Brookhaven National Laboratory

BROOKHAVEN NATIONAL LABORATORY

HUMAN RESEARCH PROTECTION PROGRAM

POLICIES AND PROCEDURES

Approved by Institutional Official:

John Hill

1.8.24

Date

www.bnl.gov/ora/

Table of Contents

1. Human Research Protection Program (HRPP)

1.1 Policy

The Human Research Protection Program (HRPP) at Brookhaven National Laboratory (BNL) encompasses all research involving human subjects performed at or in conjunction with BNL. It is composed of various elements including the Institutional Official, the Office of Research Administration, and an Institutional Review Board.

BNL applies its expertise and world-class facilities to pressing scientific questions about everything from the fundamental forces of nature to the complex interactions of ecosystems and the environment. The cutting-edge explorations reveal processes that unfold across the smallest and largest scales of time and space imaginable—from the building blocks of matter to the edges of the universe itself. With extensive core research capabilities and rich history of scientific breakthroughs, BNL advances the mission of the U.S Department of Energy's Office of Science through the study of nuclear and particle physics to gain a deeper understanding of matter, energy, space, and time; photon sciences and nanomaterials research to address energy problems of critical importance to the nation; and cross-disciplinary research to understand the relationship between climate change, sustainable energy, and Earth's ecosystems.

BNL is operated and managed for DOE's Office of Science by Brookhaven Science Associates, LLC (BSA), a company founded by the Research Foundation for the State University of New York on behalf of Stony Brook University (hereinafter referred to as SBU), the largest academic user of Laboratory facilities, and Battelle, a nonprofit applied science and technology organization.

1.2 Mission

The BNL HRPP is dedicated to maintaining the highest ethical standards for the rights and welfare of human research subjects in pursuit of the advancement of basic scientific knowledge of the human brain and body.

The BNL HRPP was accredited by the Association for Accreditation of Human Research Protection Programs (AAHRPP) from 2010 through 2014.

BNL has authorized the Central Department of Energy Institutional Review Board (CDOEIRB) as the IRB of record. This authorization is documented in an Institutional Authorization Agreement.

1.3 Institutional Authority

The Institutional Official (IO) for Human Subjects Research is the Signatory Official legally authorized to represent BNL to assure protections for human subjects as specified in the Federal Wide Assurance between BSA and the Department of Health and Human Services (DHHS). The IO is appointed by the Laboratory Director and has oversight responsibility for all human subject research at BNL.

The Office of Research Administration (ORA) provides administrative support for the BNL HRPP and reports directly to the IO.

1.4 Definitions
The following definitions apply:

Research is defined by DHHS regulations at 45 CFR 46 as "a systematic investigation, including research development, testing and evaluation, designed to develop or contribute to generalizable knowledge. For the purpose of this part, the following activities are deemed not to be research:

Scholarly and journalistic that focus directly on the specific individuals about whom the information is collected.
Public health surveillance activities conducted, supported, requested, ordered, required, or authorized by a public health authority.
Criminal justice investigations.
Authorized operational activities in support of intelligence, homeland security, defense, or other national defense missions.

Human subjects are defined by DHHS regulations at 45 CFR 46 as "a living individual about whom an investigator (whether professional or student) conducting research: 1) obtains information or biospecimens through intervention or interaction with the individual and uses, studies, or analyzes the information or biospecimens; or 2) obtains, uses, studies or generates identifiable private information or identifiable biospecimens."

It is DOE policy that any DOE-funded or DOE laboratory-managed or conducted research involving intentional modification of an individual's or a group of individuals' environment, for example through installation of devices in homes and/or through introduction of gases/chemicals to trace airflow in occupied residential, commercial, or public settings, be managed as human subjects research and thus subject to the requirements of DOE Order 443.1C. Such projects must be reviewed and approved by the Central DOE Institutional Review Board (IRB), a DOE laboratory IRB, or (if conducted by a university) a university IRB with an approved Federalwide Assurance of compliance, prior to the initiation of the research and after consultation with the appropriate Human Subjects Protection (HSP) program manager.

Minimal risk means that the probability and magnitude of harm or discomfort anticipated in the research are not greater in and of themselves than those ordinarily encountered in daily life or during the performance of routine physical or psychological examinations or tests.

Intervention includes both physical procedures by which information or biospecimens are gathered (e.g., venipuncture) and manipulations of the subject or the subject's environment that are performed for research purposes.

Interaction includes communication or interpersonal contact between investigator and subject.

Private information includes information about behavior that occurs in a context in which an individual can reasonably expect that no observation or recording is taking place, and information which has been provided for specific purposes by an individual and which the individual can reasonably expect will not be made public (for example, a medical record).

1.5 Ethical Principles

In 1974, the passage of the National Research Act established the National Commission for the Protection of Human Subjects of Biomedical and Behavioral Research. The Commission published the *Belmont Report* articulating the basic ethical principles that guide the conduct of research with human subjects and forms the foundation of 45 CFR 46. The report defined three principles as basic to protecting human subjects: 1) respect, 2) beneficence, and 3) justice. All research with human subjects at BNL is guided by the ethical principles set forth in the Belmont Report.

Respect for Persons: In considering respect for persons, investigators are required to seek voluntary informed consent from potential subjects. Voluntary informed consent means that subjects freely decide about participating, and the study is fully described in easily understood words. The consent form must include adequate information about the study's risks and benefits to help subjects decide whether to take part in the research. Respect also means honoring the privacy of the individual, keeping confidential the data obtained, and paying special attention to the welfare of minors and individuals who are immature or incapacitated, perhaps even excluding them from participating in certain research. The extent of protection depends upon the level of autonomy the person possesses.

Beneficence: The principle of beneficence requires that researchers maximize the potential benefits to the subjects and minimize the risks of harm. Benefits to the subjects, or generalizable knowledge gained from the research, should balance or outweigh the risks.

Justice: The principle of justice means that subjects are selected fairly and that the risks and benefits of research are distributed equitably. Investigators should be careful not to select subjects simply because of their easy availability, their vulnerable position, or because of social, racial, gender, economic, or cultural biases. Investigators should base their inclusion criteria on those factors that most effectively and soundly address the research problem.

Additional justification is required for research with vulnerable populations (individuals with a psychiatric disorder, an organic impairment, a developmental disorder, and those suffering from a terminal illness, degenerative disease, severe physical handicap, or dependence on drugs or alcohol). The study should be open equally to men and women of all ages, children, and individuals from diverse racial/ethnic backgrounds so that they receive an equal share of the benefits of research and that they do not bear an undue share of its burdens. Participation should not be restricted without medical or scientific justification.

