20/AS/96/UEPC

CALIFORNIA STATE UNIVERSITY, STANISLAUS

POLICY FOR THE CARE AND USE OF ANIMALS

in compliance with the National Institutes for Health (NIH)"Guide for the Care and Use of Laboratory Animals"

for conducting Institutional Animal Care and Use Committee (IACUC) semi-annual program evaluations

Note: The policy is organized according to the guidelines from the U.S. Department of Agriculture and with the advice of the local inspector. Both policy and procedure are combined in this document, and the required outline has been followed. The only changes in policy and procedures from the April 1, 1986 CSU Stanislaus policy are those required by current Federal law. This draft policy has been reviewed by the Animal Welfare Committee and faculty members who conduct research involving animals. The University is currently exempt from inspection because the animals now used in research here are not included under the policy. The Committee does feel, however, that a revised policy should be approved in order to be prepared either for research involving non-exempt animals or for a change in the Federal law which would include the animals now used in research at CSU Stanislaus.

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CALIFORNIA STATE UNIVERSITY

POLICY FOR THE CARE AND USE OF ANIMALS

A. INTRODUCTION

1. Policy. Humane care, use and treatment of animals for instructional research and related purposes is an institutional responsibility. California State University, Stanislaus will comply with all laws and regulations relating to the acquisition, care, use and treatment of animals in the performance of authorized functions of the University. The University Animal Welfare Committee will provide: 1) oversight and review of all animal care and use facilities and procedures; and 2) timely certifications and reports of the humane care and use of animals as required by governmental agencies. The University Animal Welfare Committee will consist of no fewer than five persons appointed by the President as described in the NIH Publication #86-23.

2. **Responsibilities and Procedures**.

a. The Animal Welfare Committee shall maintain records of committee activities in the Office of Research and Grants. These records shall be available for inspection by authorized representatives of governmental agencies.

b. Deans, chairpersons, or faculty members having jurisdiction over animal care and use facilities are responsible for implementing professionally acceptable standards for care and use of all animals within their jurisdiction and assuring that those standards are met.

c. All investigators, including students, must follow the procedures and guidelines set forth by the committee and additionally accept responsibility to assure that all actions dealing with animals will be in accordance with humane standards and the referenced laws and regulations (Section A.3.). Faculty are responsible for authorized care and use of animals by students under their supervision.

d. Standards for the construction and use of housing, service, and surgical facilities for animals shall meet those described in *Guide for Care and Use of Laboratory Animals,* National Institutes of Health (NIH) Publication #86-23, or as otherwise required by the U.S. Department of Agriculture under terms of the Laboratory Animal Welfare Act (P.L. 89-544) as amended 1970 and 1976 (P.L. 94-279).

e. Transportation of animals must be in accord with applicable standards and promptly, delivered, uncrated, and placed in the Animal Care Facility.

f. Acquisition of animals shall be in accordance with state and federal laws and regulations.

g. Disposal of dead animals shall be in accordance with governmental regulations.

h. All activities involving animals for which the University bears any responsibility must be considered and approved by the animal Welfare Committee in accordance with protocol review procedures.

3. **Definitions and References**.

a. Definitions

For purposes of this document, an animal is any live vertebrate animal and any invertebrate animal protected by state and federal laws and regulations. Animal care and use facilities are any buildings, rooms, areas, structures,

or vehicles designed to confine, maintain, transport, or use animals.

b. References

1. *Animal Welfare Act*, Public Law 89-544,1966, amended in 1970 and 1976 (P.L. 91-750 and P.L. 94-279), and any succeeding amendments.

2. *Guide for the Care and Use of Laboratory Animals,* DHEW No. (NIH) 85-23, revised 1985 and any succeeding revision.

3. *DHEW and PHS Grants Administration Manuals*, Chapter 1-43 Animal Welfare, and any succeeding revisions.

4. Applicable provisions and regulations of Title 9, *California Administrative Code*, CALOSHA.

5. Applicable provisions and regulations of California Department of Public Health.

6. Applicable provisions and regulations of the California Fish and Game Code and Title 14, *California Administrative Code*.

