ANIMAL RESOURCE (COOPERATIVE AGREEMENT) **Federal Award Date:** 06/11/2019
Department of Health and Human Services
National Institutes of Health

OFFICE OF THE DIRECTOR, NATIONAL INSTITUTES OF HEALTH

Grant Number: 5U42OD024282-03
FAIN: U42OD024282

Principal Investigator(s):
RUDOLF P BOHM, DVM

Project Title: Tulane National Primate Research Center, AIDS SPF Breeding Colony Maintenance

Ms. Kozar, Kathleen M.
Director, Sponsored Projects Administration
Tulane University
6823 St. Charles Ave
New Orleans, LA 701122632

Award e-mailed to: elecnotf@tulane.edu

Period Of Performance:
Budget Period: 07/01/2019 – 06/30/2020
Project Period: 07/01/2017 – 06/30/2021

Dear Business Official:

The National Institutes of Health hereby awards a grant in the amount of $2,106,465 (see "Award Calculation" in Section I and "Terms and Conditions" in Section III) to TULANE UNIVERSITY OF LOUISIANA in support of the above referenced project. This award is pursuant to the authority of 42 USC 241 31 USC 6305 42 CFR 52 and is subject to the requirements of this statute and regulation and of other referenced, incorporated or attached terms and conditions.

Acceptance of this award including the "Terms and Conditions" is acknowledged by the grantee when funds are drawn down or otherwise obtained from the grant payment system.

Each publication, press release, or other document about research supported by an NIH award must include an acknowledgment of NIH award support and a disclaimer such as "Research reported in this publication was supported by the Office Of The Director, National Institutes Of Health of the National Institutes of Health under Award Number U42OD024282. The content is solely the responsibility of the authors and does not necessarily represent the official views of the National Institutes of Health." Prior to issuing a press release concerning the outcome of this research, please notify the NIH awarding IC in advance to allow for coordination.

Award recipients must promote objectivity in research by establishing standards that provide a reasonable expectation that the design, conduct and reporting of research funded under NIH awards will be free from bias resulting from an Investigator's Financial Conflict of Interest (FCOI), in accordance with the 2011 revised regulation at 42 CFR Part 50 Subpart F. The Institution shall submit all FCOI reports to the NIH through the eRA Commons FCOI Module. The regulation does not apply to Phase I Small Business Innovative Research (SBIR) and Small Business Technology Transfer (STTR) awards. Consult the NIH website http://grants.nih.gov/grants/policy/coi/ for a link to the regulation and additional important information.

If you have any questions about this award, please contact the individual(s) referenced in Section IV.

Sincerely yours,

Gavin Wilkom
Grants Management Officer
OFFICE OF THE DIRECTOR, NATIONAL INSTITUTES OF HEALTH

Additional information follows

SECTION I – AWARD DATA – 5U42OD024282-03

Award Calculation (U.S. Dollars)

Salaries and Wages	$126,465
Fringe Benefits	$26,811
Personnel Costs (Subtotal)	$153,276
Materials & Supplies	$1,091,153
Travel	$2,000
Federal Direct Costs	$1,246,429
Federal F&A Costs	$860,036
Approved Budget	$2,106,465
Total Amount of Federal Funds Obligated (Federal Share)	$2,106,465
TOTAL FEDERAL AWARD AMOUNT	$2,106,465
AMOUNT OF THIS ACTION (FEDERAL SHARE)	$2,106,465

SUMMARY TOTALS FOR ALL YEARS		
YR	**THIS AWARD**	**CUMULATIVE TOTALS**
3	$2,106,465	$2,106,465
4	$2,106,465	$2,106,465

Recommended future year total cost support, subject to the availability of funds and satisfactory progress of the project

Fiscal Information:

CFDA Name:	Research Infrastructure Programs
CFDA Number:	93.351
EIN:	1720423889A5
Document Number:	UOD024282A
PMS Account Type:	P (Subaccount)
Fiscal Year:	2019

IC	CAN	2019	2020
OD	8014500	$2,106,465	$2,106,465

Recommended future year total cost support, subject to the availability of funds and satisfactory progress of the project

NIH Administrative Data:
PCC: CMP03 / **OC**: 414P / **Released**: eRA Commons User Name 06/10/2019
Award Processed: 06/11/2019 12:12:06 AM

SECTION II – PAYMENT/HOTLINE INFORMATION – 5U42OD024282-03

For payment and HHS Office of Inspector General Hotline information, see the NIH Home Page at http://grants.nih.gov/grants/policy/awardconditions.htm

SECTION III – TERMS AND CONDITIONS – 5U42OD024282-03

This award is based on the application submitted to, and as approved by, NIH on the above-titled project and is subject to the terms and conditions incorporated either directly or by reference in the following:

a. The grant program legislation and program regulation cited in this Notice of Award.
b. Conditions on activities and expenditure of funds in other statutory requirements, such as those included in appropriations acts.
c. 45 CFR Part 75.
d. National Policy Requirements and all other requirements described in the NIH Grants Policy Statement, including addenda in effect as of the beginning date of the budget period.
e. Federal Award Performance Goals: As required by the periodic report in the RPPR or in

the final progress report when applicable.

f. This award notice, INCLUDING THE TERMS AND CONDITIONS CITED BELOW.

(See NIH Home Page at http://grants.nih.gov/grants/policy/awardconditions.htm for certain references cited above.)

Research and Development (R&D): All awards issued by the National Institutes of Health (NIH) meet the definition of "Research and Development" at 45 CFR Part§ 75.2**.** As such, auditees should identify NIH awards as part of the R&D cluster on the Schedule of Expenditures of Federal Awards (SEFA). The auditor should test NIH awards for compliance as instructed in Part V, Clusters of Programs. NIH recognizes that some awards may have another classification for purposes of indirect costs. The auditor is not required to report the disconnect (i.e., the award is classified as R&D for Federal Audit Requirement purposes but non-research for indirect cost rate purposes), unless the auditee is charging indirect costs at a rate other than the rate(s) specified in the award document(s).

Carry over of an unobligated balance into the next budget period requires Grants Management Officer prior approval.

This award is subject to the requirements of 2 CFR Part 25 for institutions to receive a Dun & Bradstreet Universal Numbering System (DUNS) number and maintain an active registration in the System for Award Management (SAM). Should a consortium/subaward be issued under this award, a DUNS requirement must be included. See http://grants.nih.gov/grants/policy/awardconditions.htm for the full NIH award term implementing this requirement and other additional information.

This award has been assigned the Federal Award Identification Number (FAIN) U42OD024282. Recipients must document the assigned FAIN on each consortium/subaward issued under this award.

This award is not subject to the Transparency Act subaward and executive compensation reporting requirement of 2 CFR Part 170.

In accordance with P.L. 110-161, compliance with the NIH Public Access Policy is now mandatory. For more information, see NOT-OD-08-033 and the Public Access website: http://publicaccess.nih.gov/.

