for May and June of this year were cancelled due to a Para-influenza respiratory outbreak at Chimp Haven. The shipments are scheduled to resume in September of this year. Due to the planned retirement of the current carrier, a search for a replacement USDA approved, experienced carrier of chimpanzees has begun.

6. Next meeting is scheduled for September 13, 2017 and will reviewing the *Disaster Plan* and will have the Facility Inspection. A NIH Representative is expected to attend.

7. With no further business to discuss, a motion was made to adjourn this meeting. The motion was seconded and a vote was taken:

In favor 5; opposed 0; abstained 0.

Meeting adjourned at 10:30

Signatures:

Signatures on this document indicates approval of the minutes of the June 2, 2017 IACUC meeting and Program Review.

Redacted by agreement		Redacted by agreement	
Cindy Wallace, Chair			
Roger Black, D.V.M.			
Redacted by agreement			

5/30/17
6-2-17**Veterinary Care**

Date:

1. Clinical Care and Management NEW

	A*	M	S	C	NA
• Veterinary program offers high quality of care and ethical standards (<i>Guide, p 105</i>)	✓				
• Veterinarian provides guidance to all personnel to ensure appropriate husbandry, handling, treatment, anesthesia, analgesia, and euthanasia (<i>Guide, p 106</i>)	✓				
• Veterinarian provides oversight to surgery and perioperative care (<i>Guide, p 106</i>)	✓				
• Veterinary care program is appropriate for program requirements (<i>Guide, pp 113-114</i>)	✓				
• Veterinarian(s) is familiar with species and use of animals and has access to medical and experimental treatment records (<i>Guide, p 114</i>)	✓				
• Procedures to triage and prioritize incident reports are in place (<i>Guide, p 114</i>)	✓				
• Procedures are in place to address:					
o Problems with experiments to determine course of treatment in consultation with investigator (<i>Guide, p 114</i>)					✓
o Recurrent or significant health problems with the IACUC and documentation of treatments and outcomes (<i>Guide, p 114</i>)	✓				
o Veterinary review and oversight of medical and animal use records (<i>Guide, p 115</i>)	✓				
• Procedures established for timely reporting of animal injury, illness, or disease (<i>Guide, p 114</i>)	✓				
• Procedures established for veterinary assessment, treatment, or euthanasia (<i>Guide, p 114</i>)	✓				
• Veterinarian is authorized to treat, relieve pain, and/or euthanize (<i>Guide, p 114</i>)	✓				

2. Animal Procurement and Transportation/Preventive Medicine

	A*	M	S	C	NA
• Procedures for lawful animal procurement are in place (<i>Guide, p 106</i>)	✓				
• Sufficient facilities and expertise are confirmed prior to procurement (<i>Guide, p 106</i>)	✓				
• Procurement is linked to IACUC review and approval (<i>Guide, p 106</i>)	✓				
• Random source dogs and cats are inspected for identification (<i>Guide, p 106</i>)					✓
• Population status of wildlife species is considered prior to procurement (<i>Guide, p 106</i>)	✓				
• Appropriate records are maintained on animal acquisition (<i>Guide, p 106</i>)	✓				
• Animal vendors are evaluated to meet program needs and quality (<i>Guide, p 106</i>)	✓				
• Breeding colonies are based on need and managed to minimize numbers (<i>Guide, p 107</i>)					✓
• Procedures for compliance with animal transportation regulations, including international requirements, are in place (<i>Guide, p 107</i>)	✓				
• Transportation is planned to ensure safety, security and minimize risk (<i>Guide, p 107</i>)	✓				
• Movement of animals is planned to minimize transit time and deliveries are planned to ensure receiving personnel are available (<i>Guide, pp 107- 108</i>)	✓				
• Appropriate loading and unloading facilities are available (<i>Guide, p 109</i>)	✓				
• Environment at receiving site is appropriate (<i>Guide, p 109</i>)	✓				
• Policies in place on separation by species, source, and health status (<i>Guide, pp 109, 111-112</i>)	✓				
• Procedures in place for quarantine to include zoonoses prevention (<i>Guide, p 110</i>)	✓				
• Quarantined animals from different shipments are handled separately or physically separated (<i>Guide, p 110</i>)	✓				
• Procedures in place for stabilization/acclimation (<i>Guide, pp 110-111</i>)	✓				
• Policies in place for isolation of sick animals (<i>Guide, p 112</i>)	✓				
• Program is in place for surveillance, diagnosis, treatment and control of disease to include daily observation (<i>Guide, p 112</i>)	✓				
• Diagnostic resources are available for preventive health program (<i>Guide, p 112</i>)	✓				

3. Surgery

	A*	M	S	C	NA
• Surgical outcomes are assessed and corrective changes instituted (<i>Guide, p 115</i>)	✓				
• Researchers have appropriate training to ensure good technique (<i>Guide, p 115</i>)					✓
• Pre-surgical plans are developed and include veterinary input (e.g., location, supplies,	✓				

anesthetic and analgesic use, peri-operative care, recordkeeping) (<i>Guide, p 116</i>)	✓				
• Aseptic surgery is conducted in dedicated facilities or spaces, unless exception justified and IACUC approved (<i>Guide, p 116</i>)	✓				
• Surgical procedures including laparoscopic procedures are categorized as major or minor (<i>Guide, pp 117-118</i>)	✓				
• For nonsurvival surgery, the site is clipped, gloves are worn and instruments and area are clean (<i>Guide, p 118</i>)					✓
• Aseptic technique is followed for survival surgical procedures (<i>Guide, pp 118-119</i>)	✓				
• Effective procedures for sterilizing instruments and monitoring expiration dates on sterile packs are in place (<i>Guide, p 119</i>)	✓				
• Procedures for monitoring surgical anesthesia and analgesia are in place (<i>Guide, p 119</i>)	✓				
• For aquatic species, skin surfaces are kept moist during surgical procedures (<i>Guide, p 119</i>)					✓
• Post-operative monitoring and care are provided by trained personnel and documented (e.g., thermoregulation, physiologic function, analgesia, infection, removal of skin closures) (<i>Guide, pp 119-120</i>)	✓				

4. Pain, Distress, Anesthesia and Analgesia

A* M S C NA

• Guidelines for assessment and categorization of pain, distress and animal wellbeing are provided during training (<i>Guide, p 121</i>)	✓				
• Selection of analgesics and anesthetics is based on professional veterinary judgment (<i>Guide, p 121</i>)	✓				
• Painful procedures are monitored to ensure appropriate analgesic management (<i>Guide, p 122</i>)	✓				
• Nonpharmacologic control of pain is considered as an element of postprocedural care (<i>Guide, p 122</i>)	✓				
• Procedures are in place to assure antinociception before surgery begins (<i>Guide, p 122</i>)	✓				
• Guidelines for selection and use of analgesics and anesthetics are in place and regularly reviewed and updated (<i>Guide, p 122</i>)	✓				
• Special precautions for the use of paralytics are in place to ensure anesthesia ^{xiv} (<i>Guide, p 123</i>)					✓

5. Euthanasia

A* M S C NA

• Methods are consistent with AVMA Guidelines on Euthanasia unless approved by the IACUC (<i>Guide, p 123</i>)	✓				
• Standardized methods are developed and approved by the veterinarian and IACUC that avoid distress and consider animal age and species (<i>Guide, pp 123-124</i>)	✓				
• Training is provided on appropriate methods for each species and considers psychological stress to personnel (<i>Guide, p 124</i>)	✓				
• Procedures and training are in place to ensure death is confirmed (<i>Guide, p 124</i>)	✓				

6. Drug Storage and Control ^{NEW}

A* M S C NA

• Program complies with federal regulations for human and veterinary drugs (<i>Guide, p 115</i>)	✓				
• Drug records and storage procedures are reviewed during facility inspections (<i>Guide, p 115</i>)	✓				
• Procedures are in place to ensure analgesics and anesthetics are used within expiration date (<i>Guide, p 122</i>)	✓				
• Anesthetics and analgesics are acquired, stored, and their use and disposal are recorded legally and safely (<i>Guide, p 122</i>)	✓				

* A = acceptable

M = minor deficiency

S = significant deficiency (is or may be a threat to animal health or safety)