7. Applicable provisions and regulations of the *Marine Mammal Protection Act of 1972*, P.L. 92-522, and succeeding amendments.

8. Applicable provisions and regulations of the *Endangered Species Act of 1973,*

P.L. 93-205, and succeeding amendments.

B Institutional Policies

1. Monitoring the Care and Use of Animals

a. Institutional Animal Care and Use Committee

1) The University Animal Welfare Committee will provide: (1) oversight and review of all animal care and use facilities and procedures; and (2) timely certifications and reports of the humane care and use of animals as required by governmental agencies.

2) The University Animal Welfare Committee will consist of no fewer than five persons appointed by the President as described in the NIH publication #86-23. The Director of Research and Grants shall serve as the Executive Secretary of the Committee.

3) The protocol review procedures shall include discussion and appropriate decisions about the following:

a) Projects shall be submitted for approval to the Committee and shall include the complete proposal and an application for use of animal subjects. Intramural activities submitted for approval shall include a project description, scientific procedures, budget (if applicable), and an application for use of animal subjects.

b) Appropriate documents shall be submitted to the Office of Research and Grants which shall forward the materials to the Animal Welfare Committee. Guidelines and forms are available in the Office of Research and Grants.

4) Project descriptions shall provide the following information:

a. The nature and objectives of the investigation to be performed on the animal subjects.

b. Species and number of animals to be used.

c. The rationale for use of the animals.

d. Proposed methods to avoid unnecessary discomfort and/or injury to the animals.

e. Location of facilities for care and use of animal subjects.

f. Requirements for care and use of the animal.

5) The Animal Welfare Committee will evaluate the application for the following:

a. Adherence to provisions and standards of applicable laws and regulations and campus policies.

b. Provisions for humane care, handling, and use of animal subjects.

c. Appropriate use of anesthetic, analgesic, tranquilizing, and euthanatizing agents.

d. Proper arrangement for animal care and use facilities.

e. Agreement with the following principles:

1) Procedures should be designed to yield useful results and should be based on knowledge of the disease, problem, or biology of the animal under study.

2) Procedures should avoid all unnecessary suffering and injury to the animals.

3) Persons in charge of the procedures will be prepared to terminate them whenever their continuation may result in unnecessary injury or suffering to the animals.

4) If a procedure is likely to cause greater discomfort than that attending anesthetization, the animal must first be rendered incapable of perceiving pain and be maintained in that condition until the procedure is ended. The only exception should be in those cases where anesthetization would defeat the purpose of the experiment and the data cannot be obtained by any other procedure.

5) Post-experimental care of animals must be such as to minimize discomfort, in accordance with acceptable practices in veterinary medicine.

6) Animals that must be sacrificed should be treated humanely and in such a way as to ensure rapid and painless death. No animal shall be discarded until after it is dead. Attempts to dispose of surplus animals to other institutions or individuals for humane purposes should be made as an alternative to destruction. Departmental chairpersons or other appropriate officials must approve donations and those who receive animals must first sign a statement assuming responsibility for the animals received.

7) The Animal Welfare Committee will follow the schedules below.

a) The meetings of the Animal Welfare Committee shall be held once every six months. These meetings will usually be held once during the Fall Semester and once during the Spring Semester. The facilities will be inspected at the same times. The minutes of the meetings and memoranda to the General Faculty will serve as documentation of compliance.

b) USDA Report will be filed once each year by the Executive Secretary of the Animal Welfare Committee.