1.6 Regulatory Compliance

The HRPP protects the rights and welfare of research subjects by following the "Common Rule" which was adopted in 1991 by sixteen federal agencies that support, conduct or otherwise regulate human subject research. For the U.S. Department of Health and Human Services (DHHS), the Common Rule is implemented at 45 CFR 46, Subpart A. Subparts B, C, and D include special provisions for the protection of vulnerable subjects including pregnant women,

fetuses, prisoners, and children. For the Department of Energy (DOE), the Common Rule is implemented at 10 CFR 745 and the DOE Policy and Order 443.1C.

The HRPP contacts the BNL Counsel to provide guidance for regulatory compliance with New York State and any other applicable regulations governing human subjects research.

New York State defines a child as less than 18 years of age who has not been emancipated under a NYS court decree. The terms "legally authorized representative" and "guardian" are interchangeable under NYS law.

1.7 Federal Wide Assurance (FWA)

BNL maintains a Federal Wide Assurance (FWA) #00000149 with the Department of Health and Human Services (DHHS) that lists the CDOEIRB as the IRB of record.

1.8 Activities Covered by the HRPP

The HRPP has jurisdiction over all research involving human subjects performed at BNL and by its employees regardless of the Principal Investigator's (PI) appointment or relationship with BNL.

Before a protocol involving human subjects is started, it must first undergo review by the ORA Director for minimal risk studies or an ad hoc committee for any greater than minimal risk study followed by IRB review and approval; thereafter, the study must be conducted according to the approved protocol in compliance with the guidelines in this manual and DOE policies and procedures. Compliance is a crucial element of the HRPP process because it is here that the collective effort of individual investigators ensures the integrity of BNL as a research institution.

For research conducted by an outside organization, BNL is considered engaged when the proposed activities conducted by the outside organization require that a BNL-affiliated individual is involved in one of the following listed below. BNL is also considered engaged if subcontracting with an organization to do any of the below activities:

1. performing invasive or noninvasive procedures for research purposes (e.g., drawing blood; collecting other biological samples; dispensing drugs; administering other treatments; employing medical technologies; utilizing physical sensors; utilizing other measurement procedures);
2. manipulating the environment for research purposes (e.g., controlling environmental light, sound, or temperature; presenting sensory stimuli; orchestrating environmental events or social interactions; making voice, digital, or image recordings);
3. interacting with living individuals for research purposes (e.g., engaging in protocol-dictated communication or interpersonal contact; conducting research interviews; obtaining informed consent);
4. releasing individually identifiable private information, or permit the outside entity to obtain individually identifiable private information, without subjects' explicit written permission (e.g., releasing student names or e-mails to the outside entity for solicitation as research subjects; permitting the outside entity to record private information from medical records in individually identifiable form);

5. obtaining, receiving, or possessing private information that is individually identifiable (either directly or indirectly through coding systems) for research purposes.

Alternatively, BNL is not considered engaged when the proposed activities require that a BNL-affiliated individual only performs the following;

1. informing prospective subjects about the availability of research;
2. providing prospective subjects with written information about research (which may include a copy of the relevant informed consent document and other IRB-approved materials) but not obtaining subjects' consent or acting as authoritative representatives of the investigators;
3. providing prospective subjects with information about contacting investigators for information or enrollment;
4. obtaining and appropriately documenting prospective subjects' permission for investigators to contact them;
5. only releasing identifiable private information to the outside entity with the prior written permission of the subject.

Research by non-BNL personnel may be performed on the BNL site after the following:

1. The Investigator submits their IRB Approval, Protocol and Consent Form to the ORA Director.
2. The ORA Director notifies the IO and applicable Department/Division.
3. The IO and Department/Division agree in writing that the research is appropriate to be performed at BNL.
4. The ORA Director informs the Investigator in writing of the approval.
5. The Investigator must submit yearly updates to the IRB approval and notify the ORA of any changes to the protocol.

1.9 Written Policies and Procedures

The HRPP policies and procedures are maintained by the ORA. The policies and procedures manual is reviewed and updated as needed, but no less than every other year by the ORA Director and approved by the Institutional Official. The revised version is posted on the ORA website with a disclaimer that it is the only official copy and that before using a printed copy, investigators should verify that it is the most current version by checking the document effective date on the website. BNL uses a Standards Based Management System (SBMS) that disseminates information to the BNL community through the BNL SBMS website.

1.10 HRPP Organization

The Institutional Official (IO) for Human Subjects Research is the Signatory Official legally authorized to represent BNL to assure protections for human subjects as specified in the Federal Wide Assurance between Brookhaven Science Associates, LLC (BSA) and the Department of Health and Human Services (DHHS).

The Office of Research Administration (ORA) provides administrative support for the BNL Human Subjects Research Program and reports directly to the IO.

The Institutional Review Board (IRB) for BNL is the Central Department of Energy Institutional Review Board (CDOEIRB).

1.11 Relationship among Components

All personnel involved in human subject research work closely to safeguard subjects' rights and welfare. In particular:

1. All protocols are processed through the ORA.
2. Protocol compliance is monitored by CDOEIRB.
3. There are lines of communication with the CDOEIRB, both formal and informal and contact is maintained on a regular basis.

1.12 HRPP Operations

- **Institutional Official**

The Institutional Official (IO) is the individual who is legally authorized to act for the institution who, on behalf of the institution, obligates the institution to the Terms of the Assurance. The IO is responsible for ensuring that the Human Research Protection Program (HRPP) functions effectively and that the institution provides the resources and support necessary to comply with all requirements applicable to research involving human subjects. The IO represents the institution named in the Federal Wide Assurance (FWA). The IO should be an individual of sufficient rank who has the authority to ensure that all obligations of the HRPP are carried out effectively and efficiently. The IO should be at a level of responsibility sufficient to allow authorization of necessary administrative or legal action should that be required.

- **HRPP Director**

The IO has overall responsibility for the HRPP. The ORA Director has overall responsibility for administration of the HRPP and reports directly to the IO.

- **Selection, Supervision and Evaluation of HRPP Staff**

HRPP staff must have extensive knowledge of human subjects research regulations.

1.13 HRPP Financial Support

The ORA has a dedicated budget through the Director's Office. The budget covers salaries, travel and office supplies. The budget is reviewed and updated annually.

1.14 HRPP Resources

The ORA has dedicated office space including room for all applicable HRPP files.

1.15 Undue Influence

In order to avoid influence from the research departments, the ORA is part of the Director's Office and reports to the Institutional Official, who is the Laboratory Deputy Director for Science and Technology and not otherwise involved in human subject research.

BNL Management may subject protocols that have been approved by the IRB to further review and approval but may not approve an activity that has not been approved by the IRB.

2 Protocol Submission Process

2.1 Policy

All protocols involving human subjects research (HSR) that are to be conducted at BNL or by BNL employees off-site must be approved by the IRB before beginning work.