C = change in program (PHS Policy IV.A.1.a.-i.) (include in semiannual report to IO and in annual report to OLAW)

NA = not applicable

NOTES:

I. Semiannual Program Review Checklist ⁱ

Institutional Policies and Responsibilities

Date: 2 June 17

	A*	M	S	C	NA
1. Animal Care and Use Program ^{NEW}					
• Responsibility for animal well-being is assumed by all members of the program (<i>Guide</i> , p 1) [must]	✓				
• IO has authority to allocate needed resources (<i>Guide</i> , p 13)	✓				
• Resources necessary to manage program of veterinary care are provided (<i>Guide</i> , p 14) [must]	✓				
• Sufficient resources are available to manage the program, including training of personnel in accord with regulations and the <i>Guide</i> (<i>Guide</i> , pp 11, 15)	✓				
• Program needs are regularly communicated to IO by AV and/or IACUC (<i>Guide</i> , p 13)	✓				
• Responsibilities for daily animal care and facility management are assigned to specific individual(s) when a full-time veterinarian is not available on site (<i>Guide</i> , p 14) [must]	✓				
• Inter-institutional collaborations are described in formal written agreements (<i>Guide</i> , p 15)					✓
• Written agreements address responsibilities, animal ownership, and IACUC oversight (<i>Guide</i> , p 15)	✓				
2. Disaster Planning and Emergency Preparedness ^{NEW}					
• Disaster plans for each facility to include satellite locations are in place (<i>Guide</i> , p 35, p 75) [must]					✓
• Plans include provisions for euthanasia (<i>Guide</i> , p 35) [must]	✓				
• Plans include triage plans to meet institutional and investigators' needs (<i>Guide</i> , p 35)	✓				
• Plans define actions to prevent animal injury or death due to HVAC or other failures (<i>Guide</i> , p 35)	✓				
• Plans describe preservation of critical or irreplaceable animals (<i>Guide</i> , p 35)					✓
• Plans include essential personnel and their training (<i>Guide</i> , p 35)	✓				
• Animal facility plans are approved by the institution and incorporated into overall response plan (<i>Guide</i> , p 35)	✓				
• Law enforcement and emergency personnel are provided a copy and integration with overall plan is in place (<i>Guide</i> , p 35)	✓				
3. IACUC ^{NEW}					
• Meets as necessary to fulfill responsibilities (<i>Guide</i> , p 25) [must]	✓				
• IACUC Members named in protocols or with conflicts recuse themselves from protocol decisions (<i>Guide</i> , p 26) [must]	✓				
• Continuing IACUC oversight after initial protocol approval is in place (<i>Guide</i> , p 33)	✓				
• IACUC evaluates the effectiveness of training programs (<i>Guide</i> , p 15)	✓				
4. IACUC Protocol Review - Special Considerations					
• Humane endpoints are established for studies that involve tumor models, infectious diseases, vaccine challenge, pain modeling, trauma, production of monoclonal antibodies, assessment of toxicologic effects, organ or system failure, and models of cardiovascular shock (<i>Guide</i> , p 27)					✓
• For pilot studies, a system to communicate with the IACUC is in place (<i>Guide</i> , p 28)					✓
• For genetically modified animals, enhanced monitoring and reporting is in place (<i>Guide</i> , p 28)					✓
• Restraint devices are justified in the animal use protocols (<i>Guide</i> , p 29) [must]	✓				
• Alternatives to physical restraint are considered (<i>Guide</i> , p 29)	✓				
• Period of restraint is the minimum to meet scientific objectives (<i>Guide</i> , p 29)	✓				
• Training of animals to adapt to restraint is provided (<i>Guide</i> , p 29)	✓				
• Animals that fail to adapt are removed from study (<i>Guide</i> , p 29)					✓
• Appropriate observation intervals of restrained animals are provided (<i>Guide</i> , p 29)	✓				
• Veterinary care is provided if lesions or illness result from restraint (<i>Guide</i> , p 30) [must]					✓
• Explanations of purpose and duration of restraint are provided to study personnel	✓				

(Guide, p 30)					
• Multiple surgical procedures on a single animal are justified and outcomes evaluated (Guide, p 30)	✓				
• Major versus minor surgical procedures are evaluated on a case-by-case basis (Guide, p 30)	✓				
• Multiple survival procedure justifications in non-regulated species conform to regulated species standards (Guide, p 30)					✓
• Animals on food/fluid restriction are monitored to ensure nutritional needs are met (Guide, p 31)	✓				
• Body weights for food/fluid restricted animals are recorded at least weekly (Guide, p 31)					✓
• Daily written records are maintained for food/fluid restricted animals (Guide, p 31)	✓				
• Pharmaceutical grade chemicals are used, when available, for animal-related procedures (Guide, p 31)					✓
• Non-pharmaceutical grade chemicals are described, justified, and approved by IACUC (Guide, p 31)					✓
• Investigators conducting field studies know zoonotic diseases, safety issues, laws and regulations applicable in study area (Guide, p 32)	✓				
• Disposition plans are considered for species removed from the wild (Guide, p 32)					✓
• Toe-clipping only used when no alternative, performed aseptically and with pain relief (Guide, p 75)					✓

5. IACUC Membership and Functions

	A*	M	S	C	NA
• IACUC is comprised of at least 5 members, appointed by CEO (PHS Policy, IV.A.3.)	✓				
• Members include a veterinarian, a scientist, a nonscientist, and a nonaffiliated non-lab animal user (Guide, p 24) ⁱⁱ	✓				
• IACUC authority and resources for oversight and evaluation of institution's program are provided (Guide, p 14)	✓				
• IACUC conducts semiannual evaluations of institutional animal care and use program (PHS Policy, IV.B.)	✓				
• Conducts semiannual inspections of institutional animal facilities (PHS Policy, IV.B.)	✓				
• IACUC organizationally reports to the Institutional Official (PHS Policy, IV.A.1.b.)	✓				
• Methods for reporting and investigating animal welfare concerns are in place (Guide, p 23) [must]	✓				
• Reviews and investigates concerns about animal care and use at institution ⁱⁱⁱ (PHS Policy, IV.B.)	✓				
• Procedures are in place for review, approval, and suspension of animal activities ^{iv} (PHS Policy, IV.B.)	✓				
• Procedures are in place for review and approval of significant changes to approved activities (PHS Policy, IV.B.)	✓				
• Policies are in place for special procedures (e.g., genetically modified animals, restraint, multiple survival surgery, food and fluid regulation, field investigations, agricultural animals) (Guide, p 27-32)	✓				
• Requests for exemptions from major survival surgical procedure restrictions are made to USDA/APHIS ^v (Guide, p 32) [must]	✓				

6. IACUC Training ^{NEW}

	A*	M	S	C	NA
• All IACUC members should receive:					
◦ Formal orientation to institution's program (Guide, p 17)	✓				
◦ Training on legislation, regulations, guidelines, and policies (Guide, p 17)	✓				
◦ Training on how to inspect facilities and labs where animal use or housing occurs (Guide, p 17)	✓				
◦ Training on how to review protocols as well as evaluate the program (Guide, p 17)	✓				
◦ Ongoing training/education (Guide, p 17)	✓				

7. IACUC Records and Reporting Requirements^{vi}

	A*	M	S	C	NA
• Semiannual report to the IO (PHS Policy, IV.B.)					
◦ Submitted to IO every 6 months	✓				
◦ Compiles program review and facility inspection(s) results (includes all program and facility deficiencies)	✓				

o Includes minority IACUC views	✓				
o Describes IACUC-approved departures from the <i>Guide</i> or PHS Policy and the reasons for each departure ^{vii}	✓				
o Distinguishes significant from minor deficiencies	✓				
o Includes a plan and schedule for correction for each deficiency identified ^{viii}	✓				
• Reports to OLAW (PHS Policy, IV.F.)					
o Annual report to OLAW documents program changes, dates of the semiannual program reviews and facility inspections and includes any minority views	✓				
o Promptly advises OLAW of serious/ongoing <i>Guide</i> deviations or PHS Policy noncompliance (NOT-OD-05-034)	✓				
o Institute must promptly advise OLAW of any suspension of an animal activity by the IACUC (NOT-OD-05-034)	✓				
• Reports to U.S. Department of Agriculture (USDA) or Federal funding agency ^{ix}					
o Annual report to USDA contains required information including all exceptions/exemptions	✓				
o Reporting mechanism to USDA is in place for IACUC-approved exceptions to the regulations and standards	✓				
o Reports are filed within 15 days for failures to adhere to timetable for correction of significant deficiencies	✓				
o Promptly reports suspensions of activities by the IACUC to USDA and any Federal funding agency	✓				
• Records (PHS Policy, IV.E.)					
o IACUC meeting minutes and semiannual reports to the IO are maintained for 3 years	✓				
o Records of IACUC reviews of animal activities include all required information*	✓				
o Records of IACUC reviews are maintained for 3 years after the completion of the study	✓				