2. Veterinary Care

a. A veterinarian visits and inspects the animals and facilities twice per year, or once every six months.

b. Adequate veterinary care consists of observing all animals daily, if required, to assess their health and welfare; using appropriate methods to prevent, control, diagnose, and treat diseases and injuries; providing guidance to users regarding handling, immobilization, anesthesia, analgesia, and euthanasia; and monitoring surgery programs and post surgical care.

c. Veterinary care is the responsibility of a veterinarian who is certified or has training or experience in laboratory animal science and medicine. Observation of animals can be accomplished by someone other than a veterinarian; however, a mechanism of direct and frequent communication should be adopted so that timely and accurate information on problems in animal health, behavior, and well-being is conveyed to the attending veterinarian.

d. The veterinarian can also contribute to the establishment of appropriate policies and procedures for ancillary aspects of veterinary care, such as advising on experimental models; reviewing protocols and proposals with respect to veterinary care, animal husbandry, and animal welfare; monitoring occupational health, hazard containment, and zoonosis control programs; and supervising animal nutrition, husbandry, and sanitation.

3. Personnel Qualifications

a. A licensed, experienced veterinarian is employed as the animal resource professional.

b. A fully-qualified animal care technician is employed to oversee the day-to-day care of the animals.

c. The research staff are well qualified, experienced faculty members. When students are involved as researchers, they are supervised by these faculty members.

d. No hazardous agents are used.

4. Personnel Hygiene

a./b./c. No work clothing is provided, therefore there is no laundering or shower and change facilities.

d./e. Eating, drinking, and smoking is not permitted.

5. Occupational Health Program

a. Content of program

An occupational health program is mandatory for personnel who work in laboratory animal facilities or have substantial animal contact. This program includes a physical examination and a medical and work history prior to work assignment. Periodic physical examinations are advised when appropriate; occupational hazards, including animal bites and allergies (Enviro Control, Inc., 1979), can be identified. Appropriate methods for preventing and treating them are available.

b. Program oversight

The Animal Welfare Committee will oversee the implementation of the Environmental Health and Occupational Health Program.

c. Participation

An appropriate immunization schedule for all animal and investigative staff is followed, including immunization against tetanus and for people who handle animals at substantial risk of infection with such agents as rabies virus and hepatitis B virus.

d. Training on zoonosis and personnel hygiene

Zoonosis surveillance is a part of an occupational health program and includes keeping records of individual work assignments, bite wounds, and unusual illnesses (CDC, 1984; Fox et al., 1984). Personnel are instructed to notify their supervisors of illnesses and of suspected health hazards. Furthermore, consideration is given to obtaining and storing individual pre- and post employment serum samples for future diagnostic purposes.

Non human primates' diseases that are transmissible to humans can be a serious hazard. Personnel (including animal technicians, clinicians, investigators, students, research technicians, maintenance workers, and security personnel) who have contact with non human primates are encouraged to undergo regularly scheduled tests for tuberculosis. Protective clothing, such as outer garments, gloves, masks, and face shields, should are used in handling these animals.

6. Experimentation Involving Hazardous Agents

Currently no hazardous materials are used; however, should they be used in the future, the following policies and procedures will apply.

a. Policies and procedures

Protective devices and other safety measures consistent with current practices are used to guard against exposure to potentially hazardous biological, chemical, and physical agents (CFR, 1984a,b).

b. Monitoring

The University Environmental Hazards and Occupational Safety Officer is knowledgeable about hazardous agents and is appointed to evaluate safety issues. The procedures and facilities used in such studies are reviewed by both this officer and the Animal Welfare Committee. Formal safety programs are established to assess the hazards, determine the safeguards needed for their control, and ensure that the staff is competent (see Section

B.6.a.) and the facilities are adequate for the safe conduct of the research. Technical support is provided to monitor compliance with federal, state, and local regulations and institutional biosafety policies. Applicable publications containing these regulations and guidelines include:

Code of Federal Regulations. 1984. Title 10; Part 20, Standards *for Protection Against Radiation.* Washington, D.C.: Office of the Federal Register.

Code of Federal Regulations. 1984. Title 29; Part 1910, *Occupational Safety and Health Standards*; Subpart G, Occupational Heath and Environmental Control, and Subpart Z, Toxic and Hazardous Substances. Washington, D.C.: Office of the Federal Register.