In accordance with the regulatory requirements provided at 45 CFR 75.113 and Appendix XII to 45 CFR Part 75, recipients that have currently active Federal grants, cooperative agreements, and procurement contracts with cumulative total value greater than $10,000,000 must report and maintain information in the System for Award Management (SAM) about civil, criminal, and administrative proceedings in connection with the award or performance of a Federal award that reached final disposition within the most recent five-year period. The recipient must also make semiannual disclosures regarding such proceedings. Proceedings information will be made publicly available in the designated integrity and performance system (currently the Federal Awardee Performance and Integrity Information System (FAPIIS)). Full reporting requirements and procedures are found in Appendix XII to 45 CFR Part 75. This term does not apply to NIH fellowships.

Treatment of Program Income:

Additional Costs

SECTION IV – OD Special Terms and Conditions – 5U42OD024282-03

Clinical Trial Indicator: No

This award does not support any NIH-defined Clinical Trials. See the NIH Grants Policy Statement Section 1.2 for NIH definition of Clinical Trial.

SUBJECT FOA
This award is subject to the conditions set forth in PAR14-066, “Limited Competition: Specific pathogen free macaque colonies (U42),” which are hereby incorporated by reference as special terms and conditions of this award. Copies of this Funding Opportunity Announcement can be found at the following link: https://grants.nih.gov/grants/guide/pa-files/PAR-14-066.html

ORIP FUNDING PLAN FOR FY2019
This non-competing award reflects the NIH Fiscal Policy for Grant Awards for FY2019 (see NIH Guide Notice NOT-19-031) and the implementation of the ORIP FY2019 grants funding policy: https://orip.nih.gov/funding/awards-funding-policy

COOPERATIVE AGREEMENT
This award is issued as a Cooperative Agreement, a financial assistance mechanism in which substantial NIH scientific and/or programmatic involvement is anticipated in the performance of the activity. This award is subject to the Terms and Conditions of Award as set forth in the SPECIAL REQUIREMENTS section of PAR14-066, “Limited Competition: Specific pathogen free macaque colonies,” release date January 8, 2014, which are hereby incorporated by reference as special terms and conditions of this award.

Cooperative Agreement Terms and Conditions of Award
The following special terms of award are in addition to, and not in lieu of, otherwise applicable U.S. Office of Management and Budget (OMB) administrative guidelines, U.S. Department of Health and Human Services (DHHS) grant administration regulations at 45 CFR Parts 74 and 92 (Part 92 is applicable when State and local Governments are eligible to apply), and other HHS, PHS, and NIH grant administration policies.

The administrative and funding instrument used for this program will be the cooperative agreement, an "assistance" mechanism (rather than an "acquisition" mechanism), in which substantial NIH programmatic involvement with the awardees is anticipated during the performance of the activities. Under the cooperative agreement, the NIH purpose is to support and stimulate the recipients' activities by involvement in and otherwise working jointly with the award recipients in a partnership role; it is not to assume direction, prime responsibility, or a dominant role in the activities. Consistent with this concept, the dominant role and prime responsibility resides with the awardees for the project as a whole, although specific tasks and activities may be shared among the awardees and the NIH as defined below.

The PD(s)/PI(s) will have the primary responsibility for:

- Planning the activities, defining the aims and objectives, describing the methods, techniques and other resources to be used and for carrying out the work described.
- Performing all aspects of colony management, characterizing animals in regard to viral status and
  MHC type, distributing animals to researchers and deriving Program Income. It is understood that other personnel at the grantee institution (e.g., the business office) are involved in some of these activities.
- Providing colony data on a yearly basis or as requested by the ORIP in a format to be specified by the ORIP. These data will include colony demographics, the number of animals distributed and the grants that were supported.
- Meeting with NIH staff and the other members of the SPF macaque consortium at least once per year to discuss consortium-based activities that will help coordinate activities common to the SPF macaque grants. These annual meetings will take place at the ORIP Offices in Bethesda Maryland, at one of the awardee institutions, or by video or teleconference. Additional meetings, which may be necessary for coordination of cooperative agreement activities, may be scheduled.
- Awardees will retain custody of and have primary rights to the data and software developed under these awards, subject to Government rights of access consistent with current DHHS, PHS, and NIH policies.

NIH staff has substantial programmatic involvement that is above and beyond the normal stewardship role in awards, as described below:

- The NIH Project Scientist will provide appropriate assistance, advice, and guidance by coordinating consortium-based activities. However, the role of the NIH Project Scientist

will be to facilitate and not to direct the activities. It is anticipated that decisions in all activities will be reached by consensus between the Principal Investigator and the ORIP Project Scientist, and that ORIP staff will be given the opportunity to offer input into this process. The ORIP Project Scientist will facilitate liaison activity for partnerships, and provide assistance with access to ORIP- supported resources and services.
- Additionally, an agency program official or IC program director will be responsible for the normal scientific and programmatic stewardship of the award and will be named in the award notice.

Areas of Joint Responsibility include:

- Coordination of the activities of the SPF macaque grantee consortium. This will be accomplished through a Steering Committee comprised of each U42 grant PD/PI, or their designees and the NIH Project Scientist and Program Officer, or their designees. The function of the steering committee is to coordinate consortium activities through consultation and discussion, and to identify common problems and solutions as they arise.

Dispute Resolution:
Any disagreements that may arise in scientific or programmatic matters (within the scope of the award) between award recipients and the NIH may be brought to Dispute Resolution. A Dispute Resolution Panel composed of three members will be convened. The members are: a non-NIH member of the Steering Committee chosen without NIH staff voting, one NIH designee chosen by the NIH Program Director, and a third designee with expertise in the relevant area who is chosen jointly by the Steering Committee and NIH member of the Dispute Resolution Panel. This special dispute resolution procedure does not alter the awardee's right to appeal an adverse action that is otherwise appealable in accordance with PHS regulation 42 CFR Part 50, Subpart D and DHHS regulation 45 CFR Part 16.

PRIOR APPROVAL REQUEST
Any prior approval request (e.g., changes to key personnel as noted on the award, changes in human and animal subjects requiring prior approval, carryover requests) must be submitted to the assigned Grants Management Specialist and Programmatic Official. Please refer to Part II Chapter 8 the NIH Grants Policy Statement for the activities and/or expenditures that require NIH approval at http://grants.nih.gov/grants/policy/nihgps/nihgps.pdf

NON-COMPETING RENEWAL
The NIH requires the use of the Research Performance Progress Report (RPPR) for all Type 5 progress reports. The RPPR and other documents applicable to this Non-SNAP grant are due the first of the month preceding the month in which the budget period ends (e.g., if the budget period ends 11/30, the due date is 10/1). Please see http://grants.nih.gov/grants/rppr/index.htm for additional information on the RPPR.

COMMUNICATIONS/PRESS RELEASE
If the grantee plans to issue a press release concerning the outcome of ORIP grant-supported research, it should notify Ms. Patricia Newman, ORIP Communications at 301-435-0744, in advance to allow for coordination.