8. Veterinary Care (See also next section - Veterinary Care)

	A*	M	S	C	NA
• An arrangement for veterinarian(s) with training or experience in lab animal medicine is in place including backup veterinary care ^{xi}	✓				
• Veterinary access to all animals is provided (<i>Guide</i> , p 14) [must]	✓				
• Direct or delegated authority is given to the veterinarian to oversee all aspects of animal care and use (<i>Guide</i> , p 14) [must]	✓				
• Veterinarian provides consultation when pain and distress exceeds anticipated level in protocol (<i>Guide</i> , p 5) [must]	✓				
• Veterinarian provides consultation when interventional control is not possible (<i>Guide</i> , p 5) [must]	✓				
• If part time /consulting veterinarian, visits meet programmatic needs (<i>Guide</i> , p 14)	✓				✓
• Regular communication occurs between veterinarian and IACUC (<i>Guide</i> , p 14)	✓				
• Veterinarian(s) have experience and training in species used (<i>Guide</i> , p 15) [must]	✓				
• Veterinarian(s) have experience in facility administration/management (<i>Guide</i> , p 15)	✓				

9. Personnel Qualifications and Training

	A*	M	S	C	NA
• All personnel are adequately educated, trained, and/or qualified in basic principles of laboratory animal science. Personnel included: [must]					
o Veterinary/other professional staff (<i>Guide</i> , p 15-16)	✓				
o IACUC members (<i>Guide</i> , p 17)	✓				
o Animal care personnel (<i>Guide</i> , p 16)	✓				
o Research investigators, instructors, technicians, trainees, and students (<i>Guide</i> , pp 16-17)	✓				
• Continuing education for program and research staff provided to ensure high quality care and reinforce training (<i>Guide</i> , pp 16-17)	✓				
• Training is available prior to starting animal activity (<i>Guide</i> , p 17)	✓				
• Training is documented (<i>Guide</i> , p 15)	✓				
• Training program content includes: (<i>Guide</i> , p 17)					
o Methods for reporting concerns (<i>Guide</i> , p 17)	✓				
o Humane practices of animal care (e.g., housing, husbandry, handling) ^{xii}	✓				
o Humane practices of animal use (e.g., research procedures, use of anesthesia, pre- and post-operative care, aseptic surgical techniques and euthanasia (<i>Guide</i> , p	✓				

17) ^{xiii}					
o Research/testing methods that minimize numbers necessary to obtain valid results (PHS Policy, IV.A.1.g.)					✓
o Research/testing methods that minimize animal pain or distress (PHS Policy, IV.A.1.g.)					✓
o Use of hazardous agents, including access to OSHA chemical hazard notices where applicable (Guide, p 20)	✓				
o Animal care and use legislation (Guide, p 17)					✓
o IACUC function (Guide, p 17)	✓				
o Ethics of animal use and Three R's (Guide, p 17)	✓				

10. Occupational Health and Safety of Personnel A* M S C NA

o Program is in place and is consistent with federal, state, and local regulations (Guide, p 17) [must]	✓				
o Program covers all personnel who work in laboratory animal facilities (Guide, p 18)	✓				
o Changing, washing, and showering facilities are available as appropriate (Guide, p 19)	✓				
o Hazardous facilities are separated from other areas and identified as limited access (Guide, p 19)	✓				
o Personnel training is provided based on risk (e.g., zoonoses, hazards, personal hygiene, special precautions, animal allergies) (Guide, p 20)	✓				
o Personal hygiene procedures are in place (e.g., work clothing, eating/drinking/smoking policies) (Guide, p 20)	✓				
o Procedures for use, storage, and disposal of hazardous biologic, chemical, and physical agents are in place (Guide, p 21)	✓				
o Personal Protective Equipment for the work area is appropriate and available (Guide, p 21)	✓				
o Program for medical evaluation and preventive medicine for personnel includes:					
o Pre-employment evaluation including health history (Guide, p 22)	✓				
o Immunizations as appropriate (e.g., rabies, tetanus) and tests as appropriate (Guide, p 22)	✓				
o Zoonosis surveillance as appropriate (e.g., Q-fever, tularemia, Hantavirus, plague) (Guide, p 23)	✓				
o Procedures for reporting and treating injuries, including accidents, bites, allergies, etc. (Guide, p 23)	✓				
o Promotes early diagnosis of allergies including preexisting conditions (Guide, p 22)	✓				
o Considers confidentiality and other legal factors as required by federal, state and local regulations (Guide, p 22) [must]	✓				
o If serum samples are collected, the purpose is consistent with federal and state laws (Guide, p 22) [must]	✓				
o Waste anesthetic gases are scavenged (Guide, p 21)	✓				
o Hearing protection is provided in high noise areas (Guide, p 22)	✓				
o Respiratory protection is available when performing airborne particulate work (Guide, p 22)	✓				
o Special precautions for personnel who work with nonhuman primates, their tissues or body fluids include:					
o Tuberculosis screening provided for all exposed personnel (Guide, p 23)	✓				
o Training and implementation of procedures for bites, scratches, or injuries associated with macaques (Guide, p 23)					✓
o PPE is provided including gloves, arm protection, face masks, face shields, or goggles (Guide, p 21)	✓				
o Injuries associated with macaques are carefully evaluated and treatment implemented (Guide, p 23)					✓
o Occupational safety and health of field studies is reviewed by OSH committee or office (Guide, p 32)	✓				

11. Personnel Security ^{NEW} A* M S C NA

o Preventive measures in place include pre-employment screening, and physical and IT security (Guide, p 23)	✓				
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12. Investigating & Reporting Animal Welfare Concerns ^{NEW} A* M S C NA

• Methods for investigating and reporting animal welfare concerns are established (<i>Guide, p 23</i>) in writing	Compliance			
• Reported concerns and corrective actions are documented (<i>Guide, p 24</i>)	Compliance			
• Mechanisms for reporting concerns are posted in facility and at applicable website with instructions (<i>Guide, p 24</i>)	Compliance			
o Includes multiple contacts (<i>Guide, p 24</i>)	Compliance			
o Includes anonymity, whistle blower policy, nondiscrimination and reprisal protection (<i>Guide, p 24</i>)	Compliance			

- * **A** = acceptable
M = minor deficiency
S = significant deficiency (is or may be a threat to animal health or safety)
C = change in program (PHS Policy IV.A.1.a.-i.) (include in semiannual report to IO and in annual report to OLAW)
NA = not applicable

NOTES:

2 June 2019

III. Semiannual Program Review and Facility Inspection Report

Date:

Members in Attendance:

Deficiency Category*	✓	Location	Deficiency and Plan for Correction	Responsible Party	Correction Schedule and Interim Status	Date Complete

- * **A** = acceptable
- M** = minor deficiency
- S** = significant deficiency (is or may be a threat to animal health or safety)
- C** = change in program (PHS Policy IV.A.1.a.-i.) (include in semiannual report to IO and in annual report to OLAW)
- NA** = not applicable
- ✓ Check if repeat deficiency

Alamogordo Primate Facility (APF)

Minutes of the Animal Care and Use Committee Meeting

Wednesday September 13, 2017

The third quarter meeting of the APF IACUC was called to order by the Chair at 10:05 am.