Final HSR/not-HSR determinations for studies that may constitute HSR, including exempt HSR determinations, are made by the Central DOE IRB and/or Central DOE IRB Office, in coordination with the ORA Director. That determination is made by following the federal definitions of human subjects and research, as well as DOE definitions. The protocol will be processed as described below if the activity is determined to be human subjects research. A memo will be sent from the Central DOE IRB and/or the ORA to the PI if the activity is determined not to be human subjects research.

DOE Order 443.1C requires notification to the DOE HSP Program Manager prior to initiation of any new HSR project, even if it meets the regulatory definition of exempt HSR as outlined in 10 CFR Part 745.104, involving:

(1) an institution without an established Institutional Review Board (IRB);
(2) a foreign country;
(3) the potential for significant controversy (e.g., negative press or reaction from stakeholder or oversight groups);
(4) research subjects in a protected class (prisoners, children, individuals with impaired decision-making capability, or DOE/NNSA federal or DOE/NNSA contractor employees as human subjects, who may be more vulnerable to coercion and undue influence to participate) that is outside of the reviewing IRB's typical range/scope; or
(5) the generation or use of classified information.

2.2 Procedures for BNL/Central DOE IRB (CDOEIRB) Review for all HSR

Every protocol that may involve HSR that is to be conducted at BNL or by BNL employees off-site, or that uses BNL employee data, must receive an HSR/not HSR determination by the CDOEIRB (and if HSR, IRB approval) before beginning work.

For a new protocol, the PI must submit the following forms to the CDOEIRB:

1. Research Protocol
2. Informed Consent Form
3. CDOEIRB application forms
4. Questionnaires/surveys (if applicable)
5. Advertisement for subject recruitment (if applicable)
6. Approval(s) and consent form(s) from collaborating institution(s) (if applicable)

All forms are loaded into IRB10, the protocol processing system used by the CDOEIRB.

- **BNL Pre-IRB Submission Process:**

ORA Review

The ORA Director reviews the package for completeness. The review includes verification that all current forms have been used. This will ensure that all revisions to be made to the protocol, consent form template and/or funding documents have been implemented. If required, the protocol will also be reviewed by an ad hoc committee formed by the Biology Chair.

- **IRB Submission**

1. The ORA Director ensures the application is submitted in IRB10. The ORA Director acts as a liaison between the CDOEIRB and the Investigator.

2. The ORA Director is notified along with the PI of any modifications required for approval and reviews and submits the PI's response to the CDOEIRB.

- **BNL Post-IRB Approval Process:**

1. The CDOEIRB sends the PI and the ORA Director through IRB10 the approval memo and stamped and dated consent form(s).
2. BNL has no plans to perform emergency research, but if the occasion arises, the CDOEIRB policies and procedures would be followed.

- **Continuing Review Process**: Procedures to assure that continuing reviews are done in a timely manner and that studies are not conducted beyond the approval period are as follows:

1. The CDOEIRB, through IRB10, informs the Principal Investigator approximately two months in advance of a protocol's expiration date to submit a continuing review package. The package consists of:
   - the CDOEIRB Continuing Review form
   - Current approved consent form(s)
   - Current approved protocol
   - Advertisements/scripts
2. The ORA Director is notified by the PI that the continuing review package has been uploaded to IRB10. After the continuing review is approved, the CDOEIRB notifies the PI and the ORA Director.

2.3 BNL and CDOEIRB Review for all Exempt HSR Certain studies involving human subjects research are exempt from most or all of the specific requirements of the Common Rule, or 10 CFR 745, To qualify as exempt HSR, proposed research must be limited to one or more of the following categories:

(1) Research, conducted in established or commonly accepted educational settings, that specifically involves normal educational practices that are not likely to adversely impact students' opportunity to learn required educational content or the assessment of educators who provide instruction. This includes most research on regular and special education instructional strategies, and research on the effectiveness of or the comparison among instructional techniques, curricula, or classroom management methods.

(2) Research that only includes interactions involving educational tests (cognitive, diagnostic, aptitude, achievement), survey procedures, interview procedures, or observation of public behavior (including visual or auditory recording) if at least one of the following criteria is met:

(i) The information obtained is recorded by the investigator in such a manner that the identity of the human subjects cannot readily be ascertained, directly or through identifiers linked to the subjects.

(ii) Any disclosure of the human subjects' responses outside the research would not reasonably place the subjects at risk of criminal or civil liability or be damaging to the subjects' financial standing, employability, educational advancement, or reputation; or

(iii) The information obtained is recorded by the investigator in such a manner that the identity of the human subjects can readily be ascertained, directly or through identifiers linked to the subjects, and an IRB conducts a limited IRB review to make the determination required by §46.111(a)(7).

(3) (i) Research involving benign behavioral interventions in conjunction with the collection of information from an adult subject through verbal or written responses (including data entry) or audiovisual recording if the subject prospectively agrees to the intervention and information collection and at least one of the following criteria is met:

(A) The information obtained is recorded by the investigator in such a manner that the identity of the human subjects cannot readily be ascertained, directly or through identifiers linked to the subjects;

(B) Any disclosure of the human subjects' responses outside the research would not reasonably place the subjects at risk of criminal or civil liability or be damaging to the subjects' financial standing, employability, educational advancement, or reputation; or

(C) The information obtained is recorded by the investigator in such a manner that the identity of the human subjects can readily be ascertained, directly or through identifiers linked to the subjects, and an IRB conducts a limited IRB review to make the determination required by §46.111(a)(7).

(ii) For the purpose of this provision, benign behavioral interventions are brief in duration, harmless, painless, not physically invasive, not likely to have a significant adverse lasting impact on the subjects, and the investigator has no reason to think the subjects will find the interventions offensive or embarrassing. Provided all such criteria are met, examples of such benign behavioral interventions would include having the subjects play an online game, having them solve puzzles under various noise conditions, or having them decide how to allocate a nominal amount of received cash between themselves and someone else.

(iii) If the research involves deceiving the subjects regarding the nature or purposes of the research, this exemption is not applicable unless the subject authorizes the deception through a prospective agreement to participate in research in circumstances in which the subject is informed that he or she will be unaware of or misled regarding the nature or purposes of the research.