The ORIP WWW home page is at https://orip.nih.gov/

STAFF CONTACTS

The Grants Management Specialist is responsible for the negotiation, award and administration of this project and for interpretation of Grants Administration policies and provisions. The Program Official is responsible for the scientific, programmatic and technical aspects of this project. These individuals work together in overall project administration. Prior approval requests (signed by an Authorized Organizational Representative) should be submitted in writing to the Grants Management Specialist. Requests may be made via e-mail.

Grants Management Specialist: Donna M James
Email: jamesd@mail.nih.gov **Phone**: 301-496-7484 **Fax**: 301-402-0219

Program Official: Ronald Adkins
Email: ronald.adkins@nih.gov **Phone**: 301-435-4511 **Fax**: 301-480-2067

SPREADSHEET SUMMARY
GRANT NUMBER: 5U42OD024282-03

INSTITUTION: TULANE UNIVERSITY OF LOUISIANA

Budget	Year 3	Year 4
Salaries and Wages	$126,465	$112,000
Fringe Benefits	$26,811	$27,112
Personnel Costs (Subtotal)	$153,276	$139,112
Materials & Supplies	$1,091,153	$1,105,412
Travel	$2,000	$1,905
TOTAL FEDERAL DC	$1,246,429	$1,246,429
TOTAL FEDERAL F&A	$860,036	$860,036
TOTAL COST	$2,106,465	$2,106,465

Facilities and Administrative Costs	Year 3	Year 4
F&A Cost Rate 1	69%	69%
F&A Cost Base 1	$1,246,429	$1,246,429
F&A Costs 1	$860,036	$860,036

A. OVERALL COVER PAGE

Project Title: Tulane National Primate Research Center, AIDS SPF Breeding Colony Maintenance	
Grant Number: 5U42OD024282-03	**Project/Grant Period:** 07/01/2017 - 06/30/2021
Reporting Period: 07/01/2018 - 06/30/2019	**Requested Budget Period:** 07/01/2019 - 06/30/2020
Report Term Frequency: Annual	**Date Submitted:** 04/30/2019
Program Director/Principal Investigator Information: RUDOLF P BOHM , DVM **Phone number:** (985) 871-6362 **Email:** bohm@tulane.edu	**Recipient Organization:** TULANE UNIVERSITY OF LOUISIANA TULANE UNIVERSITY 6823 ST. CHARLES AVE NEW ORLEANS, LA 701185665 **DUNS:** 053785812 **EIN:** 1720423889A5 **RECIPIENT ID:**
Change of Contact PD/PI: No	
Administrative Official: KATHLEEN M KOZAR 6823 ST. CHARLES AVE New Orleans, LA 70118 **Phone number:** 504-988-5613 **Email:** KKozar@tulane.edu	**Signing Official:** KATHLEEN M KOZAR 6823 ST. CHARLES AVE New Orleans, LA 70118 **Phone number:** 504-988-5613 **Email:** KKozar@tulane.edu
Human Subjects: No	**Vertebrate Animals:** Yes
hESC: No	**Inventions/Patents:** No

B. OVERALL ACCOMPLISHMENTS

B.1 WHAT ARE THE MAJOR GOALS OF THE PROJECT?

The Tulane National Primate Research Center (TNPRC) has one of the largest rhesus monkey breeding colonies in the US. The TNPRC U24 supported SPF colony is also notable because it is one of only three NIH supported SPF macaque colonies that includes an expanded SPF (eSPF) colony negative for up to five additional agents (total of nine). This resource has provided animals for NIH funded AIDS research projects for several decades and is a critical component of the Center's successful research program. Because over half of all research projects at TNPRC are initiated by Affiliate (outside) investigators, this resource is essential to the success of many NIH-funded investigators throughout the US. Over a decade ago the TNPRC established the goal of converting its rhesus monkey breeding colony completely to specific pathogen free (SPF) status. In 2012 the TNPRC was able to achieve that goal. A major step toward accomplishing that goal was the award of this U24 grant in 2002 to provide a well-characterized population of rhesus monkeys for AIDS Redacted by agreement rch. As directed by ORIP and in response to the FOA, the current U24 funding mechanism supporting the colony will be converted 42 mechanism with this application.

The objective of this application is to request funds for continued support and maintenance of the SPF Indian-origin rhesus monkey breeding colony currently supported by a U24. During the current funding period the colony has been self-sustaining and consists of animals at the time of writing. Population size throughout the funding period was established and maintained based on annual assessments of the demand from NIH funded AIDS researchers and available funds to support the colony. Breeding colony production is currently in a state of moderate growth. Going forward we expect to continue to moderately expand production over the next few years based on recent developments in funding and animal demand. A particular focus for increasing the population is focused on the eSPF Redacted by agreement to meet recent significant increases in demand for those animals.

The specific aims address the components specified in the funding opportunity announcement (FOA) and are divided into the overall program description, husbandry core, viral testing core, and genetics/MHC core. As has been the case in the previous two funding cycles, program income (and Center funds) will be used to fund components of the program not covered by grant funds including: per diem for any colony animals in excess of the supported by this application, viral testing for those animals, testing for infectious agents outside the purview of the ORIP SPF program, infrastructure repairs and improvements, veterinary clinical and pathology support, behavioral management support, and portions of the genetic testing. Funding from the U42 over the next grant period will be used specifically to support per diem, testing to monitor viral status, individual and population genetics, and MHC characterization. The salaries of many of the personnel who support the breeding colony are covered in per diem. The eSPF colony will continue to be maintained to meet the needs of specialized AIDS studies including vaccine development, the investigation of opportunistic infections, congenital infections, and other AIDS related research.

Redacted by agreement fic Aims:

Redacted by agreement all. To maintain the existing SPF colony and distribute available animals to the NIH funded AIDS research community.

•Husbandry and Management. To provide husbandry and veterinary care for the SPF breeding colony established in the existing U24 grant. This includes a robust program for clinical veterinary medical care and behavioral management. The colony has reached a mature self-sustaining status with ideal demographics to produce up to animals available for assignment each year. Program Income generated by the sale of animals will be returned to an account for use in supporting the aims of the grant.

•Viral Testing. To assure the SPF status of the colony through continued viral testing of existing breeding colony animals and all offspring. Continue to expand characterization of the colony beyond the required 4 or 9 (eSPF) viruses to include Redacted by agreement

Redacted by agreement

•Genetic/MHC typing. To continue genetic analysis and MHC typing of the colony and provide expanded genetic characterization through enhanced technique

B.1.a Have the major goals changed since the initial competing award or previous report?

No

B.2 WHAT WAS ACCOMPLISHED UNDER THESE GOALS?

File uploaded: RPB U42 2018-2019 with genetics.pdf

B.3 COMPETITIVE REVISIONS/ADMINISTRATIVE SUPPLEMENTS

For this reporting period, is there one or more Revision/Supplement associated with this award for which reporting is required?

No

B.4 WHAT OPPORTUNITIES FOR TRAINING AND PROFESSIONAL DEVELOPMENT HAS THE PROJECT PROVIDED?

NOTHING TO REPORT

B.5 HOW HAVE THE RESULTS BEEN DISSEMINATED TO COMMUNITIES OF INTEREST?