Voting members in attendance: Ms. Cindy Wallace, Dr. Roger Black, [Redacted by agreement]

[Redacted by agreement]

Voting members absent: None

Guests/Non-voting members in attendance: [Redacted by agreement]

Non-Voting members in attendance by telephone: [Redacted by agreement]

Old Business:

New Business:

1. Welcome to [Redacted by agreement] Office of Animal Care and Use
2. Semi-annual Facility Inspection

Team A:

Areas Assigned: Animal housing inside and out and support areas of Buildings [Redacted by agreement]
[Redacted by agreement] & [Redacted by agreement] Enrichment Lab and Feed locker

Findings:

Small containers of expired Formalin fixative were found in room [Redacted] in Bldg. [Redacted] These bottles will be removed by the end of the day. Surfaces were noted in need of re-painting/resurfacing in Dens 1, 2, 5, 8, 9 & 10. In Den 7, Bldg. [Redacted] a wall was in need of repair where a small, approximately 1" x 1", cone shaped plug had fallen out leaving a small hole. Maintenance work orders have been submitted to correct these issues. With a completion time line of 30 days.

Team B:

Areas Assigned: Animal housing inside and out and support areas of Buildings [Redacted by agreement]
On-site Animal Transport Vehicles and Building [Redacted by agreement]

Findings:

In Bldg. [Redacted by agreement] which is an un-occupied animal room, a water station was noted to be leaking. A work order was placed with maintenance with a completion time line of 30 days. Safety lock cables (secondary lock) on the two outdoor play yards (C section) Bldg. [Redacted by agreement] were noted to have an amount of slack that could possibly result in a chimpanzee limb becoming entangled. The cables are expected to be removed and replaced with shorter chains within the hour but the completion time line is one week.

Maintenance issue: The west side exterior door (human use) [Redacted by agreement] was found to be difficult to open. A work order was placed to be repaired within 30 days.

A motion was made that the APF Facilities meets or exceeds the standards of the PHS policy, the *Guide* and the AWA Regulations. The motion was seconded and a vote was taken:

In favor 6; opposed 0; abstained 0.

The Facility Inspection forms were signed and returned to the Chair.

3. Review *Disaster Plan* policy.

The previous Disaster Plan was sent out to the members of the IACUC prior to the meeting for review. Minor changes were noted regarding correcting typo-graphical errors/reviewing and updating names and contact information.

A motion was made to accept the minor changes made to the Disaster Plan for APF. The motion was seconded and a vote was taken:

In favor 6; opposed 0; abstained 0.

4. Post Approval Monitoring (PAM) due prior to the next meeting in December.

Two team members were selected, including the non-affiliated member, and tentatively scheduled for the first week of November.

5. Quarterly Morbidity & Mortality Report (AV)

The attending veterinarian reported the mortality rate for the contract year to date is 3.1%, the mortality rate for the last quarter is 1%. Cardio-vascular issues continue to remain the primary cause of death, affecting both males and females. The current census at APF is 100. The three previously identified insulin dependent chimpanzees continue on daily to twice daily blood glucose readings and Insulin treatment. As a result of elevated blood glucose readings at physical exam, three more chimpanzees have been identified as pre-diabetic and are on oral treatment.

While recording these blood glucose levels it has been noted that elevations are seen when the chimpanzee has been relocated to a different den, on site. Generally the elevation of blood glucose is seen in times of stress. Animal care/veterinary staff will be monitoring behavioral/physiological responses to new group formations/ on-sight relocations.

6. Report on relocation of APF chimpanzees.

Presently we have 100 chimpanzees remaining at APF: of these, 43 are tentatively scheduled to relocate to Chimp Haven. There are 3 shipments scheduled by the end of the year and 2 shipments in 2018. This will leave 57 chimpanzees that are considered non-transportable. The attending veterinarian was asked to explain what makes these chimps 'non-transportable'. The results of physical examinations, age, body condition and current disease and its progression are used by the veterinary staff at APF to determine whether relocation and the cumulative stress incurred would be detrimental to the life of each chimpanzee. Following physical examinations, results are sent to the veterinary staff at Chimp Haven for review. Multiple chimpanzees have been relocated to Chimp Haven that currently have various diseases. Example, two of the eight chimpanzees sent to Chimp Haven yesterday have early cardiac

disease and are on treatment. The veterinary staff at Chimp Haven reviewed the physical exam results and elected to accept and follow up on treatments and further diagnostics recommended. Chimp Haven has been notified that further shipments will also contain clinically compromised individuals. The 57 chimpanzees currently labeled as 'non-transportable' at APF are considered "high risk" by the APF veterinary staff even in their current environment, and believe the cumulative incurred stresses of transport, multiple sedations, vasectomies, and socialization/regrouping would be detrimental of their health and life. All 4 of last year's deaths were chimpanzees that were on the 'non-transportable' list. Relocation of the 'non-transportable' does not place these chimpanzees health and welfare as the most important concern. NIH/CRL has been alerted, and acknowledges the status of these animals, along with the possibility of others being added to the non-transportable list. No dissent/disagreement was noted.

7. Next meeting will be 15 December 2017, and will be the Program Review. We will also be completing the annual review of SOP's: (1) *Humane Endpoints*, & (2) *Environmental Enrichment Plan* will be sent out prior to the meeting.

8. With no further business needing discussion, a motion was made to adjourn the meeting. The motion was seconded and a vote was taken:

In favor 6; opposed 0; abstained 0.

Meeting adjourned at 10: 45

Signatures:

Signature on this document indicates approval of the minutes of the September 13, 2017 IACUC meeting.

Redacted by agreement		Redacted by agreement	
Cindy Wallace, Chair			
Redacted by agreement			
Roger Black, D.V.M.			
Redacted by agreement			

9/15/17

Redacted by agreement

III. Semiannual Program Review and Facility Inspection Report

Date:

Members in Attendance:

Deficiency Category*	✓	Location	Deficiency and Plan for Correction	Responsible Party	Correction Schedule and Interim Status	Date Complete
M		Redacted by agreement	Slack in Cables - Maint. in process to replace repair area	Redacted by agreement <i>Present</i>	Within 2 days	

- * A = acceptable
- M = minor deficiency
- S = significant deficiency (is or may be a threat to animal health or safety)
- C = change in program (PHS Policy IV.A.1.a.-i.) (include in semiannual report to IO and in annual report to OLAW)
- NA = not applicable
- ✓ Check if repeat deficiency

Redacted by agreement

9/13/17
9/13/17
9/13/17

III. Semiannual Program Review and Facility Inspection Report

Date: 13 SEP 2017

Members in Attendance:

Redacted by agreement

Deficiency Category*	✓	Location	Deficiency and Plan for Correction	Responsible Party	Correction Schedule and Interim Status	Date Complete
MINOR		Bldg Blood Lab	EXPIRED FORMALIN			
MINOR		Bldg	Cage 5,8,9,10 - MINOR PAINT 7 - hole OUTER WALL 1 - PATCH COVE 2 - PATCH - EYE			

- * A = acceptable
- M = minor deficiency
- S = significant deficiency (is or may be a threat to animal health or safety)
- C = change in program (PHS Policy IV.A.1.a.-i.) (include in semiannual report to IO and in annual report to OLAW)
- NA = not applicable
- ✓ Check if repeat deficiency

Appendix 9: IACUC/OB Protocol Form

Please attach a **blank** copy of form(s) used by the IACUC/OB to review and approve studies. Include forms used for annual (or other periodic) renewal, modifications, amendments, etc., as applicable.

**NATIONAL INSTITUTES OF HEALTH
ANIMAL STUDY PROPOSAL**
(11/13/2015)

Leave Blank

PROPOSAL #

A. ADMINISTRATIVE DATA:

Institute or Center _____

Principal Investigator _____

Building/Room _____ E-Mail _____ Telephone _____ FAX _____

Emergency Treatment and Animal Care instructions shall be provided on the attached form at the end of this document.

Division, Laboratory, or Branch _____

Project Title _____

Initial Submission [] Renewal [] or Modification [] of Proposal Number _____

List the names of all individuals authorized to conduct procedures involving animals under this proposal and identify key personnel (i.e., Co-investigator(s)): A brief summary of the training and/or experience for procedures each individual will be expected to perform in this ASP must be documented and available to the ACUC. The name(s) of the supervisor, mentor, or trainer who will provide assurance each individual is/has achieved proficiency in those procedures shall be included in that documentation.