Code of Federal Regulations. 1984. Title 40; Part 260, *Hazardous Waste Management System: General*; Part 261, I*dentification and Listing of Hazardous Waste*; Part 262, *Standards Applicable to Generators of Hazardous Waste*; Part 263, *Standards Applicable to Transporters of Hazardous Waste*; Part 264, *Standards for Owners and Operators of Hazardous Waste Treatment, Storage, and Disposal Facilities*; Part 265, *Interim Status Standards for Owners and Operators of Hazardous Waste Treatment, Storage, and Disposal Facilities*; and Part 270, *EPA Administered Permit Programs: The Hazardous Waste Permit Program*. Washington, D.C.: Office of the Federal Register.

Centers for Disease Control and National Institutes of Health. 1984. *Biosafety in Microbiological and Biomedical Laboratories*. DHHS Pub. No. (CDC) 84-8395. *Involving Oncogenic Viruses*. DHEW Pub. No. (NIH) 78-790. Washington, D.C.: U.S. Department of Health, Education and Welfare. 20 pp.

National Cancer Institute. 1976. *Biological Safety Manual for Research Involving Oncogenic Viruses*. DHEW Pub. No. (NIH) 76-1165. Washington, D.C.: U.S. Department of Health, Education and Welfare.

National Institutes of Health. 1979. *Laboratory Safety Monograph. A Supplement to the NIH Guidelines for Recombinant DNA Research.* Washington, D.C.: U.S. Department of Health, Education and Welfare, 227 pp.

National Institutes of Health. 1981. *NIH Guidelines for the Laboratory Use of Chemical Carcinogens*, NIH Pub. No. 81-2385. Washington, D.C.: U.S. Department of Health and Human Services.

National Institutes of Health. 1984. *Guidelines for Research Involving Recombinant DNA Molecules*. Fed. Regist. 49(227):46266-46291.

Subcommittee on Arbovirus Laboratory Safety, American Committee on Arthropod-Borne Viruses. 1980. *Laboratory safety for arboviruses and certain other viruses of vertebrates.* Am. J. Trop. Med. Hyg. 29:1359-1381.

7. Animal Restraint

Brief physical restraint of animals for examination, collection of samples, and a variety of other clinical and experimental manipulations can be accomplished manually or with devices such as restraint stocks or squeeze cages. Such devices are suitable in size and design for the animal being held and operated properly to minimize stress and avoid injury to the animal.

Prolonged restraint of any animal, including the chairing of non-human primates, is avoided unless essential to research objectives. Less restrictive systems, such as the tether system or the pole and collar system, are used

when compatible with research objectives. The following are important guidelines for the use of restraint equipment:

a) Animals to be placed in restraint equipment should be conditioned to such equipment prior to initiation of the research.

b) The period of restraint should be the minimum required to accomplish the research objectives. Prolonged restraint for any reason must be approved by the Animal Welfare Committee.

c) Restraint chairs or similar devices are not to be considered "normal" methods of housing, although they may be required for specific research objectives.

d) Restraint chairs or similar devices must not be used simply as a convenience to investigators in handling or managing animals. When such devices are used, their use must be specifically approved by the Animal Welfare Committee.

e) Attention must be paid to the possible development of lesions or illnesses associated with restraint, including contusions, decubital ulcers, dependent edema, and weight loss. If these or other problems occur, veterinary care must be provided to treat the animal which, if necessary, must be temporarily or permanently removed from the restraint device.

8. Multiple Major Surgical Procedures

Multiple major survival surgical procedures on a single animal are discouraged. However, under special circumstances they might be permitted with the approval of the Animal Welfare Committee. One situation in which multiple survival surgical procedures might be justified is when they are related components of a research project. Cost savings alone is not an adequate reason for performing multiple survival surgical procedures.