(4) Secondary research for which consent is not required: Secondary research uses of identifiable private information or identifiable biospecimens, if at least one of the following criteria is met:

(i) The identifiable private information or identifiable biospecimens are publicly available;

(ii) Information, which may include information about biospecimens, is recorded by the investigator in such a manner that the identity of the human

subjects cannot readily be ascertained directly or through identifiers linked to the subjects, the investigator does not contact the subjects, and the investigator will not re-identify subjects;

(iii) The research involves only information collection and analysis involving the investigator's use of identifiable health information when that use is regulated under 45 CFR parts 160 and 164, subparts A and E, for the purposes of "health care operations" or "research" as those terms are defined at 45 CFR 164.501 or for "public health activities and purposes" as described under 45 CFR 164.512(b); or

(iv) The research is conducted by, or on behalf of, a Federal department or agency using government-generated or government-collected information obtained for nonresearch activities, if the research generates identifiable private information that is or will be maintained on information technology that is subject to and in compliance with section 208(b) of the E-Government Act of 2002, 44 U.S.C. 3501 note, if all of the identifiable private information collected, used, or generated as part of the activity will be maintained in systems of records subject to the Privacy Act of 1974, 5 U.S.C. 552a, and, if applicable, the information used in the research was collected subject to the Paperwork Reduction Act of 1995, 44 U.S.C. 3501 *et seq.*

(5) Research and demonstration projects that are conducted or supported by a Federal department or agency, or otherwise subject to the approval of department or agency heads (or the approval of the heads of bureaus or other subordinate agencies that have been delegated authority to conduct the research and demonstration projects), and that are designed to study, evaluate, improve, or otherwise examine public benefit or service programs, including procedures for obtaining benefits or services under those programs, possible changes in or alternatives to those programs or procedures, or possible changes in methods or levels of payment for benefits or services under those programs. Such projects include, but are not limited to, internal studies by Federal employees, and studies under contracts or consulting arrangements, cooperative agreements, or grants. Exempt projects also include waivers of otherwise mandatory requirements using authorities such as sections 1115 and 1115A of the Social Security Act, as amended.

(i) Each Federal department or agency conducting or supporting the research and demonstration projects must establish, on a publicly accessible Federal Web site or in such other manner as the department or agency head may determine, a list of the research and demonstration projects that the Federal department or agency conducts or supports under this provision. The research or demonstration project must be published on this list prior to commencing the research involving human subjects.

(6) Taste and food quality evaluation and consumer acceptance studies:

(i) If wholesome foods without additives are consumed, or

(ii) If a food is consumed that contains a food ingredient at or below the level and for a use found to be safe, or agricultural chemical or environmental contaminant at or below the level found to be safe, by the Food and Drug Administration or approved by the Environmental Protection Agency or the Food Safety and Inspection Service of the U.S. Department of Agriculture.

(7) Storage or maintenance for secondary research for which broad consent is required: Storage or maintenance of identifiable private information or identifiable biospecimens for potential secondary research use if an IRB conducts a limited IRB review and makes the determinations required by §46.111(a)(8).

(8) Secondary research for which broad consent is required: Research involving the use of identifiable private information or identifiable biospecimens for secondary research use, if the following criteria are met:

(i) Broad consent for the storage, maintenance, and secondary research use of the identifiable private information or identifiable biospecimens was obtained in accordance with §46.116(a)(1) through (4), (a)(6), and (d);

(ii) Documentation of informed consent or waiver of documentation of consent was obtained in accordance with §46.117;

(iii) An IRB conducts a limited IRB review and makes the determination required by §46.111(a)(7) and makes the determination that the research to be conducted is within the scope of the broad consent referenced in paragraph (d)(8)(i) of this section; and (iv) The investigator does not include returning individual research results to subjects as part of the study plan. This provision does not prevent an investigator from abiding by any legal requirements to return individual research results.

Investigators must complete and submit an application as described in Section 2.2. above. The CDOEIRB and/or CDOEIRB Office, in coordination with the ORA Director, shall determine whether the application meets federal guidelines for exempt HSR using DHHS policy 45CFR 46.104(d) and the HRP-503 Template. Approval of exempt HSR or determination that the work is not HSR is documented in a letter to the PI with a copy to the ORA Director. If the protocol is determined to be exempt HSR, the PI will be required to document completion of CITI and HIPAA training.

Exempt HSR activities require the same subject protections and ethical standards as those outlined in The Belmont Report. Research conducted under exempt review is subject to all applicable BNL institutional policies, appropriate state laws and possibly the Health Insurance Portability and Accountability Act (HIPAA) regulations. The investigator is responsible for assuring that the exempt research is carried out in an ethical manner that includes appropriate subject protections. Protocols that raise ethical issues may require additional subject protections as determined by the ORA Director, who may consult with the IO for such decisions.

3. Documentation and Records

3.1 Policy

All HRPP records are maintained electronically in the ORA Administrative Office share drive. Inactive records are filed in the BNL Record Holding Area where they are held for a minimum of 75 years per DOE regulations. HRPP protocol records consist of protocol submissions, HRPP policies and procedures, and copies of audits and reviews.

3.2 ORA Records and Documentation

Protocol Specific Records. Records for each protocol are maintained in IRB10; including the protocol, consent form, approval memos, continuing review forms, unanticipated problem/adverse event forms and all correspondence relating to the protocol.
Consent Forms: Forms include the initial approval date, the expiration date, and the corresponding protocol number. All subjects get a copy of their signed consent form.
Exempt Protocols: The CDOEIRB reviews all requests for Exempt HSR determination.
Reviews/Audits: The ORA maintains files of all internal and external reviews of any portion of the HRPP.

3.3 Investigator Records and Documents

PIs are responsible for the following:

1. To ensure all Subject Records and Investigator Files are kept confidential and maintained current in accordance with federal guidelines. This may include safe storage of private, identifiable information (PII) (file cabinets, computers) and encryption of data to be transferred.
2. To comply with the Records Management Subject Area requirements for human subjects research records. All records must be maintained according to an approved DOE retention schedule, or in accordance with sponsor requirements, whichever is longer.
3. To immediately notify any incident(s) involving potential compromise or loss of PII data to the ORA and IRB.
4. Ensuring there is no use or disclosure of the PII except when approved by the responsible IRB(s) and DOE, where applicable, and then only:
    - In an emergency affecting the health or safety of any individual;
    - For use in another research project under these same conditions and with DOE written authorization;
    - For disclosure to a person authorized by the DOE program office for the purpose of an audit related to the project; or
    - When required by law.
5. Report unanticipated problems/adverse events to BNL and the IRB according to policy.

4. Unanticipated Problems/ Adverse Events

4.1 Definitions as per DOE Order 443.1C:

Unanticipated Problem. In general, to be classified as an unanticipated problem, any incident, experience, or outcome should meet all three of the following criteria: (1) Unexpected (in terms of nature, severity, or frequency) given (a) the research procedures that are described in the protocol-related documents, such as the IRB-approved research protocol and informed consent document; and (b) the characteristics of the subject population being studied (2) Related or possibly related to participation in the research (possibly related means there is a reasonable

possibility that the incident, experience, or outcome may have been caused by the procedures involved in the research) (3) Likely to place subjects or others at greater risk of harm (including physical, psychological, economic, or social harm) than was previously known or recognized.

Adverse Event. Any unfavorable medical occurrence in a human subject, including any abnormal sign (for example, abnormal physical exam or laboratory finding), symptom, or disease, temporally associated with the subject's participation in the research, whether or not considered related to the subject's participation in the research (Unanticipated Problems Involving Risk and Adverse Events Guidance, OHRP, 2007).