B. ANIMAL REQUIREMENTS:

Appendix 9: IACUC/OB Protocol Form

Species _____ Age/Weight/Size _____ Sex _____

Stock or Strain _____

Source(s) _____ Holding Location(s) _____

Animal Procedure Location(s) _____

Estimated Number of Animals:

_____	_____	_____	=	_____
Year 1	Year 2	Year 3		TOTAL

C. TRANSPORTATION: Transportation of animals must conform to all NIH and Facility guidelines/policies. If animals will be transported between facilities, describe the methods and containment to be utilized. If animals will be transported within the Clinical Center, also include the route and elevator(s) to be utilized.

D. STUDY OBJECTIVES: Provide no more than a 300 word summary of the objectives of this work. Why is this work important/interesting? How might this work benefit humans and/or animals? This should be written so that a non-scientist can easily understand it. Please eliminate or minimize abbreviations, technical terms, and jargon. Where they are necessary, they should be defined.

E. RATIONALE FOR ANIMAL USE: 1) Explain your rationale for animal use. 2) Justify the appropriateness of the species selected. 3) Justify the number of animals to be used. (Use additional sheets if necessary)

F. DESCRIPTION OF EXPERIMENTAL DESIGN AND ANIMAL PROCEDURES: Briefly explain the experimental design and specify all animal procedures. This description should allow the ACUC to understand the experimental course of an animal from its entry into the experiment to the endpoint of the study. Specifically address the following: (Use additional sheets if necessary.)

Injections, Inoculations or Instillations (substances, e.g., infectious agents, adjuvants, medications, drugs, etc.; dose, sites, volume, route, diluent, and schedules).

ACUCs will address non-pharmaceutical grade compounds IAW Guidelines for the Use of Non-Pharmaceutical Grade Compounds in Laboratory Animals

Blood Withdrawals (volume, frequency, withdrawal sites, and methodology)

Non-Survival Surgical Procedures (Provide details of survival surgical procedures in Section G.)

Radiation (dosage and schedule)

Methods of Restraint (e.g., restraint chairs, collars, vests, harnesses, slings, etc.)

Animal Identification Methods (e.g., ear tags, tattoos, collar, cage card, etc.)

Other Procedures (e.g., survival studies, tail biopsies, etc.)

Potentially Painful or Distressful Effects, if any, the animals are expected to experience (e.g., pain or distress, ascites production, etc.) For Column E studies provide:
1) a description of the procedure(s) producing pain and/or distress; 2) scientific justification why pain and/or distress cannot be relieved.

Experimental Endpoint Criteria (i.e., tumor size, percentage body weight gain or loss, inability to eat or drink, behavioral abnormalities, clinical symptomatology, or signs of toxicity) must be specified when the administration of tumor cells, biologics, infectious agents, radiation or toxic chemicals are expected to cause significant symptomatology or are potentially lethal. List the criteria to be used to determine when euthanasia is to be performed. Death as an endpoint must always be scientifically justified.

G. SURVIVAL SURGERY - If proposed, complete the following:

Appendix 9: IACUC/OB Protocol Form

None ____ Major ____ Minor ____

1. Identify and describe the surgical procedure(s) to be performed. Include the aseptic methods to be utilized. (Use additional sheets if necessary):
2. Who will perform surgery and what are their qualifications and/or experience?
3. Where will surgery be performed, Building and Room? _____
4. Describe post-operative care required, including consideration of the use of post-operative analgesics, and identify the responsible individual:
5. Has survival surgery been performed on any animal prior to being placed on this study? Y/N _____ If yes, please explain:
6. Will more than one survival surgery be performed on an animal while on this study?
Y/N _____ If yes, please justify:

H. RECORDING PAIN OR DISTRESS CATEGORY - *The ACUC is responsible for applying U.S. Government Principle IV.: Proper use of animals, including the avoidance or minimization of discomfort, distress, and pain when consistent with sound scientific practices, is imperative. Unless the contrary is established, investigators should consider that procedures that cause pain or distress in human beings may cause pain or distress in other animals.* Check the appropriate category or categories and indicate the approximate number of animals in each. Sum(s) should equal total from Section B.

IF ANIMALS ARE INDICATED IN COLUMN E, A SCIENTIFIC JUSTIFICATION IS REQUIRED TO EXPLAIN WHY THE USE OF ANESTHETICS, ANALGESICS, SEDATIVES OR TRANQUILIZERS DURING AND/OR FOLLOWING PAINFUL OR DISTRESSFUL PROCEDURES IS CONTRAINDICATED. FOR USDA REGULATED SPECIES, PLEASE COMPLETE THE EXPLANATION FOR COLUMN E LISTINGS FORM AT THE END OF THIS DOCUMENT. THIS FORM WILL ACCOMPANY THE NIH ANNUAL REPORT TO THE USDA. FOR ALL OTHER SPECIES, THE JUSTIFICATION FOR SUCH STUDIES MUST BE PROVIDED IN SECTION F. NOTE: THIS COLUMN E FORM, AND ANY ATTACHMENTS, e.g., THE ASP, ARE SUBJECT TO THE FREEDOM OF INFORMATION ACT

NUMBER OF ANIMALS USED EACH YEAR		Year 1	Year 2	Year 3
USDA Column C	Minimal, Transient, or No Pain or Distress			
USDA Column D	Pain or Distress Relieved By Appropriate Measures			
USDA Column E	Unrelieved Pain or Distress			

Describe your consideration of alternatives to procedures listed for Column D and E, and your determination that alternatives were not available. [Note: Principal investigators must certify in paragraph N.5. that no valid alternative was identified to any described procedures which may cause more than momentary pain or distress, whether it is relieved or not.] Delineate the methods and sources used in the search below. Database references must include the databases (2 or more) searched, the date of the search, period covered, and keywords used.

I. ANESTHESIA, ANALGESIA, TRANQUILIZATION: For animals indicated in Section H, Column D, specify the anesthetics, analgesics, sedatives or tranquilizers that are to be used. Include the name of the agent(s), the dosage, route, and schedule of administration. ACUCs will address non-pharmaceutical grade compounds IAW Guidelines for the Use of Non-Pharmaceutical Grade Compounds in Laboratory Animals.
NONE ____ (check if none)

J. METHOD OF EUTHANASIA OR DISPOSITION OF ANIMALS AT END OF STUDY: Indicate the proposed method, and if a chemical agent is used, specify the dosage and route of administration. If the method(s) of euthanasia include those not recommended by the AVMA Guidelines on Euthanasia, provide justification why such methods must be used. Indicate the method of carcass disposal if not as MPW.

Appendix 9: IACUC/OB Protocol Form

NONE ___ (check if none)

K. HAZARDOUS AGENTS: Use of hazardous agents requires the approval of an IC safety specialist.	NONE ___ (check if none)
--	--------------------------

Biological Agents with Pathogenic Potential:			NONE ___ (check if none)
For guidance, see <u>ORS/DOHS Biological Safety and Compliance</u> . Include the NIH Institutional Biosafety Committee's risk-assessment language or attach a copy of the registration documents.			
Agent:	PRD #:	ABSL:	
Additional occupational health and/or animal facility handling safety considerations.			

Recombinant DNA:			NONE ___ (check if none)
For guidance, see <u>NIH Guidelines for Research Involving Recombinant or Synthetic Nucleic Acid Molecules FAQs</u> . Include the NIH Institutional Biosafety Committee's risk-assessment language or attach a copy of the registration documents.			
Recombinant DNA:	RD #:	ABSL:	
Additional occupational health and/or animal facility handling safety considerations.			