This program supports a SPF rhesus monkey breeding colony that will supply animals for NIH funded AIDS investigators throughout the country. In addition to the plan to provide animals to NIH researchers, the expertise necessary for management of the colony will be shared with other SPF breeding colony programs in the country through several means. The National SPF Coordinating Committee is composed of the PIs of other NIH funded SPF colonies and communicates regularly to discuss exchange of ideas to improve production, to establish uniform testing and reporting criteria, and to exchange animals when they become excess to a particular program. The Nonhuman Primate Research Consortium (NHPRC), described in detail below allows exchange of information between veterinarians and breeding colony management professionals. Finally, veterinarians managing SPF breeding colonies meet in person at several venues including the annual Association of Primate Veterinarians Workshop, semiannual NPRC Directors meetings, and annual Breeding Colony Management Consortium Face to Face meetings.

Animal Allocation
The Tulane National Primate Research Center (TNPRC) has established policies and procedures to ensure equal access to resources by core and affiliate investigators. This approach aids in fulfilment of the TNPRC's mission as a national resource. Our commitment as a national resource is demonstrated by the number of investigators we support and the allocation of animals and other resources to affiliate (outside) investigators. Allocation of other resources at the TNPRC including animal housing, laboratory support services, and animal care follow the same ratio of distribution between core and affiliate
research scientists. The distribution of resources to investigators outside the TNPRC clearly demonstrates that the TNPRC fulfills its national role as a center of excellence in making NHP resources available to NIH funded investigators.

The allocation of animals will continue to be administered through the Tulane Resource Allocation Committee (TRAC) in accordance with the priorities set by the NIH, and the Cooperative Agreement for the U42. Animals from this colony will continue to be assigned to NIH-funded AIDS research projects on a first come first serve basis. If no requests from NIH funded scientists performing AIDS research are in hand at the TNPRC then the animals from the U42 colony will be made available to the National SPF NHP Breeding Program Coordinating Committee (CC), which consists of other U42 grantees, in order to assure that NIH funded AIDS scientists who may not have requested the animals through the TNPRC will have an opportunity to acquire them. Posting on the Nonhuman Primate Research Consortium (NHPRC) Animal Locator program facilitates this communication. The NHPRC in conjunction with the NIH SPF CC and NPRC Breeding Colony Management Consortium (BCMC) created the Animal Locator program, which catalogues available animals from NHPRC member institutions. The website is available to NHPRC member institutions and their collaborating outside scientists. The site designates animals from the U42 program so that the priority for allocation to NIH funded AIDS research is clear.

Nonhuman Primate Research Consortium (NHPRC)
In addition to our staff scientist collaborations, the TNPRC is actively engaged in the NHPRC along with the other NPRCs. The goal of the Consortium is to strengthen communications, leverage system-wide resources, and facilitate sharing of information and best practices across institutions. The Consortium consists of working groups in the areas of behavioral management, breeding colony management, genetics and genomics, pathology, training, education outreach and occupational health and safety. The NHPRC maintains a website which facilities information exchange, communication and data sharing. In addition, working groups associated with breeding colony management including the Breeding Colony Management Consortium (BCMC), Behavioral Management Consortium (BMC), and Genetics and Genomics Working Group (GGWG) have shared information through the peer reviewed scientific literature. The TNPRC has played a leadership role in many of the consortium activities including chairing the Breeding Colony Management Consortium (BCMC) and Behavioral Management Consortium (BMC) working groups, participating in early pilots and prototypes (SPF colony reporting, use of SNPs in colony management, video recording of virtual grand rounds sessions), authoring multicenter publications on colony management, and adhering to agreed upon guidelines established by the working groups.

Working as a consortium, BCMC members work with NIH program staff to meet the NHP needs of the biomedical research community and to ensure that these invaluable resources are used and shared efficiently and effectively in support of the NIH mission. The BCMC has conducted monthly web-meetings since its inception and has enhanced sharing of data and resources by a number of means including implementation of an animal locator web-based clearing house to make animals available to other NIH funded investigators, installing a common data-sharing platform at each location, implementing processes to extract available animal information from local
y management systems, initiating a vaccination program survey and piloting a measles vaccine efficacy trial with the support of NIH,
nced interactions with other working groups such as the Genetics and Genomics Working Group to plan use of genetics in colony
nagement decisions, and established a colony best practices subgroup to share clinical experience among veterinary faculty and residents.

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[redacted] who is a TNPRC faculty member and chair of the NHPRC Behavioral Management Consortium (BMC) and the coordinators of the behavioral management programs at the other NPRCs share information and work on reaching consensus on enrichment and behavioral management strategies. The NPRCs all face similar challenges such as forming compatible social pairs or groups, preventing and addressing abnormal behaviors, and implementing effective environmental enhancement plans. A primary objective of the BMC is to define best practices for promoting normative behavior and psychological well-being in laboratory nonhuman primates. The BMC strives to standardize terminology and assessment tools. Application of proven behavioral management techniques can simultaneously enhance animal welfare and NHP research models. The BMC conducts monthly teleconferences and face-to-face meetings on an annual basis.

Advances in genomic technologies are leading to remarkable progress in the genetic and genomic analysis of humans and other organisms. The mission of the Genetics and Genomics Working Group (GGWG) is to support and facilitate genetics and genomics research in NHP. Toward this goal a NHP genetics/genomics web-based portal with links to appropriate resources has been established and new software tools for primate genetic research have also been made available. The working group has also established single nucleotide polymorphism (SNP) based assays for determining parentage as well as geographic origin (e.g. Chinese vs. Indian origin

rhesus). The TNPRC has used the SNP-based genetic services available at the Oregon National Primate Research Center for parentage testing in our colony.

B.6 WHAT DO YOU PLAN TO DO DURING THE NEXT REPORTING PERIOD TO ACCOMPLISH THE GOALS?

Overall. To maintain the existing SPF colony and distribute available animals to the NIH funded AIDS research community. To assure compliance with ORIP's priority resource allocation policy to NIH funded scientists, allocation of animals from this project will be through the Tulane Resource Allocation Committee (TRAC). The TRAC is a TNPRC center-wide committee with the charter to equitably allocate animal resources to scientists in compliance with the ORIP allocation priority policy. TRAC membership consists of TNPRC research Redacted by agreement sts, affiliate scientists from outside institutions, veterinarians, colony managers, and research program managers.

Husbandry and Management. State of the art husbandry and veterinary care will be provided for the SPF breeding colony by experienced animal care staff and veterinarians. This includes a robust program for behavioral management. The colony has reached a mature selfsustaining
status with ideal demographics to produce up to animals available for assignment each year and this level of production will be maintained Redacted by agreement
Redacted by The derivation program will add to natural production from the existing eSPF founders Redacted by agreement
Redacted by agreement
Scientific rigor will be enhanced through the use of evidence based management practices. Evidence based management is facilitated by the use of standard operating procedures developed from review of the scientific literature and in house research studies. Sharing of best practices between National Primate Research Centers also enhances reproducibility.