Significant Adverse Event. A significant adverse event is an adverse event that is unexpected and substantively impacts the human subjects.

Serious Adverse Event. A serious adverse event (Unanticipated Problems Involving Risk Adverse Events Guidance, OHRP, 2007) is any adverse event temporally associated with the subject's participation in research that meets any of the following criteria: a) results in death; b) is life-threatening; c) requires inpatient hospitalization or prolongation of existing hospitalization; d) results in a persistent or significant disability/incapacity; e) results in a congenital anomaly/birth defect, or f) based upon appropriate medical judgment, may jeopardize the subject's health and may require medical or surgical intervention to prevent one of the other outcomes listed in this definition..

The following are examples of events that must be reported: - Serious adverse events that are both unanticipated and related to the study - An event that exposes the subject or others to potential risk - Incarceration of a subject enrolled in a protocol that is not approved to enroll prisoners - Any change to a protocol that was taken to eliminate an immediate hazard - Any protocol violation or deviation - Any suspension imposed by a sponsor - Loss or compromise of private, identifiable information

4.2 Policy

The Department of Health and Human Services (DHHS) requires that institutions have "written procedures for ensuring prompt reporting to the IRB, appropriate institutional officials, and the [Department or Agency head or FDA, as applicable] of (i) any unanticipated problems involving risks to subjects or others or any serious or continuing noncompliance with this policy or the requirements or determinations of the IRB; and (ii) any suspension or termination of IRB approval" [45CRF 46.103(b)(5) & 21 CFR 56.108(b)].

DOE Order 443.1C requires reporting within 48 hours to the DOE HSR Program Manager, SC-23 (and the DOE HSR Program Manager, NA-1 for NA sites), and coordination with and approval from the HSR Program Manager(s) in determining plans to correct any significant adverse event.

4.3 Procedures

4.3.1 Analysis of Events

Any event that occurs after the consent is signed until follow up is completed must be reported. The reporting can be initiated by any study staff member while the subject is undergoing the study. All events must be reported by the Principal Investigator or designee and reported to the ORA and IRB. The report must provide a description of the event in sufficient detail to allow for a complete assessment of the case and allow for an independent determination of possible

causality. The report will also capture information regarding other possible causes of the event. The IRB will review the incident and process it according to policy. The review outcomes are sent to the PI and ORA.

4.3.2Reporting Requirements

Serious Adverse Event.

i. Timing of notification. The PI is required to **immediately** notify the ORA by telephone if the event is serious. A written report must be filed within 24 hours. If the SAE occurs at night or on the weekend, the ORA must be notified by phone at the start of the next business day.

ii. Method of Notification:

Format: Notification is accomplished by completing the CDOEIRB Report New Information (RNI) Form.

Process: The ORA will form an ad hoc committee assess the situation and document review of the situation.

Follow up. The ORA will review these reports prior to filing other agencies.

iii. Records Management. The PI or designee shall file a copy of the UP/AE Report in the subject record, Case Report Form and in the applicable Investigator File.

iv. Collaborating Institutions. Copies of the UP/AE Reports should be forwarded to collaborating institutions for their information. Similarly, collaborating institutions must be requested to forward event reports initiated by them to BNL for our records and reporting requirements.

IRB reporting: Unanticipated serious adverse events must be reported by the PI to the IRB as they occur using CDOEIRB Report New Information Form (RNI). Anticipated serious adverse events are reported during the protocol's continuing review.

DOE reporting: Any significant adverse events must be reported within 48 hours to DOE by the ORA/CDOEIRB.

Unanticipated Problem

i. Timing of notification The PI is required to notify the ORA/CDOEIRB immediately. Reporting to the DOE/NNSA HSP PM is required within 48 hours for unanticipated problems. If the unanticipated problem involves loss/breach of PII it must also be reported immediately to DOECIRQ. UP Reports will be followed up in the same way as SAEs and reported to ORA within 30 days.

ii. Method of Notification

Format: Notification is accomplished by filing a CDOEIRB Report New Information (RNI) Form.

Process: The ORA will assess the situation and document review of the situation.

Follow up. The ORA will review these reports prior to filing with the other agencies.

iii. Records Management. The PI shall file a copy of the RNI in the subject record, Case Report Form and in the applicable Investigator File. The original shall be maintained by the ORA.

iv. Collaborating Institutions. Copies of the UP/SE Reports should be forwarded to collaborating institutions for their information. Similarly, collaborating institutions must be requested to forward event reports initiated by them to BNL for our records and reporting requirements.

v. IRB reporting: Unanticipated events must be reported by the PI to the IR as they occur using the CDOEIRB Report New Information (RNI) Form.

vi. DOE reporting: Any unanticipated risks, including loss or compromise of private, identifiable information, must be reported immediately to DOE/NNSA HSP PM by the PI/ORA.

Anticipated events

IRB/DOE reporting: Anticipated events are not reported.

Regulatory and funding Source Reporting Requirements

The Principal Investigator is responsible for complying with reporting as required by the funding source or regulatory agencies related to their research. Please note that these requirements are **in addition** to those required by BNL.

5. Protocol Deviations/Non Compliance/Complaints

5.1 Policy

Subjects, researchers and others who have human subjects research related complaints, concerns, recommendations, or reports of violations are required to report to the ORA Director. All reports will be reviewed and acted upon accordingly. Research investigators shall not implement any change to an IRB approved protocol without first receiving IRB approval of the addendum to the protocol, except where a protocol change is necessary to eliminate an immediate hazard to a study subject.

45 CFR 46.113 authorizes the IRB to suspend or terminate approval of research that is not being conducted in accordance with the IRB's requirements or that has been associated with unexpected or serious harm to subjects.

ICH Guideline 4.5 states that the investigator should not implement any deviation from or changes of the protocol without prior review and documented approval from the IRB except where it is necessary to eliminate an immediate hazard(s) to a study subject or when the change(s) involve only logistical or administrative aspects of the study.

If a change to a protocol is made for emergency reasons, the change should be written out and signed by the subject, if possible, as documentation that the subject consented.

5.2 Protocol Deviation/Violation

Definitions A protocol violation is any change from the IRB approved protocol that results in actual or potential harm to the subject and is reportable to external regulatory agencies. All protocol deviations must be reported immediately to the CDOEIRB in accordance with CDOEIRB SOPs.

1. A protocol deviation does not harm or potentially harm a subject and does not require a report outside BNL. It is generally associated with administrative inconsistencies or minor errors in the implementation of the protocol.
2. The Biology Department Chair may alter the categorization of a protocol violation or deviation following review.

Procedures

1. Any individual noting an actual or potential deviation from the IRB approved protocol shall report to the ORA Director and the Principal Investigator (PI) of that protocol.
2. The PI shall review the protocol and relevant documentation and notify the ORA Director of the findings. The PI shall also notify the CDOEIRB as required. The PI and ORA are notified of all CDOEIRB actions regarding the

deviation.