Ionizing Radiation: (Radionuclides & radiation producing equipment)			NONE ___ (check if none)
For guidance, see <u>ORS/DRS/Policies/Radiation Safety Protocols Animal Studies Proposal Requirements</u>			
<input type="checkbox"/> Yes, I will use radionuclides or radiation producing equipment as part of the experimental procedures on the ASP and all operators will be registered with Division of Radiation Safety. If an irradiator is to be used, then all individual users must comply with Division of Radiation Safety requirements for irradiator training, and all individual assessors will comply with applicable security requirements for escorts and proxy card access approval.			
List of Radionuclides:			
Radiological safety considerations:			

Hazardous Chemicals or Drugs:			NONE ___ (check if none)
For guidance, see NIH Policy Manual 3034 – <u>Working with Hazardous Chemicals</u>			
Material safety data sheets for hazardous chemicals and drugs must be maintained readily accessible to laboratory and animal facility employees (<u>Title 29, Part 1910.1200(b)(3)(ii), CFR</u>)			
List of Agents:			
Additional occupational health and/or animal facility handling safety considerations:			

Appendix 9: IACUC/OB Protocol Form

L. BIOLOGICAL MATERIAL/ANIMAL PRODUCTS FOR USE IN ANIMALS: NONE ___ (check if none)		
List cells/tissues, sera/antibodies, viruses/parasites/bacteria, and non-synthetic biochemicals that will be introduced into research animals.		
Material:	Source:	Sterile?
		Y N
If derived from rodents, has the material been tested, e.g. MAP/RAP/HAP/PCR? (If Yes, attach copy of results)		
Have the tested materials been passed through rodents outside of the animal facility in question?		
Is the material derived from the original MAP/RAP/HAP/PCR tested sample?		
I certify that to the best of my knowledge that the above is complete and correct, and that the material remains uncontaminated with rodent pathogens.		

M. SPECIAL CONCERNS OR REQUIREMENTS OF THE STUDY: NONE ___ (check if none)

List any special housing, equipment, animal care (i.e., special caging, water, feed, or waste disposal, etc.). Include justification for exemption from participation in the environmental enrichment plan for nonhuman primates or exercise for dogs.

N. PRINCIPAL INVESTIGATOR CERTIFICATIONS:

1. I certify that I have attended an approved NIH investigator training course.
Month/Year of Initial Course Completion: _____ ; Month/Year(s) of Refresher Training: _____
2. I certify that I have determined that the research proposed herein is not unnecessarily duplicative of previously reported research.
3. I certify that all individuals working on this proposal who have animal contact are participating in the NIH Animal Exposure Program (or equivalent, as applicable, for contract personnel).
4. I certify that the individuals listed in Section A are authorized to conduct procedures involving animals under this proposal, have completed the course "Using Animals in Intramural Research: Guidelines for Animal Users" will complete refresher training as required, and received training in the biology, handling, and care of this species; aseptic surgical methods and techniques (if necessary); the concept, availability, and use of research or testing methods that limit the use of animals or minimize distress; the proper use of anesthetics, analgesics, and tranquilizers (if necessary); and procedures for reporting animal welfare concerns. I further certify that I am responsible for the professional conduct of all personnel listed in Section A.
5. **FOR ALL COLUMN D AND COLUMN E PROPOSALS (see section H):** I certify that I have reviewed the pertinent scientific literature and the sources and/or databases (2 or more) as noted in section H, and have found no valid alternative to any procedures described herein which may cause more than momentary pain or distress, whether it is relieved or not.
6. I will obtain approval from the ACUC before initiating any significant changes in this study.

Principal Investigator: Signature _____ Date _____

Appendix 9: IACUC/OB Protocol Form

O. CONCURRENCES: PROPOSAL NUMBER _____ (LEAVE BLANK)

Laboratory/Branch Chief: (certification of review and approval on the basis of scientific merit.
Scientific Director's signature required for proposals submitted by a Laboratory or Branch Chief)

Name _____ Signature _____ Date _____

NIH Safety Representative: (signature represents certification, compliance and concurrence for use of material listed in the Hazardous Material Section)

DOHS Safety Representative

DRS Safety Representative

Facility Manager: (certification of resource capability in the indicated facility to support the proposed study)

Facility _____ Name _____ Signature _____ Date _____

COMMENTS:

Facility Veterinarian: Certification of Review

Name _____ Signature _____ Date _____

Attending Veterinarian: Certification of Review

Name _____ Signature _____ Date _____

P. FINAL APPROVAL:

Certification of review and approval by the Animal Care and Use Committee Chairperson

Chairperson _____ Signature _____ Date _____

Appendix 9: IACUC/OB Protocol Form

Column E Explanation Form For Regulated Species

Though Column E studies do involve pain and/or distress, properly selected endpoints are applied to minimize pain and/or distress and adverse effects to the animals while accomplishing the scientific goals.

This form is intended as an aid to completing the Column E explanation. Names, addresses, protocols, veterinary care programs, and the like, are not required as part of an explanation. A Column E explanation must be written so as to be understood by lay persons as well as scientists.

1. **Registration Number: 51-F-0016**
2. **Number of animals used under Column E conditions in this study.**
3. **Species (common name) of animals used in this study.**
4. **Explain the procedure producing pain and/or distress, including reason(s) for species selected. (*from ASP Section F*)**
5. **Provide scientific justification why pain and/or distress could not be relieved. State methods or means used to determine that pain and/or distress relief would interfere with test results (*from ASP, Section F*). Provide summary of supportive care measures (if applicable).**

Appendix 9: IACUC/OB Protocol Form

INSTRUCTIONS FOR EMERGENCY ANIMAL TREATMENT AND CARE

Principal Investigator: _____ Date form completed: _____
Protocol Number: _____
Office Phone: _____
Home Phone: _____

Protocol Title: _____

Use a separate form if *care is different* for each species

Species: _____ Species: _____
Species: _____ Species: _____

Animal Housing Location: Bldg _____
Use separate form if care differs by location Bldg _____
Bldg _____

List of Procedures: (surgery, tumor implant, catheter) _____

Primary Point of Contact (P.O.C.) in Case of Emergency:

Work Tel: _____ Home Tel: _____ Pager or Cell #: _____

Alternate Point of Contact in Case of Emergency:

Work Tel: _____ Home Tel: _____ Pager or Cell #: _____

Potential or Expected Complications: _____

Circumstances Requiring Contact: _____

Treatment (indicate appropriate response):

Treatment determined by veterinarian: [] Yes [] No

If NO, specify restrictions as follows: _____

Specific treatment as follows: _____

What drugs are contraindicated? _____

Criteria for Euthanasia (indicate appropriate response)

At Vet discretion if poor condition, severe pain or distress: [] Yes [] No

If NO, specify treatments or restrictions: _____

• Notify P.O.C. *[] Yes [] No

• Requested euthanasia agent and route of administration: _____

• Specific criteria for euthanasia: _____

If Euthanasia is performed or animals are found dead:

a. Contact P.O.C. [] Yes [] No

Appendix 9: IACUC/OB Protocol Form

- b. Refrigerate carcass Yes No
c. Dispose of carcass Yes No
d. Submit to DVR for necropsy Yes No
- CAN number to use for submission: _____

Additional Comments: _____

Principal Investigator: _____
Signature Date

* The veterinarian will take the appropriate action in an emergency if no response from the PI/POC is received within 30 minutes after an attempt at notification is made.

Appendix 10: IACUC/OB Periodic Report

Please attached a copy of the latest facilities (including laboratory inspections) and program assessment report conducted by the IACUC/OB. **Attached.Same as Appendix 8.**

Appendix 11: Heating, Ventilation and Air Conditioning (HVAC) System Summary

Summarize the heating, ventilation and air conditioning (HVAC) systems for each animal facility, **including all satellite facilities**. Include **all animal holding rooms** (including satellite holding rooms), surgical facilities, procedure rooms, and support spaces integral to animal facilities (e.g., cage wash, cage and feed storage areas, necropsy, treatment).

Location/Building/Facility:

In the text box below, provide a general description of the mechanical systems used to provide temperature, humidity and air pressure control. Include details such as:

- the source(s) of air and air recirculation rates if other than 100% fresh air
- treatment of air (filters, absorbers, etc.)
- design features such as centralized chilled water, re-heat coils (steam or hot water), individual room vs. zonal temperature and relative humidity control, the use of variable air volume (VAV) systems and other key features of HVAC systems affecting performance
- features that minimize the potential for adverse consequences to animal well-being (such as re-heat coils that fail closed or that are equipped with high-temperature cut-off systems), and
- how room temperature, ventilation, and critical air pressures are monitored and maintained in the event of a system or component failure, including notifying appropriate personnel in the event of a significant failure that occurs outside of regular working hours and/or other management systems used to respond to alerts or failures.