Viral Testing. The SPF status of the colony will be maintained through continued viral testing of existing breeding colony animals and all offspring. All testing will be performed by the Redacted by agreement
Redacted by agreement
Redacted by agreement Scientific rigor will be ensured by participation of the PDQC in the NPRC Pathogen Detection Laboratories Proficiency Testing Program.

Genetic/MHC typing. Genetic analysis and MHC typing of the colony will continue through in house Redacted by agreement and collaborative efforts Redacted by agreement A multigenerational pedigree will be further developed through collaboration with Redacted by agreement using previously published sequencing and data analysis methods to enhance scientific rigor and reproducibility. Genetic analysis methods are shared across the NPRC through the NIH Genetics and Genome Banking Working Group in the Nonhuman Primate Research Consortium.

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ds awarded in 2018-2019 allowed support of [redacted] Specific Pathogen Free (SPF) Indian ancestry *aca mulatta*; [redacted] SPF4 and [redacted] expanded SPF (as of April 2, 2019). The male to female ratio is roximately [redacted]. The current total SPF census (*M. mulatta*) at the Tulane National Primate Research Center is [redacted] SPF4 and [redacted] expanded SPF (as of April 2, 2019). This includes those animals supported from this U42 and another U42 (ODO10568 RP Bohm PI) as well as the P51. For the 2018 birth season, there were [redacted] live births and [redacted] fetal deaths reported across all SPF colonies. Of the [redacted] live births [redacted] were in the U42 colonies. A total of [redacted] animals were made available for assignment to AIDS research in 2018-2019 as of April 2, 2019.

From January 2018 through December 2018 [redacted] Blood samples have been collected from all animals, except new infants, for genetic screening/storage. Extracted DNA is being stored (n=[redacted] used to run MHC typing (n=[redacted] and genotyping by SNPs (n=[redacted] Viral testing was performed using either multiplexed fluorescent immunoassays and/or PCR for the SPF4, eSPF, and additional agents of interest ([redacted] MFIA SPF4, [redacted] MFIA-C [SPF4+*T. cruzi*] [redacted] MFIA-E [SPF4+eSPF] and [redacted] PCR [redacted] nd other eSPF agents]). [redacted]

Grants to which U42 derived animals were allocated & assigned to Jan 1 – Dec 31, 2018:

PI	Institution	Grant Title	Grant #
Redacted by agreement	Northwestern University	Sustained Long Acting Prevention Against HIV Program	UM1AI120184
	ADARC	Monthly anti-retroviral therapy using multispecific HIV neutralizing antibodies	Private Source
	Population Council	Role of integrins in HIV/SIV transmission across cervico-vaginal mucosa	R56 AI098546
	TNPRC	Perturbation of antigen-specific T cell responses in latent TB/SIV co-infection	5R01 AI111943
	Eastern Virigina Medical School	In vivo safety of available reagents to understand macrophage biology in macaques	R01 AI097059
	Harvard	Neutralizing antibodies for acute & persistent Epstein-Barr virus infection	R01 AI114557-03
	TNPRC	Modifying CMV-specific T cells towards HIV	R33 AI110158
	Boston College	Monocyte traffic and neuropathogenesis of AIDS	R01 NS040237
	TNPRC	Role of microRNAs in B-cell dysfunction in HIV/SIV infection	R01 DA042524
	TNPRC	Testing novel microbicide candidates in sustained release formulations	R01 AO131433-01
	TNPRC	Impact of HIV/ SIV infection on Paneth & intestinal stem cell interaction	1R01 DK109883
	TNPRC	Role of innate immunity & microbiome in the inflammation of aging & long term ART	P20 GM103629
	Northwestern University	The role of steady state broadly neutralizing antibody tissues levels in preventing distal site SHIV replication	K01 Od024882
	Univ of Penn Medical	A pilot study to establish anti-Bcl-6 FX1 as an anti-HIV/SIV strategy by limiting SIV retention in germinal centers & viral replication following ART suppression	P30 AI045008
	Univ of Floroida	Viral evolution in peripheral macrophages and brain during progression to AIDS	R01 NS063897

Redacted by agreement	Center for Vaccine Research, Pittsburgh PA	Interventions to reduce hypercoagulability in old SIV-infected NHPs	R01 HL123096

C. OVERALL PRODUCTS

C.1 PUBLICATIONS

Are there publications or manuscripts accepted for publication in a journal or other publication (e.g., book, one-time publication, monograph) during the reporting period resulting directly from this award?

No

C.2 WEBSITE(S) OR OTHER INTERNET SITE(S)

Nothing to report

C.3 TECHNOLOGIES OR TECHNIQUES

NOTHING TO REPORT

C.4 INVENTIONS, PATENT APPLICATIONS, AND/OR LICENSES

Have inventions, patent applications and/or licenses resulted from the award during the reporting period? No

If yes, has this information been previously provided to the PHS or to the official responsible for patent matters at the grantee organization?

C.5 OTHER PRODUCTS AND RESOURCE SHARING

Nothing to report

D. OVERALL PARTICIPANTS

D.1 WHAT INDIVIDUALS HAVE WORKED ON THE PROJECT?

Commons ID	S/K	Name	Degree(s)	Role	Cal	Aca	Sum	Foreign Org	Country	SS
eRA Commons User Name	Y	BOHM, RUDOLF P	DVM	PD/PI	%					NA
	N	Redacted by agreement	B.A., M.A., Ph.D.	Behavioral Biologist						NA
	N		B.S., M.A., DVM	Veterinarian						NA
	N		Ph.D.	Co-Investigator						NA
	N		Ph.D	Co-Investigator						NA

Glossary of acronyms:
S/K - Senior/Key
DOB - Date of Birth
Cal - Person Months (Calendar)
Aca - Person Months (Academic)
Sum - Person Months (Summer)
Foreign Org - Foreign Organization Affiliation
SS - Supplement Support
RE - Reentry Supplement
DI - Diversity Supplement
OT - Other
NA - Not Applicable

D.2 PERSONNEL UPDATES

D.2.a Level of Effort

Will there be, in the next budget period, either (1) a reduction of 25% or more in the level of effort from what was approved by the agency for the PD/PI(s) or other senior/key personnel designated in the Notice of Award, or (2) a reduction in the level of effort below the minimum amount of effort required by the Notice of Award?

No

D.2.b New Senior/Key Personnel

Redacted by agreement

ere, or will there be, new senior/key personnel?

Yes

File uploaded Biosketch.pdf

D.2.c Changes in Other Support

Has there been a change in the active other support of senior/key personnel since the last reporting period?

Yes

File uploaded: OS - Bohm_4-19.pdf

D.2.d New Other Significant Contributors

Are there, or will there be, new other significant contributors?

No

D.2.e Multi-PI (MPI) Leadership Plan

Will there be a change in the MPI Leadership Plan for the next budget period?

NA

OMB No. 0925-0001 and 0925-0002 (Rev. 09/17 Approved Through 03/31/2020)

BIOGRAPHICAL SKETCH

Redacted by agreement

Redacted by agreement

Redacted by agreement

Redacted by agreement

E. OVERALL IMPACT

E.1 WHAT IS THE IMPACT ON THE DEVELOPMENT OF HUMAN RESOURCES?