3. The ORA Director, with assistance from appropriate staff, shall evaluate the significance of the deviation and categorize the event based on the criteria above. The PI is responsible for developing a corrective action plan for the deviation. The corrective action plan must be submitted to the ORA Director for review and approval and should consider training or other means to prevent recurrences. The protocol may be suspended by the Biology Department Chair, ORA Director or CDOEIRB and remain suspended until the corrective action plan is reviewed and approved.
4. If the deviation is not considered serious, the PI may still be requested to submit a corrective action plan to ensure that the deviation is corrected and does not reoccur.
5. The ORA Director will work with the Biology Department Chair to periodically evaluate the effectiveness of corrective actions. A pattern of continued deviations - or a serious protocol violation may result in suspension of the protocol and possible disciplinary action by the Department Chair.
6. The ORA Director will notify the CDOEIRB immediately of any non-compliance regardless of whether serious or continuing.

5.3 Non-Compliance

Definitions

Non-compliance is defined as failure to follow or comply with federal, state, local and IRB regulations and policies.

Serious non-compliance is defined as non-compliance that affects the rights or welfare of subjects.

Continuing non-compliance is defined as a pattern of non-compliance that indicates the non-compliance may continue without intervention or has continued due to lack or response or cooperation from the investigator.

All non-compliance is processed according to CDOEIRB policy. The PI and ORA are notified of all CDOEIRB determinations.

Disciplinary Action

When considering protocol deviations, non-compliance or employee misconduct in the performance of human subject research, the Biology Department Chair, in consultation with the Institutional Official, Human Resources, and others, should use the following process and guidelines to determine the appropriate disciplinary action.

Guidelines for assessing responsible person(s)

The Principal Investigator (PI) is ultimately responsible for the proper conduct of each of his/her protocols. The PI will be held accountable for actions taken by other members of the team in the implementation of the protocol. Consequently, the PI's staff privileges may be affected as part of the response to instances of misconduct by members of his/her research team in the implementation of the protocol.

Responsibility for Recommending and Implementing Disciplinary Action

The Biology Department Chair, in consultation with the Institutional Official as necessary, has the authority and responsibility for categorization of the incident severity and for recommending and administering the disciplinary action associated with the conduct of human subjects research. The Biology Department Chair is also responsible for notifying the supervisor of the PI or individual responsible for the

protocol deviation or misconduct so that consideration can be given to employment related disciplinary action.

Categorization of Incident Severity

Due to the nature of the work involved in human subject research, protocol deviations or misconduct may be reported in at least three possible contexts. Any incident may be considered in the context of one, two, or all of these categories.

1. The actions of an individual.
2. The aggregate actions of members of a team working on a particular protocol.
3. The accountability of the Principal Investigator who is responsible for both contexts mentioned above.

The following are the three severity categories used in assessing appropriate disciplinary action:

SIGNIFICANT: is a procedural violation or instance of misconduct that **immediately** jeopardizes the actual physical, ethical, or emotional safety and welfare of a subject. This category includes actions that are considered serious and are reportable to the IRB, DOE, OHRP and other government and funding agencies.

Examples: A physical safety issue might involve exposing a subject to excess radiation or medication dosages well beyond protocol limits that are likely to have damaging effects. A significant ethical/emotional violation would be the participation of a subject in a study procedure without having obtained a signed informed consent.

MAJOR: is a procedural violation or instance of misconduct that creates a **potential** to jeopardize the actual physical, ethical, or emotional safety of a subject. This is a threat that is not immediate in nature.

Examples: A potential physical threat would result from the lack of physician coverage in a situation where one is required by the protocol. A potential ethical/emotional threat could be a breach of confidentiality involving disclosure of medical information without the subject's permission. A similar violation would occur if a member of the study team were to be disrespectful to a subject's physical/emotional needs in a way that would lead to embarrassment. The BNL policy on conflict in the workplace would also be applicable. Acts or threats of violence, verbal abuse, and any other behavior meant to intimidate others directed at the subject or enacted in the subject's presence are examples of prohibited actions.

MINOR: is a procedural violation or instance of misconduct that does not involve an actual threat to the physical, ethical, or emotional safety of a subject. This category demonstrates a carelessness or indifference to proper protocol implementation or to adherence to appropriate guidelines or procedures concerning the conduct of clinical research.

Example: Failure to consistently complete a subject chart or case report form paperwork in accordance with procedures through either repetitive errors or lack of timeliness.

Disciplinary Action:
Disciplinary Actions instituted by the Biology Chair may range from a request for corrective action to the suspension of the study and/or termination of staff privileges, depending on the seriousness of the violation and the frequency of its occurrence. In determining the specific disciplinary action, the following guidelines will be employed:

- Willful violation of a subject's rights or welfare, fraud (including intentional use or omission of data to manipulate statistical results), or willful misconduct will result in termination of the protocol and/or termination of staff privileges and will automatically be reported to the individual(s)' supervisor to consider appropriate employment related disciplinary action.
- Unintentional violation of the above requires a written corrective action plan by the PI and could result in suspension of the protocol for up to 30 days.
- Minor violations require protocol revision and/or a written corrective action plan. Repeated minor violations will result in the suspension of the protocol pending corrective action. Those violations, which could result in the suspension of a protocol or the suspension or termination of staff privileges, will be reviewed with the Human Resources Division.

Additional actions may be taken by the CDOEIRB.

5.4 Complaints

1. All complaints/concerns regarding the protocol application process or activities of the CDOEIRB should be directed to the ORA Director and/or the Institutional Official. The PI and/or ORA Director must communicate to the CDOEIRB immediately any complaints received about an ongoing HSR study.
2. If there are complaints/concerns with the ORA Director, investigators and staff should contact the IO directly.
3. If the complaint meets the definition of an unanticipated problem involving risk to subjects or others, it will be handled according to adverse event/unanticipated problem reporting policies.
4. If the ORA Director determines that the complaint involves possible scientific misconduct, the IO will be notified, and appropriate action will be taken in accordance with BNL policies and procedures.
5. Issues of subject safety will be forwarded to the CDOEIRB.
6. Subject concerns brought to the attention of the CDOEIRB regarding BNL staff or facilities are sent to the ORA Director by IRB staff.
7. All consent forms include the name and phone number for the Principal Investigator and the CDOEIRB. Subjects are given a copy of their consent form for their records.
8. All reports/allegations regarding human subject research activities made to the ORA and/or IO will be held confidential to the extent allowed by law.
9. Research investigators and staff are encouraged to contact the ORA Director to ask questions, make suggestions or express concerns regarding any aspect of the BNL HRPP. The ORA Director will communicate any concerns with each and to the IO, if warranted.