C. Laboratory Animal Husbandry

1. Housing

The caging or housing system is designed carefully to facilitate animal well-being, meet research requirements, and minimize experimental variables. The housing system provides space that is adequate, permits freedom of movement and normal postural adjustments, and has a resting place appropriate to the species; provides a comfortable environment; provides an escape-proof enclosure that confines animals safely; provides easy access to food and water; provides adequate ventilation; meets the biological needs of the animals, e.g., maintenance of body temperature, urination, defecation, and, if appropriate, reproduction; keeps the animals dry and clean, consistent with species requirements; avoids unnecessary physical restraint; and protects the animals from known hazards.

Caging systems are constructed of sturdy, durable materials and designed to minimize cross-infection between adjoining units. Cages have smooth, impervious surfaces that neither attract nor retain dirt and a minimum number of ledges, angles, and corners in which dirt or water can accumulate. The design allows inspection of cage occupants without disturbing them. Feeding and watering devices are easily accessible for filling, changing, cleaning, and servicing.

Cages, runs and pens are kept in good repair to prevent injury to animals, promote physical comfort, and facilitate

sanitation and servicing. Particular attention is given to eliminating sharp edges and broken wires, keeping cage floors in good condition, and refurbishing or replacing rusted or other deteriorating equipment.

The social environment considers whether the animals are naturally territorial or communal and whether they will be housed singly or in groups. When appropriate, group housing is considered for communal animals. In grouping animals, population density and ability to disperse, initial familiarity among animals, and age, sex, and social rank are considered. Recommendations about space, temperature and humidity, ventilation, illumination, and noise may be found in *Guide for the Care and Use of Laboratory Animals* (pp. 18-21) are followed.

Currently, metal wire cages are used for the pigeons, rats, and mice. The sizes conform with space requirements in Appendix A. They are washed down at least every two weeks or more often if needed. There is no social enrichment for rats. There is some social enrichment for mice. The pigeons are individually caged but are allowed to fly loose most of the time. The temperature is maintained constantly between 68-78 degrees Fahrenheit.

2. Food

The pigeons are fed Swanson Farms' Pigeon Pellet (28% protein). The rats and mice are fed rat chow. Both types of feed are purchased from a local, reputable feed and supply store. The milling dates are checked at the time of purchase. Care is taken to ensure, to the extent possible, that no contaminants are present in the feed. At the vendor, the feed is stored in bags in a warehouse. In the animal rooms, it is stored in covered and closed plastic drums. The feeders are metal and attached to side of the cage.

3. Bedding

The rats and pigeons do not use any bedding. The droppings collect in a catch tray under the cage. The mice use cedar wood shavings, which are changed every two weeks or more often if needed. The bedding is stored in a clean, dry, covered and closed container. It is purchased from a local, reputable feed and supply store.

4. Water

Untreated tap water from the city water system placed in dripper bottles with drinking tubes is used for the animals.

5. Sanitation

The cages and pan litter are changed at least every two weeks or more often if needed. Solid debris is disposed of in the closed garbage containers. Liquid wasted is hosed down the drains in the facilities. The specific areas cleaned are solid bottom cages and cage tops for the mice; grid floor cages for rats and pigeons; cage racks for rats; and, litter pans for pigeons. No animals are kept in pens, stalls, etc. No feeding implements are used.

6. Animal Identification and Records

The only identification is that the cages are numbered when the student researchers begin working with the animals. Records are maintained for specific periods of time, usually by semester.

7. Provisions for Emergency, Weekend and Holiday Care

The laboratory technician is on call at his office or home telephone numbers at all times for emergency care. Part-time employees feed, clean and monitor the environmental systems on weekends and holidays.

D. Veterinary Care

1. Preventive Medicine

All animals must be acquired lawfully. An evaluation should be made of animal quality for each potential vendor. A health surveillance program for screening incoming animals is used to assess animal quality. This program also reviews methods of transportation. Each shipment of animals is inspected for compliance with procurement specifications, and the animals are quarantined and stabilized according to procedures appropriate for the species and circumstances. Animals are purchased from reliable vendors. Vendor quality- control data can be helpful in selecting these procedures.