Not Applicable

E.2 WHAT IS THE IMPACT ON PHYSICAL, INSTITUTIONAL, OR INFORMATION RESOURCES THAT FORM INFRASTRUCTURE?

NOTHING TO REPORT

E.3 WHAT IS THE IMPACT ON TECHNOLOGY TRANSFER?

Not Applicable

E.4 WHAT DOLLAR AMOUNT OF THE AWARD'S BUDGET IS BEING SPENT IN FOREIGN COUNTRY(IES)?

NOTHING TO REPORT

F. OVERALL CHANGES

F.1 CHANGES IN APPROACH AND REASONS FOR CHANGE

Not Applicable

F.2 ACTUAL OR ANTICIPATED CHALLENGES OR DELAYS AND ACTIONS OR PLANS TO RESOLVE THEM

NOTHING TO REPORT

F.3 SIGNIFICANT CHANGES TO HUMAN SUBJECTS, VERTEBRATE ANIMALS, BIOHAZARDS, AND/OR SELECT AGENTS

F.3.a Human Subjects

No Change

F.3.b Vertebrate Animals

No Change

F.3.c Biohazards

No Change

F.3.d Select Agents

No Change

G. OVERALL SPECIAL REPORTING REQUIREMENTS

G.1 SPECIAL NOTICE OF AWARD TERMS AND FUNDING OPPORTUNITIES ANNOUNCEMENT REPORTING REQUIREMENTS

NOTHING TO REPORT

G.2 RESPONSIBLE CONDUCT OF RESEARCH

Not Applicable

G.3 MENTOR'S REPORT OR SPONSOR COMMENTS

Not Applicable

G.4 HUMAN SUBJECTS

G.4.a Does the project involve human subjects?

No

G.4.b Inclusion Enrollment Data

Not Applicable

G.4.c ClinicalTrials.gov

Does this project include one or more applicable clinical trials that must be registered in ClinicalTrials.gov under FDAAA?

G.5 HUMAN SUBJECTS EDUCATION REQUIREMENT

Are there personnel on this project who are newly involved in the design or conduct of human subjects research?

G.6 HUMAN EMBRYONIC STEM CELLS (HESCS)

Does this project involve human embryonic stem cells (only hESC lines listed as approved in the NIH Registry may be used in NIH funded research)?

No

G.7 VERTEBRATE ANIMALS

Does this project involve vertebrate animals?

Yes

G.8 PROJECT/PERFORMANCE SITES

Organization Name:	DUNS	Congressional District	Address
Primary: Administrators of the Tulane Educational Fund	053785812	LA-002	1430 Tulane Avenue, 8915 New Orleans LA 701122632
Tulane National Primate Research Center	053785812	LA-001	18703 Three Rivers Road Covington LA 704338915
TULANE UNIVERSITY	053785812		TULANE UNIVERSITY 6823 ST. CHARLES AVE NEW ORLEANS LA 701185665
Administrators of the	053785812	LA-002	1430 Tulane Avenue, 8915

Tulane Educational Fund			New Orleans LA 701122632
Tulane National Primate Research Center	053785812	LA-001	18703 Three Rivers Road Covington LA 704338915

G.9 FOREIGN COMPONENT

No foreign component

G.10 ESTIMATED UNOBLIGATED BALANCE

G.10.a Is it anticipated that an estimated unobligated balance (including prior year carryover) will be greater than 25% of the current year's total approved budget?

No

G.11 PROGRAM INCOME

Is program income anticipated during the next budget period?

Yes

Anticipated Amount	Source(s)
623160	Animal Sales

G.12 F&A COSTS

Not Applicable

RESEARCH & RELATED BUDGET - SECTION A & B

ORGANIZATIONAL DUNS*: 053785812

Budget Type*: ● Project ❍ Subaward/Consortium

Enter name of Organization: TULANE UNIVERSITY OF LOUISIANA

Start Date*: 07-01-2019 **End Date*:** 06-30-2020

A. Senior/Key Person

	Prefix	First Name*	Middle Name	Last Name*	Suffix	Project Role*	Base Salary ($)	Calendar Months	Academic Months	Summer Months	Requested Salary ($)*	Fringe Benefits ($)*	Funds Requested ($)*
1.	Dr	Rudolf	P	Bohm	Jr	Project Lead	Institutional Base Salary	%			48,075.00	9,038.00	57,113.00
2.	Redacted by agreement					Co-Investigator					3,708.00	927.00	4,635.00
3.						Co-Investigator					4,624.00	869.00	5,493.00
4.						Clinical Veterinarian					18,630.00	3,503.00	22,133.00
5.						Behavioral Biologist					6,210.00	1,168.00	7,378.00

Total Funds Requested for all Senior Key Persons in the attached file

Additional Senior Key Persons: File Name:

Total Senior/Key Person **96,752.00**

B. Other Personnel

Number of Personnel*	Project Role*	Calendar Months	Academic Months	Summer Months	Requested Salary ($)*	Fringe Benefits*	Funds Requested ($)*
	Post Doctoral Associates						
	Graduate Students						
	Undergraduate Students						
	Secretarial/Clerical						
5	Other	EFFORT			45,218.00	11,306.00	56,524.00
5	**Total Number Other Personnel**					**Total Other Personnel**	**56,524.00**
						Total Salary, Wages and Fringe Benefits (A+B)	**153,276.00**

RESEARCH & RELATED Budget {A-B} (Funds Requested)

RESEARCH & RELATED BUDGET - SECTION C, D, & E

ORGANIZATIONAL DUNS*: 053785812
Budget Type*: ● Project ❍ Subaward/Consortium
Enter name of Organization: TULANE UNIVERSITY OF LOUISIANA

Start Date*: 07-01-2019 **End Date*:** 06-30-2020

C. Equipment Description	
List items and dollar amount for each item exceeding $5,000	
Equipment Item	**Funds Requested ($)***
Total funds requested for all equipment listed in the attached file	**0.00**
Total Equipment	**0.00**

Additional Equipment: File Name:

D. Travel	Funds Requested ($)*
1. Domestic Travel Costs (Incl. Canada, Mexico, and U.S. Possessions)	2,000.00
2. Foreign Travel Costs	0.00
Total Travel Cost	**2,000.00**

E. Participant/Trainee Support Costs		Funds Requested ($)*
1. Tuition/Fees/Health Insurance		0.00
2. Stipends		0.00
3. Travel		0.00
4. Subsistence		0.00
5. Other:		
0 Number of Participants/Trainees	**Total Participant Trainee Support Costs**	**0.00**

RESEARCH & RELATED Budget {C-E} (Funds Requested)

RESEARCH & RELATED BUDGET - SECTIONS F-K

ORGANIZATIONAL DUNS*: 053785812
Budget Type*: ● Project ❍ Subaward/Consortium
Enter name of Organization: TULANE UNIVERSITY OF LOUISIANA