Room No.	Use	Air Source %Fresh/Recirculated	Treatment Filtered/Absorbers, etc.	Air Changes	Pressure	Humidity Control	Date Assessed
Redacted by agreement	Animal area	100% Fresh	Double coarse filter	12	-	Y	10/17
clinic	clinic	100% Fresh	Double coarse filter	15	-	Y	10/17
surgery	surgery	100% Fresh	Double coarse filter	10	+	Y	10/17
x-ray	x-ray	100% Fresh	Double coarse filter	12	-	Y	10/17
Redacted by agreement	Holding Room	100% Fresh	Double coarse filter	12	-	Y	10/17

Appendix 11: Heating, Ventilation and Air Conditioning (HVAC) System Summary

Redacted by agreement	Holding Room	100% Fresh	Double coarse filter	13	-	Y	10/17
	Animal area	100% Fresh	Double coarse filter	12	-	Y	10/17
	Holding Room	100% Fresh	Double coarse filter	16	-	Y	10/17
	Holding Room	100% Fresh	Double coarse filter	12	-	Y	10/17
	Animal area	100% Fresh	Double coarse filter	13	-	Y	10/17
	Holding Room	100% Fresh	Double coarse filter	12	-	Y	10/17
	Animal area	100% Fresh	Double coarse filter	11	-	Y	10/17
	Holding Room	100% Fresh	Double coarse filter	22	-	Y	10/17
	Holding Room	100% Fresh	Double coarse filter	23	-	Y	10/17

In the Table below, provide room-specific information requested. For each room within this location, indicate use, including the species for animal housing rooms. *Measurement of air exchange rates and verification of relative pressure within animal housing rooms (excluding rooms housing aquatic species only) and cage washing facilities must be completed **within the 12 months preceding***

Appendix 11: Heating, Ventilation and Air Conditioning (HVAC) System Summary

completion of this Program Description. Air exchange rates may be important to maintain air quality in other areas; *however, measurements may be left at the discretion of the institution.* Information may be provided in another format, providing all requested data is included. **[Note: Please remove the examples provided in the Table below.]**

Room No.	Specific Use	Temperature Set-Point (define units)	Electronic / Emergency Monitoring of Temperatures (Y/N)	Alert/Alarm Temperature Ranges (if applicable; define units)	Humidity Control (Y/N)	Relative Pressure	Air Exchange Rate (per hour)	Date Verified / Measured
							(values to be measured)	
(settings to be verified)								
Redacted by agreement	Animal area	72°F	Y	70-74°F (alert) 68-76°F (critical alarm)	Y	+	10-15	10/2017
clinic	clinic	72°F	Y	70-74°F (alert) 68-76°F (critical alarm)	Y	-	10-15	10/2017
surgery	surgery	72°F	Y	70-74°F (alert) 68-76°F (critical alarm)	Y	-	10-15	10/2017
x-ray	x-ray	72°F	Y	70-74°F (alert) 68-76°F (critical alarm)	Y	-	10-15	10/2017
Redacted by agreement	Holding Room	72°F	Y	70-74°F (alert) 68-76°F (critical alarm)	Y	-	10-15	10/2017
	Holding Room	72°F	Y	70-74°F (alert) 68-76°F (critical alarm)	Y	-	10-15	10/2017
	Animal area	72°F	Y	70-74°F (alert) 68-76°F (critical alarm)	Y	-	10-15	10/2017
	Holding Room	72°F	Y	70-74°F (alert) 68-76°F (critical alarm)	Y	-	10-15	10/2017

Appendix 11: Heating, Ventilation and Air Conditioning (HVAC) System Summary

Room No.	Specific Use	Temperature Set-Point (define units)	Electronic / Emergency Monitoring of Temperatures (Y/N)	Alert/Alarm Temperature Ranges (if applicable; define units)	Humidity Control (Y/N)	Relative Pressure	Air Exchange Rate (per hour)	Date Verified / Measured
		(settings to be verified)						
Redacted by agreement	Holding Room	72°F	Y	70-74°F (alert) 68-76°F (critical alarm)	Y	-	10-15	10/2017
	Animal area	72°F	Y	70-74°F (alert) 68-76°F (critical alarm)	Y	-	10-15	10/2017
	Holding Room	72°F	Y	70-74°F (alert) 68-76°F (critical alarm)	Y	-	10-15	10/2017
	Necropsy	72°F	Y	70-74°F (alert) 68-76°F (critical alarm)	Y	-	10-15	10/2017

[Create additional rows by pressing TAB in the bottom-right box.]

Copy and repeat the Description and Table for each location, including all satellite housing locations.

Appendix 12: Aquatic Systems Summary – Part I

Please summarize water management and monitoring information programs for each animal facility, including all satellite facilities, rooms, enclosures. The following key will assist you in completing the form:

- (1) List location of aquaria, including outdoor enclosures (ponds or outdoor tanks). If indoors, list building and room number. Note that all species housed at the same location and maintained via the same design and monitoring may be listed in the same row.
- (2) Please indicate if embryonic (E), larval (L), juvenile (J) or Adult (A)
- (3) Group tanks (ponds, outdoor tanks, multiple aquaria) are arranged as arrays with shared water supply; individual aquaria have exclusive water handling systems.
- (4) Indicate water type, e.g., fresh, brackish, or marine.
- (5) Indicate water pre-treatment, e.g., dechlorination, rough filters.
- (6) Indicate water circulation, e.g., static, re-circulated, constant flow, or some combination of these. If applicable, indicate water exchange frequency and amount (percentage).
- (7) Provide a key word for filtration employed, e.g., biological, chemical, mechanical, and type (e.g., mechanical-bead filter). A diagram may be provided showing the flow of water, filtration, source of “make-up” water and amount replaced daily.

Part I

Location (1)	Species (2)	System Design					
		Group / Individual (3)	Water Type (4)	Pre-treatment (5)	Circulation (6)	Filtration (7)	Disinfection (e.g., UV, ozone)
N/A							

Note: Records of equipment maintenance (filter changes, UV bulb changes, probe changes, calibrations, etc.) should be available for review.

[Create additional rows by pressing TAB in the bottom-right box.]

Appendix 13: Primary Enclosures and Animal Space Provisions

Please complete the Table below considering performance criteria and guiding documents (e.g., Guide, Ag Guide, ETS 123 and/or other applicable standards) used by the IACUC/OB to establish adequacy of space provided for all research animals including traditional laboratory species, agricultural animals, aquatic species, and wildlife when reviewing biomedical, field, and agricultural research studies.

Species	Dimensions of Enclosure (cage, pen, tank*, corral, paddock, etc.)	Maximum Number Animals / Enclosure	Guiding Document Used to determine the Institution's Space Standards (Guide, Ag Guide, ETS 123, Other)	Enclosure Composition & Description**
Pan Trog.	180 sq ft indoor plus 240 sq ft outdoor.	6	Guide	Indoor and outdoor den with exercise yard

*For aquatic species, provide tank volume.

**Include descriptors such as open-topped, static microisolator, individually-ventilated cage systems (IVCS).

Appendix 14: Cleaning and Disinfection of the Micro- and Macro-Environment

Please describe the cleaning and disinfection methods in the Table below. Note the washing/sanitizing frequency and method for each of the following:

Area	Washing/Sanitizing Method (mechanical washer, hand washing, high-pressure sprayers, etc.)	Washing/Sanitizing Frequency	Chemical(s) Used*	Other Comments (e.g., autoclaved)
Micro-environment				
Solid-bottom cages (static)	N/A			
Solid-bottom cages (IVC)	N/A			
Suspended wire-bottom or slotted floor cages	Hand scrubbed, Sanitized after each use	Washed daily if occupied and sanitized once every other week.		
Cage lids	N/A			
Filter tops	N/A			
Cage racks and shelves	N/A			
Cage pans under suspended cages	Hosed down and hand scrubbed if needed	Cleaned and sanitized daily		
Play pens, floor pens, stalls, etc.	Dens are hosed down with hot water and power foamed & hand scrubbed to sanitize	At least once daily & sanitized every two weeks		