The veterinarian formulates standard operating procedures to evaluate the health status of newly received, quarantined animals in accordance with acceptable veterinary medical practice and federal, state, and local regulations.

Quality control by the vendor and a knowledge of the history of the animals are acceptable parts of an institution's quarantine protocol. This information may limit the quarantine period for rodents to the time necessary for inspection on arrival; however, all newly received animals should be allowed a stabilization period prior to their use. This permits animals to adapt to their surroundings, resulting in a more stable physiological and behavioral state If the history of newly received animals is incomplete, the quarantine procedure is more comprehensive and of sufficient duration to allow expression of diseases present in the incubation stages. Some or all of the following is achieved during the quarantine and stabilization period: diagnosis, control, prevention, and treatment of diseases, including zoonoses; physiological and nutritional stabilization; and grooming, including bathing, dipping, and clipping, as required.

Physical separation of animals by species is generally recommended to prevent interspecies disease transmission, reduce anxiety due to interspecies conflict, and meet experimental requirements. Intraspecies separation is advisable when animals obtained from multiple sources differ in microbiological status. (Additional guidelines are detailed in the *Guide for the Care and Use of Laboratory Animals* (pp. 35-36).

2. Surveillance, Diagnosis, Treatment and Control of Animal Diseases

Incoming animals are screened. All laboratory animals are observed daily for signs of illness, injury or abnormal behavior by a person trained to recognize such signs. Unexpected deaths and deviations from normal is reported promptly to the person responsible for animal disease control. Sick or injured animals receive prompt veterinary medical care. Animals that are suspected of having a contagious disease are isolated from healthy animals in the colony. When an entire group or room of animals is known or believed to be exposed to an infectious agent, the group are kept intact during the process of diagnosis, treatment and control.

Methods of prophylaxis, diagnosis, therapy, and disease control follow currently accepted practice. Diagnostic laboratory services supplement physical examination and facilitate diagnosis or diseases. These services include gross and microscopic pathology, clinical pathology, hematology, microbiology, clinical chemistry, and other appropriate laboratory procedures.

Inapparent viral infections of rodents, which can occur with mouse hepatitis virus, minute virus of mice, and lactic dehydrogenase virus, can have an effect on some types of research.

3. Anesthesia and Analgesia

The proper use of anesthetics, analgesics, and tranquilizers in laboratory animals is necessary for humane and scientific reasons. The choice and use of the most appropriate drugs are matters for the attending veterinarian's professional judgment. The veterinarian provides research personnel with guidelines and advice concerning choice and use of these drugs.

If a painful procedure must be conducted without the use of an anesthetic, analgesic, or tranquilizer -- because such use would defeat the purpose of an experiment -- the procedure must be approved by the Animal Welfare Committee and supervised directly by the responsible investigator.

Muscle relaxants or paralytic drugs (e.g., succinylcholine or other curariform drugs) are not anesthetics. They are not used alone for surgical restraint, although they can be used in conjunction with drugs known to produce adequate analgesia.

Ether is used for all animals cared for at CSU Stanislaus. Appropriate safety conditions are provided.

4. Survival Surgery and Post surgical Care

The following procedures apply to both non-rodent mammalian and rodent species:

Aseptic surgery are conducted only in facilities intended for that purpose. These facilities are maintained and operated to ensure cleanliness and directed and staffed by trained personnel. Surgery is performed or directly supervised by trained, experienced personnel. Training in aseptic surgery is provided for those who require it.

Aseptic technique are used on most animals, including lagomorphs, that undergo major survival surgery. This technique includes wearing of sterile surgical gloves, gowns, caps, and face masks; use of sterile instruments; and aseptic preparation of the surgical field. Major survival surgery is defined as any surgical intervention that penetrates a body cavity or has the potential for producing a permanent handicap in an animal that is expected to recover. Survival surgery on rodents does not require a special facility but should be performed using sterile instruments, surgical gloves, and aseptic procedures to prevent clinical infections.

Appropriate facilities and equipment are available for post surgical care.