Start Date*: 07-01-2019 **End Date*:** 06-30-2020

F. Other Direct Costs	Funds Requested ($)*
1. Materials and Supplies	1,091,153.00
2. Publication Costs	0.00
3. Consultant Services	0.00
4. ADP/Computer Services	0.00
5. Subawards/Consortium/Contractual Costs	0.00
6. Equipment or Facility Rental/User Fees	0.00
7. Alterations and Renovations	0.00
Total Other Direct Costs	**1,091,153.00**

G. Direct Costs	Funds Requested ($)*
Total Direct Costs (A thru F)	**1,246,429.00**

H. Indirect Costs

Indirect Cost Type	Indirect Cost Rate (%)	Indirect Cost Base ($)	Funds Requested ($)*
1. Total Modified Direct Costs	69.0	1,246,429.00	860,036.00
		Total Indirect Costs	**860,036.00**

Cognizant Federal Agency
(Agency Name, POC Name, and POC Phone Number)

I. Total Direct and Indirect Costs	Funds Requested ($)*
Total Direct and Indirect Institutional Costs (G + H)	**2,106,465.00**

J. Fee	Funds Requested ($)*
	0.00

K. Budget Justification* File Name: BudgetJustificationSPF 4-19.pdf
(Only attach one file.)

RESEARCH & RELATED Budget {F-K} (Funds Requested)

Budget Justification

The requested funding will provide partial support for maintenance of the SPF breeding colony. Funding from other sources including program income and Tulane National Primate Research Center (TNPRC) funds will make up the difference in expenses to maintain the colony. Categories of expenses not included in the U24/42 budget include: maintenance and capital projects, salaries of administrative staff, facilities services personnel and groundskeepers, security, pathology and clinical laboratory support, confirmatory testing for non-negative virus test samples, additional agents excluded from the SPF colonies and other expenses. Of the categories listed in the budget below, only a portion of the total expenses is being requested.

Budget estimations were based on the following assumptions:

- 1200 animal census each year in the SPF colony
- 12 eSPF animals derived from the SFP4 population each year with nursery rearing and increased frequency of viral testing
- Genetic testing for paternity and MHC typing performed on approximately 280 infants born each year

Key Personnel – $96,752

Rudolf P. Bohm Jr., D.V.M., DACLAM EFFORT Associate Director TNPRC, Chief Veterinary Medical Officer, Chair, Division of Veterinary Medicine and Professor of Medicine, Department of Medicine, Tulane School of Medicine and Diplomate American College of Laboratory Animal Medicine. He is the Director of the Tulane University Laboratory Animal Medicine Training Program. Dr. Bohm has 30 years of experience in the practice of laboratory animal medicine with a focus on nonhuman primate medicine and surgery as well as administering the animal care and use programs at two National Primate Research Centers. He is the Principal Investigator and Director of the Tulane National Primate Research Center Specific Pathogen Free Macaque Breeding Resource. He was the Chair of the NIH Nonhuman Primate Breeding Colony Management Consortium (BCMC) from its inception in 2008 until 2017. Dr. Bohm's research interests are focused on the development and refinement of nonhuman primate research models with specific interest in the characterization of rhesus macaque breeding colonies. Dr. Bohm is past president of the Association of Primate Veterinarians, and is an ad Hoc nonhuman primate specialist for AAALAC. He is a member of several external scientific advisory committees for program project grants and institutions utilizing nonhuman primates. At the TNPRC he also serves as Chair of the Tulane Resource Allocation Committee (TRAC) and as a member of the IACUC, IACUC Advisory Committee, and TNPRC Executive Committee. He is the Director of the Tulane University Laboratory Animal Medicine Residency Program. He will provide administrative oversight of personnel supporting the colony, colony management expertise, and coordination of all cores listed in the grant.

Redacted by agreement **Ph.D. Co-I.** EFFORT **calendar months)** Laboratory Manager, Pathogen Detection and Quantification Core, Division of Immunology, Tulane National Primate Research Center. Dr. Allers has received training in virology, cellular and molecular biology, immunology, and quality assurance. She is the Director of the Pathogen Detection and Quantification Core, which performs diagnostics services in support of the establishment and maintenance of the SPF colonies at the TNPRC. Redacted by agreement is responsible for overseeing the functions of the PDQC, communication with TNPRC leadership and investigators about the status of assay development, identification and implementation of diagnostic tests, preparation of SOPs, review and interpretation of test results, oversight of budget, and preparation of applicable manuscripts and seminars.

Redacted by agreement **Ph.D., Co-I.** EFFORT **calendar months)** Director, Genetics and Redacted by agreement Associate Professor, Department of Physiology, Tulane University School of Medicine. Dr. Kubisch has received training in genetics, molecular biology, embryology and embryo micromanipulation techniques. He is the Director of the Genetics and Genome Banking Core, which provides support for the genetic characterization of animals. Redacted by agreement is also the TNPRC representative of the Genetic and Genome Working Group of the Nonhuman Primate Research Consortium. Redacted by agreement and his laboratory staff monitors

allele frequencies among breeding animals and provides assistance in decision making on selection of breeding males for the breeding colony management program. The Core also establishes pedigree information to be made available to colony managers and investigators. Another function of the Core is the establishment of a genome bank, which consists of archived blood and DNA samples as well fibroblast cell lines of animals that are genetically valuable or have unusual or interesting phenotypes. Redacted by agreement will be responsible for identification of animals to be chosen for establishment of cell culture, for the generation of SNP genotypes and analysis of familial relationships.

Redacted by agreement **Ph.D., Behavioral Biologist** EFFORT **calendar months)** Behavioral Biologist, Head, Unit of Environmental Enrichment, Research Professor, Department of Psychology, Tulane University and Adjunct Professor, Department of Psychology, Southeastern Louisiana University. Redacted by will be a co-investigator on this project with primary responsibility for the behavioral components of the study Redacted by agreement is a recognized expert in the field of nonhuman primate behavioral management. Since 1996, her research has focused on captive nonhuman primate behavior in the biomedical context. Redacted by is the chair of the Nonhuman Primate Research Consortium Behavioral Management Working Group (BMC). She is a frequent reviewer for a variety of journals in the field of laboratory and zoo behavioral management and welfare of both nonhuman primates and other species. At the TNPRC she directs the Unit of Behavioral Management and is a member of the IACUC with specific duties relating to regulatory compliance. Redacted by is also a member of the Laboratory Animal Medicine (LAM) Residency Steering Committee**.** She has acted as mentor for the research component for all laboratory animal medicine residents enrolled in the TNPRC LAM Training Program. Redacted by is responsible for the structure and functioning of the behavioral management program at the TNPRC, setting scientific goals, determining procedures, assessment tools and outcome metrics. She is also responsible for tailoring behavioral management to all research conducted at the TNPRC. Redacted by agreement will play the lead role in the design of data collection procedures and analysis of the behavioral data. She will supervise the behavioral research technicians associated with this project.