5.5 Reporting
DOE Order 443.1C requires reporting within 48 hours to the DOE HSR Program Manager, SC-23 (and the DOE HSR Program Manager, NA-1 for NA sites) any complaints about the research, with a description of any corrective actions taken and/or to be taken.

6. Investigator Responsibilities

6.1 Policy

All PIs must follow all applicable federal, state and local regulations including good clinical practice guidelines. In designing and conducting studies, PIs must protect the rights and welfare of subjects.

6.2 Investigator Responsibilities

Role: Propose, plan and execute scientific investigations involving human subjects in pursuit of scientific excellence.

Responsibilities

1. Know and adhere to rules and regulations governing research involving human subjects including the federal regulations and BNL and DOE policies.
2. Complete required training for conduct of human subjects research prior to start of protocol.
3. Prepare initial clinical research protocol and any addendum thereto that defines a research program that justifies the use of human subjects and is compliant with regulatory requirements.
4. Submit the initial clinical research protocols and any modifications of the approved protocols to the IRB for approval prior to starting any work; retain copies of all correspondence with the ORA/IRB.
5. Submit substantive annual reports to the IRB including a presentation of research findings and accurate subject accrual information.
6. Ensure no deviations from the approved protocol occur by the research team conducting work under that protocol.
7. Ensure that all investigational drugs and/or devices are used only under an IRB approved protocol by providing plans for control, management and storage of devices according to DOE policy.
8. Ensure that all personnel working on an approved protocol are appropriately qualified for their duties and that their training is kept up to date (facility specific and human studies specific training).
9. Ensure that all personnel working on an approved protocol have access to and knowledge of the most current version of the approved protocol.
10. Report any unusual or adverse event, or unanticipated problem in accordance with the reporting policy.
11. Prepare investigator records, subject records and case report forms according to funding agency requirements and federal guidelines.
12. Keep all human subject records confidential. Investigators are required to maintain and protect the privacy and confidentiality of all personally identifiable information on subjects, except as required by law or released with the written permission of the subject. Certificates of Confidentiality should be applied for when data about sensitive information (illegal behavior, drug use, etc.) is collected about a human subject.

7. Training for all Personnel Involved in Human Subjects research

7.1 Policy

BNL management and staff are committed to the protection of human subjects. In order to maintain a safe and effective research environment, all individuals working with human subjects shall participate in training and educational programs appropriate to their duties and assignments.

7.2 Definitions

Principal Investigator: Has overall responsibility for proposing, planning and executing scientific investigations involving human subjects in pursuit of scientific excellence.
Administrative staff: Has responsibility to provide administrative support for the HRPP.
Institutional Official: Has responsibility to provide oversight for the institution's human subjects research program.

7.3 Mandatory Training

All personnel working with human subjects must take human subjects training and any other training required by their BNL position. DOE requires DOE document review and courses through the Collaborative Institutional Training Initiative (CITI) instructional program for the Protection of Human Research Subjects. This is required for all research staff upon initial appointment and is followed by a refresher every three years. CITI training includes HIPAA training. PIs working on Exempt research are required to take CITI and HIPAA training. All PIs conducting HSR submitted to the CDOEIRB must also take DOE-required HSR training. All training courses are tracked in a central training database maintained by BNL's Training and Qualifications Office. BNL's policy is that the supervisor is required to ensure that all training and qualifications are maintained for their assigned staff. As with all BNL training, line management is notified of outstanding training via monthly reporting from the Training and Qualifications Office. The ORA verifies that all qualifications are maintained current. The IO is required to take OHRP IO training.

In addition to core training requirements, continuing education is offered via seminars and meetings with administrators from the DOE on human subjects research topics.

7.4 Renewal Process

For all staff the CITI refresher training must be taken every three years. Additional DOE-specific HSR refresher training must be taking in accordance with CDOEIRB requirements. All required training is tracked through the BNL Training Database. Reminders of training expiration are sent at 60 and 30 days prior to expiration and line management is notified of outstanding training via monthly reporting from the Training and Qualifications Office.

Personnel who do not complete required training in the correct time frame are notified they may not participate in studies until their training is complete.
BNL abides by CDOEIRB policy on PIs whose training lapses.

8. Quality Assurance and Quality Improvement in Human Subjects Research

8.1 Policy

BNL maintains a quality assurance/improvement plan to measure and improve the Human Research Protection Program effectiveness, quality, and compliance with organizational policies and procedures and applicable federal, state, and local laws.

8.2 HRPP Quality Assurance

The HRPP is assessed by a variety of program assessments by both internal and external means. Some are regularly scheduled, and others are conducted on a more casual basis.

- The Department of Energy performs reviews of the program. The most recent DOE Consultation took place in 2023.
- Informal self-assessments are conducted by the ORA Director to prepare for the internal and external assessments.
- HRPP policies, procedures, forms and approach to community outreach are constantly scrutinized to evaluate their effectiveness, efficiency and suitability and to ensure that they reflect current regulations, guidance and institutional requirements.

The ORA Director is required to perform a self-assessment annually by DOE Order 443.1C. The following are reviewed:

a) Assess the unanticipated problem/adverse event reporting process by ensuring all reports have been completed and reported as appropriate;
b) Review ORA files to assure appropriate documentation according to current policies and procedures;
c) Other monitoring or auditing activities deemed appropriate by the IO.

If required, a corrective action plan will be developed. The ORA Director will have responsibility for implementing the corrective action plan, the success of which will be evaluated by the IO.

Systemic issues will involve meeting with relevant individuals and deciding on a course of action. Changes may involve updating the SBMS. All applicable personnel are notified through the SBMS system.

The ORA receives feedback on CDOEIRB interactions informally on a regular basis from researchers.

The IO meets with the ORA Director on an ad hoc basis to discuss whether resources allocated to the HRPP are sufficient.

9. Sponsored Research

9.1 Policy

BNL's sponsored research program (Work for Others) allows the Laboratory to make its highly specialized or unique capabilities and facilities available to support the missions of other Federal agencies and the needs of non-Federal sponsors. BNL's Work for Others (WFO) processes have been developed to be in compliance with DOE O 481.1 (Work for Others) and all proposed WFO projects are reviewed and approved by DOE. If a proposed WFO project involves human subjects, this is indicated in the Proposal Information Questionnaire (PIQ) and the approval of the Institutional Review Board (IRB) must be obtained and submitted to DOE prior to DOE approval of the project. All WFO projects that involve human subjects must be approved by the IRB and DOE in order for BNL to receive authorization to conduct work.

9.2 Procedures

The Manager of the Sponsored Research Program reviews sponsored research agreements to determine the following:

The Sponsor will pay for the medical expenses of reasonable and necessary medical treatment if a study subject is injured during a research study and the injury is a direct result of (i) the effects of the study drug or (ii) the performance of study procedures pursuant to the protocol.