Post surgical care includes observing the animal to ensure uneventful recovery from anesthesia and surgery; administering supportive fluids, analgesics, and other drugs as required; providing adequate care for surgical incisions; and maintaining appropriate medical records. Equipment and supply items that can be helpful for intensive care include heating pads, vaporizers, vacuum equipment, respirator, cardiac monitor, and oxygen. Proper monitoring by trained personnel is provided durng recovery.

Minor surgical procedures, such as wound suturing and peripheral vessel cannulation, is performed under less stringent conditions when they are performed in accordance with standard veterinary practices.

5. Euthanasia

Euthanasia, the procedure of killing animals rapidly and painlessly, is carried out by trained personnel using acceptable techniques in accordance with institutional policies and applicable laws. The method used should not interfere with postmortem evaluation.

Techniques for euthanasia follow current guidelines established by the American Veterinary Medical Association

Panel on Euthanasia (AVMA, 1978). Other methods must be reviewed and approved by the institutional veterinarian. Acceptable methods of euthanasia are those that initially depress the central nervous system to ensure insensitivity to pain (Canadian Council on Animal Care, 1980). For this reason, anesthetic agents are generally acceptable, and animals of most species can be killed quickly and humanely by intravenous or intraperitoneal injection of an overdose of barbiturates. Other methods can be used for euthanasia of anesthetized animals because the major criterion of humane treatment has been fulfilled (Lucke, 1979).

Every attempt is made to perform euthanasia on animals in a manner that minimizes reactions among other living animals. Proper euthanasia technique includes a follow-up examination to confirm the absence of a heartbeat, which is a reliable indicator of death. Monitoring respiration is not sufficient. In some animals, particularly under deep carbon dioxide anesthesia, heartbeat can be maintained after visible respiration has ceased, and the animal might eventually recover.

E. Physical Plant

1. Overview of General Arrangement and Condition of Facility

The facility was built according to Animal Welfare Act specifications in 1988, and certain features were improved in 1992.

2. Support Areas. There are no support areas. An area for the storage of cages and other items, and waste disposal facilities are provided. A lounge area for animal care personnel is not needed. Administrative space is housed in the nearby Science Building.

The rats cages, which are easy to clean, are wiped with Roccal. Sponges, brooms, hoses, mops, and paper towels are kept in the facility. The environmental condition for personnel is good.

No surgery facilities are needed.

3. Animal Rooms. These are described in sections E. 1 and 2. The walls are tile; the lighting is good. Ventilation and window air-conditioning provide the air source, and the room air is continuously exchanged between the inside and the outside. The temperature is maintained between 68 and 78 degrees Fahrenheit. The arid climate of the region makes humidity control unnecessary.

4. Other Features. Emergency power is provided through the University system. Environmental monitoring (e.g., animal rooms air flows, relative air pressures, temperature, humidity) is checked by the staff. The doors to the facility are locked at all times and checked regularly by the University Public Safety Officers.

F. Special Considerations

1. Genetics and Nomenclature. The homozygosity of these animals must be maintained to ensure the reproducibility and comparability of experimental data.

Management systems are designed to minimize genetic drift and genetic contamination resulting from mutation or mismating. Inbred animals are monitored periodically for genetic homozygosity. If outbred animals are used, they must be maintained by breeding schemes designed to maximize genetic heterogeneity, which in turn facilitates the direct comparison of research data derived from outbred stocks.

Accurate identification, using standardized nomenclature where it is available, and recording both the strain and

substrain or the genetic background of all animals used in a research project are important.

2. Facilities and Procedures for Animal Research Involving Hazardous Agents. No hazardous agents are used.

3. Farm Animals. No farm animals are kept at the facility.

G. Laboratories Visited

No work is currently being done with other laboratories. No visits are being made to other laboratories.

--Proposed revisions to comply with current federal policy by CSU Stanislaus Animal Welfare Committee,

June, 1995

--Approved by CSU Stanislaus Academic Senate on October 22, 1996
--Approved by the President on December 3, 1996