Redacted by agreement **D.V.M., M.A., DACLAM, Veterinarian** EFFORT **calendar months)** Veterinarian and Assistant Professor of Clinical Medicine, Department of Medicine, Tulane School of Medicine. Redacted by completed her Laboratory Animal Medicine residency at the TNPRC in 2009, and has ten years of experience in the practice of laboratory animal medicine with a focus on nonhuman primate medicine and surgery. She is a member of the Association of Primate Veterinarians (APV), American Association for Laboratory Animal Science (AALAS), and American Society of Laboratory Animal Practitioners (ASLAP). She is a member of the Training Materials Development Subcommittee of the NIH Nonhuman Primate Training Consortium and the Colony Health Benchmarks Subgroup of the NIH Nonhuman Primate Breeding Colony Management Consortium. She coordinates the externship/preceptorship program for veterinary students. At the TNPRC, she is a member of the Division of Veterinary Medicine Training Committee, and the Breeding Colony Management Committee. She will be responsible for providing oversight of all aspects of veterinary care for the animals that are in the SPF breeding colony.

Other Personnel – $56,524

Redacted by agreement **M.S., Behavioral Management Technician** EFFORT **calendar months)** Redacted by is a behavioral research technician with an M.S. in ethology and epidemiology and 14 years of experience with laboratory animals, including observation of social behavior in nonhuman primates. Her duties involve behavioral management research and contribution to the social management of new and existing social groups. She determines and records group dominance hierarchies and reintroduction successes of nonhuman primates released from clinical care and returned to their social groups. She collects and maintains behavioral and physiological data, conducts retrospective assessments, and summarizes data for analysis.

Redacted by agreement **B.S., Medical Research Specialist** EFFORT **calendar months)** Redacted by is a member of the Unit of Collaborative Research in the Division of Veterinary Medicine. Redacted by agreement has more than 20 years' experience in nonhuman primate research. She will be responsible for processing tissues and blood samples for to be sent to the Redacted by agreement and outside laboratories used for confirmation of non-negative serology. She will assist Redacted by with creating blood collection schedules, processing and archiving samples, shipping samples and maintaining the database.

Redacted by agreement **Breeding Colony Program Manager** EFFORT **calendar months)** Redacted by agreement is an AALAS certified Laboratory Animal Technologist with 25 years of experience with nonhuman primates in various settings. Redacted by makes determinations concerning group housing strategies; provides for increased quality, characterization, and expansion of the nonhuman primate breeding colony; assists in maintaining genetic heterogeneity of the nonhuman primate breeding colony; oversees behavioral assessments on group-housed nonhuman primates; and provides for management and dissemination of colony and behavioral data. She will be responsible for scheduling all semiannual health assessments and viral testing of SPF animals, as well as working cooperatively with the Animal Colony Epidemiologist to provide projections and annual breeding colony planning.

Redacted by agreement **M.P.H. Animal Colony Epidemiologist** EFFORT **calendar months)** Redacted by agreement has extensive training in behavioral sciences. She is an AALAS certified Assistant Laboratory Animal Technician with 30 years of experience with nonhuman primate colonies. Redacted by Redacted by is responsible for developing and maintaining various colony statistical analyses related to the management of animal assignment and breeding colony management. Redacted by agreement will be responsible for the systematic collection, analysis, interpretation, and dissemination of demographic and health-related data for all TNPRC breeding and research colonies. She collaborates with the Division of Pathology to investigate disease outbreaks. She routinely works with the TNPRC IT staff to design computer programs to support colony management procedures and decisions.

Redacted by agreement **B.S., Medical Research Specialist** Redacted by **calendar months)** Redacted by agreement has over 30 years of laboratory experience at the TNPRC and is responsible for the processing of all samples for viral and genetic testing prior to shipment to TNPRC laboratories or reference laboratories for confirmatory testing. She is also responsible for coordinating sample requests, collection and shipment for samples requested by outside investigators. She coordinates collection of samples with Veterinary Medicine personnel and the recipient laboratories, ensuring accurate sample information and timely shipment of materials. She will assist Redacted Redacted with creating blood collection schedules, processing and archiving samples, shipping samples and maintaining the database.

Animal Care, Behavioral Management, and Veterinary Technician Staff: Please note that support for animal care, behavioral management, and veterinary technician staff on this proposal is covered within the per diem charges described below. The animal care staff consists of approximately 120 employees that are assigned to provide assistance to veterinarians as well as provide animal care in accordance with the policies of the Division of Veterinary Medicine and in compliance with regulatory oversight agencies.

Fringe Benefits: TNPRC's current fringe benefit rates are: 18.9% – faculty and 26.8% – staff.

Travel - $2,000

Funds for travel has been requested to cover the cost of ground transportation, airfare, hotel accommodations and meals for the PI to meet with the Contracting Officer once annually.

Per Diem

Estimated - $1,396,160; Requested from U42 - $954,045

Funds are requested for per diem which provides for the routine husbandry and care necessary for the day to day care of SPF colony animals. This includes daily health checks, semiannual health assessment, feeding, and behavioral observations. A portion of the per diem expense is dedicated toward indoor per diem for an estimated population of ill animals in the hospital and another portion is dedicated toward nursery rearing for animals derived from the SPF4 colony for the expanded SPF (eSPF) program. Per diem pays for the salary of technicians who provide support to the breeding colony as well as for necessary supplies. At any time, a portion of the breeding colony is housed indoors for treatment or for care of infants not able to stay on their mothers. Per diem charges will be incurred each year. Many costs associated with the support of the colony such as additional veterinary costs, infrastructure improvements, and administrative support will be supported by income account funds or TNPRC funds.

Viral testing

Estimated - $278,791; Requested from U42 - $99,714

Viral testing for the SPF4 and eSPF colonies will be conducted by Redacted by agreement Redacted by agreement Each animal in the established SPF4 and eSPF colonies will have viral testing performed twice annually at a minimum. Infants being derived for the eSPF colony will have testing performed quarterly for the first 2 years followed by twice annually thereafter. Multiplexed Fluorometric Immunoassay (MFIA) testing is used by the PDQC for antibody detection. For the SPF4 colony this consists of testing for SIV, Redacted by agreement For the eSPF colony this consists of testing for Redacted by agreement Redacted by agreement PCR testing is run in parallel with MFIA for SRV since both assays are required to confirm negative status for this virus. Testing for additional agents not targeted specifically for the SPF4 or eSPF colonies and confirmatory testing for non-negative results is paid by program income or TNPRC funds.

MHC and genetic typing

Estimated - $49,337; Requested from U42 - $37,394

Funds for DNA extraction and SNP parentage analysis have been requested for Redac new births in the SPF U24/42 colony per year. DNA extraction is performed on whole blood samples to be used for SNP analysis. These procedures will be performed by Redacted by agreement for new births each year. Genetic testing will be performed by Redacted by agreement MHC typing for (9) Class I and 1 Class II alleles will be performed on all animals born into the SPF colony each year. This testing is performed once for each animal. If any additional MHC typing is required samples will be submitted to Redacted by agreement at the University of Wisconsin and costs for these services will be paid through program income or TNPRC funds.