For research monitored by the Sponsor, the Sponsor shall submit a written plan for reporting to BNL findings that could affect the safety of participants or their willingness to continue participation, influence the conduct of the study, or alter the IRB's approval to continue the study. The plan must address how such findings will be communicated to study participants.

The Sponsor must submit plans for disseminating findings from the research and defining the roles that the investigators and sponsors will play in publication or disclosure of results.

The Sponsor must submit plans to communicate findings from a closed research study to the researcher or BNL when those findings directly affect subject safety. The plan must specify a time frame after closure of the study during which the Sponsor will communicate such findings based on the appropriate time frame for each individual study.

Indemnification of the Study investigators and institution against claims for damages arising out of a Research Injury, the design of the Study, or the specifications of the Study protocol, but not from:
– Failure to follow the Protocol & written instructions
– Regulatory requirements
– negligence or willful misconduct

Slight deviations that do not contribute to the injury or jeopardize the validity of the study are not considered a failure to adhere to the protocol.

The sponsor must assure BNL that the manufacture and formulation of any investigational or unlicensed test articles conform to federal regulations.

10. Reporting

10.1 Policy Federal regulations require prompt reporting to appropriate institutional officials, and the department or agency head of (i) any unanticipated problems involving risks to subjects or others or any serious or continuing noncompliance with this policy or the requirements or determinations of the IRB; and (ii) any suspension or termination of IRB approval.

DOE Order 443.1C requires reporting within 48 hours to the DOE HSR Program Manager, SC-23 (and the DOE HSR Program Manager, NA-1 for NA sites):

1. any significant adverse events, unanticipated risks; and complaints about the research, with a description of any corrective actions taken and/or to be taken;
2. any suspension or termination of IRB approval of research;
3. any significant non-compliance with HSR Program procedures or other requirements.

10.2 Procedures

1. Any non-compliance will be reported to the IRB.
2. Any serious or continuing non-compliance with federal regulations or the requirements or determinations of the IRB will be reported promptly by the Institutional Official to OHRP as required by 45CFR46.103(b)(5) unless reported by the IRB.
3. Any serious or continuing non-compliance with federal regulations or the requirements or determinations of the IRB or any suspension or termination of IRB approval will be reported promptly by the Institutional Official to the FDA as required in 21CFR56.113 unless reported by the IRB.
4. Any serious or continuing non-compliance with federal regulations or the requirements or determinations of the IRB or any suspension or termination of IRB approval will be reported promptly by the Institutional Official to the DOE HSR Program Manager as required in DOE Order 443.1C unless reported by the IRB.

11. Conflict of Interest

11.1 Policy

Laboratory employees are required not to engage in any private business or professional activity, which would place them in a position, where there is an actual or apparent conflict between their private interests and the interests of the Laboratory.
BNL follows DOE and DOE regulations regarding conflict of interest.

11.2 Definitions

Investigator means any individual involved in the design, conduct or reporting of the research.

Immediate Family means spouse and dependent children.

Financial Interest Related to the Research means financial interest in the sponsor, product or service being tested.

- If an investigator or investigator's immediate family member has any of the following financial interests, the financial interests must be disclosed to the IRB as part of the initial or continuing review application:
  - Ownership interest, stock options or other financial interest related to the research of any value unless it meets four tests:
    - The value of the interest when aggregated for the immediate family does not exceed $5,000;
    - The interest is publicly traded on a stock exchange;
    - The value of the interest does not exceed 5% interest in any one single entity when aggregated for the immediate family;
    - No arrangement has been entered into where the value of the ownership interests will be affected by the outcome of the research.
  - Compensation related to the research of any amount unless it meets two tests:
    - The value of the compensation when aggregated for the immediate family does not exceed $5,000 in the past year;
    - No arrangement has been entered into where the amount of compensation will be affected by the outcome of the research.

- Proprietary interest related to the research of any value including, but not limited to, a patent, trademark, copyright or licensing agreement.

11.3 Procedures

Under this policy, employees may not represent the Laboratory in any negotiations with outside business organizations in which they have a personal or financial interest. Similarly, employees shall not use for personal gain, or make other improper use of "privileged information" acquired in the course of Laboratory employment. "Privileged information" includes, but is not limited to, employee files and records; unpublished technological or scientific development information; anticipated supply requirements or pricing actions; possible new operations sites (U.S. Government or Laboratory-connected); and knowledge of contractor or subcontractor selections in advance of official announcement.
A Financial Disclosure Form is required for all NIH grant proposals and Cooperative Research and Development Agreement (CRADA). They are completed by the PI and reviewed and approved by the Manager of the Sponsored Research Program Office. Any disclosure of a significant financial conflict of interest will be forwarded to CORIHS for a management plan. All NIH Principal Investigators are required to take Financial Conflict of Interest training.

Employees are expected to make every effort to avoid actions that might actually or apparently compromise their independence and impartiality or otherwise violate the spirit of the Laboratory's conflict of interest policy. In any doubtful situation, where a possible incompatibility between regular job duties and personal interests might exist, employees should seek and follow official Laboratory advice through their supervisory chain.
The COI policy includes research results where a financial incentive or personal interest could cause a researcher to lose their objectivity (or create the appearance thereof) in the conduct or review of research, which in turn, may compromise the validity and integrity of the conduct or review of that research and/or negatively impact the public's trust in, for example, human subject protection.

The mere appearance of a conflict may be just as serious and potentially damaging as an actual financial conflict. Reports of conflicts based on appearances can undermine public trust in ways that may not be adequately restored even when mitigating facts of a situation are brought to light. Apparent conflicts, therefore, should be evaluated and managed with the same vigor as known conflicts.

11.4 Institutional Conflict of Interest

The Department of Energy (DOE) has uniform contract procedures for avoiding and mitigating organizational conflicts of interest in its Management and Operations (M&O) contracts for its national laboratories.

Organizational conflict of interest means that because of other activities or relationships with other persons, a person is unable or potentially unable to render impartial assistance or advice to the University or the Government, or the person's objectivity in performing the subcontract work is or might be otherwise impaired, or a person has an unfair competitive advantage.

A conflict of interest can also arise due to corporate or institutional relationships with other entities so that a person is unable or potentially unable to render impartial

assistance or advice, or the person's objectivity in performing work may be impaired or the person has an unfair competitive advantage. A person must ensure that their loyalty to their home institution does not conflict with the loyalty for the institution for which the work is being performed.

The Office of Technology Commercialization and Partnerships (TCP) has policies covering licensing, technology transfer and patents. The office is responsible for reviewing and approving any institutional and personal conflicts of interest in technology transfer activities.

.

In accordance with the Prime Contract with DOE, DOE is notified regarding any work involving Intellectual Property in which BNL has obtained or intends to request or elect title. The Office of Technology Commercialization and Partnerships must approve any licensing or title to Intellectual Property rights. Information regarding Intellectual Property is elicited using the BNL Proposal Information Questionnaire (PIQ) and Joint Work Statement forms.