Appendix 14: Cleaning and Disinfection of the Micro- and Macro-Environment

Area	Washing/Sanitizing Method (mechanical washer, hand washing, high-pressure sprayers, etc.)	Washing/Sanitizing Frequency	Chemical(s) Used*	Other Comments (e.g., autoclaved)
		(SOP AC3202)		
Corrals for primates or outdoor paddocks for livestock	Exercise yards, the mesh bars & play structures are spot cleaned by hand	Daily, sanitized every two weeks		
Aquatic, amphibian, and reptile tanks and enclosures	N/A			
Feeders	Hand scrubbed, sprayers, hand foamers, detergent and degreaser, mops, brooms, brushes, sponges, and scrapers	Bi-weekly or as needed		
Watering devices	Same as above	Same as above		
Exercise devices and manipulanda used in environmental enrichment programs, etc.	Same as above	Same as above		
Transport cages	Hose, hand foamer, hand scrubbed	Same as above		
Operant conditioning & recording chambers, mechanical restraint	N/A			

Appendix 14: Cleaning and Disinfection of the Micro- and Macro-Environment

Area	Washing/Sanitizing Method (mechanical washer, hand washing, high-pressure sprayers, etc.)	Washing/Sanitizing Frequency	Chemical(s) Used*	Other Comments (e.g., autoclaved)
devices (chairs, slings, etc.)				
Euthanasia chambers	N/A			
Macro-Environment				
Animal Housing Rooms:				
Floors	Hand scrubbed, sprayers, hand foamers, detergent and degreaser, mops, brooms, brushes, sponges, and scrapers	Cleaned daily and disinfected every two weeks according to established procedures		
Walls	Same as above	Same as above		
Ceilings	Same as above	Same as above		
Ducts/Pipes	Wiping	Daily or as needed		
Fixtures	Wiping	Daily or as needed		
Corridors:				
Floors	Hand scrubbed, sprayers,	Daily or as		

Appendix 14: Cleaning and Disinfection of the Micro- and Macro-Environment

Area	Washing/Sanitizing Method (mechanical washer, hand washing, high-pressure sprayers, etc.)	Washing/Sanitizing Frequency	Chemical(s) Used*	Other Comments (e.g., autoclaved)
	hand foamers, detergent and degreaser, mops, brooms, brushes, sponges, and scrapers	needed		
Walls	Same as above	Same as above		
Ceilings	Same as above	Same as above		
Ducts/Pipes	Wiping	Same as above		
Fixtures	Wiping	Same as above		
Support Areas (e.g., surgery, procedure rooms, etc.); complete for each area:				
Floors	mop	Weekly or after each use		
Walls	Wiping	Monthly or after each use		
Ceilings	Wiping	Monthly or after each use		
Ducts/Pipes	Wiping	Daily or after each use		
Fixtures	Wiping	Daily or after each use		
Implements (note whether or not shared):				

Appendix 14: Cleaning and Disinfection of the Micro- and Macro-Environment

Area	Washing/Sanitizing Method (mechanical washer, hand washing, high-pressure sprayers, etc.)	Washing/Sanitizing Frequency	Chemical(s) Used*	Other Comments (e.g., autoclaved)
Mops	Rinse with water & hang to air dry	After each use		
Mop buckets	Same as above	After each use		
Aquaria nets	N/A			
Other	N/A			
Other:				
Vehicle(s)	Disinfectant and rinsed with water	After each use		
Other transport equipment (list)	N/A			

*Please provide chemical, not trade name.

Appendix 15: Facilities and Equipment for Sanitizing Materials

In the Tables below, summarize the facilities and equipment used to sanitize animal related equipment (tunnel washer, bottle washer, rack washer, bulk autoclave, hand-washing area, bedding dispensing unit, *etc.*). Note that some descriptions may be combined if all share identical features (e.g., all rack washers).

[Note: Please remove the examples provided in the Table below.]

Building	Room No.	Equipment Type	Safety Feature(s)	Methods of Monitoring Effectiveness
N/A				

[Create additional rows by pressing TAB in the bottom-right box.]

Appendix 16: Lighting Summary

Using the Table below, summarize the lighting system(s) for the animal housing facility(ies). For each species or holding room type, list light intensity (range), construction features (e.g., water resistance), photoperiod (light:dark) and control (e.g., automatic versus manual, phasing). For systems automatically controlling photoperiod, describe override mechanisms (including alarms, if applicable).

Location: _____

[Note: Please remove the examples provided in the Table below.]

Room Type ^(a)	Light Intensity Range	Lighting Fixture Construction Features ^(b)	Photo-period (hrs) ^(c)	Photoperiod and Lighting Control	Override Mechanisms (if applicable)
Redacted by agreement Animal area	100-300 LUX	Recessed, water proof	12:12	Automatic via wall-mounted timer box	Mechanical timer Mechanical on/off switch
clinic	100-300 LUX	Surface mounted, water resistant	N/A	N/A	Mechanical on/off switch
surgery	100-300 LUX	Recessed, water resistant; arm-mounted, water resistant	N/A	N/A	Mechanical on/off switch
x-ray	100-300 LUX	Recessed, water resistant; arm-mounted, water resistant	N/A	N/A	Mechanical on/off switch
Redacted by agreement Holding Room	100-300 LUX	Recessed, water proof	N/A	N/A	Mechanical on/off switch
Redacted by agreement Holding Room	100-300 LUX	Recessed, water proof	12:12	Automatic via wall-mounted timer box	Mechanical timer Mechanical on/off switch
Redacted by agreement Animal Area	100-300 LUX	Recessed, water proof	12:12	Automatic via wall-mounted timer box	Mechanical timer Mechanical on/off switch
Redacted by agreement Holding Room	100-300 LUX	Recessed, water proof	12:12	Automatic via wall-mounted timer box	Mechanical timer Mechanical on/off switch
Redacted by agreement Holding Room	100-300 LUX	Recessed, water proof	12:12	Automatic via wall-mounted timer box	Mechanical timer Mechanical on/off switch
Redacted by agreement Animal Area	100-300 LUX	Recessed, water proof	12:12	Automatic via wall-mounted timer box	Mechanical timer Mechanical on/off switch
Redacted by agreement Holding	100-300 LUX	Recessed, water proof	12:12	Automatic via wall-mounted timer box	Mechanical timer Mechanical on/off switch

Appendix 17: Satellite Housing Facilities

Room Type ^(a)	Light Intensity Range	Lighting Fixture Construction Features ^(b)	Photo-period (hrs) ^(c)	Photoperiod and Lighting Control	Override Mechanisms (if applicable)
Room					
Redacted by agreement Animal Area	100-300 LUX	Recessed, water proof	12:12	Automatic via wall-mounted timer box	Mechanical timer Mechanical on/off switch
Redacted by agreement Holding Room	100-300 LUX	Recessed, water proof	12:12	Automatic via wall-mounted timer box	Mechanical timer Mechanical on/off switch
Redacted by agreement Holding Room	100-300 LUX	Recessed, water proof	12:12	Automatic via wall-mounted timer box	Mechanical timer Mechanical on/off switch
Redacted by agreement Necropsy	100-300 LUX	Recessed, water proof	12:12	Automatic via wall-mounted timer box	Mechanical timer Mechanical on/off switch

[Create additional rows by pressing TAB in the bottom-right box.]

- (a) A list of each room is not needed; group or cluster rooms by species or function
- (b) Include such features as water resistance, red lighting, etc.
- (c) Note if light cycle inverted/reversed.

Repeat Location and Table as necessary for each location, including satellite housing locations.

Appendix 17: Satellite Housing Facilities

Note: In the Program Description Section 2. IV. (Physical Plant), item C., describe the criteria used to determine a “Satellite Animal Holding Area.” In the Table below, summarize these animal housing areas. Note that the total square footage for all each of these must also be included in the Summary of Animal Housing and Support Sites (**Appendix 2**), and applicable information regarding these areas included in the Heating, Ventilation, and Air Conditioning (HVAC) Summary (**Appendix 11**) and Lighting Systems Summary (**Appendix 16**).

Building	Room(s)	Person Responsible	Species Used	Approximate Area (ft ² or m ²) Devoted to Housing	Maximum Period of Stay	Purpose / Rationale / Justification	Construction Features and Finishes
N/A							

[Create additional rows by pressing TAB in the bottom-right box.]