Columbia University Institutional Biosafety Committee

Policy/Operating Procedures (Charge)

I. Charge

The Institutional Biosafety Committee (IBC) is charged with:

- Facilitating University compliance with the NIH’s *Guidelines for Research Involving Recombinant DNA Molecules* (the ‘Guidelines’). Compliance activities entail:
  - Education and outreach to inform the University community of the Guidelines’ requirements
  - Continued support and enhancement of systems that allow for the submission of recombinant DNA (rDNA) proposals to the IBC
  - Timely review of rDNA proposals
  - Communication with investigators regarding approval of rDNA submissions or the need to modify a submittal prior to approval
  - Periodic reporting to the NIH as required by the Guidelines
  - Availing meeting minutes to members of the public upon request.

- Reviewing and advising on policies and procedures, adopted and implemented by Environmental Health and Safety and other University departments directed toward eliminating exposure to infectious materials, maintaining biosecurity and adherence to related regulations and standards. These activities will reference established and recognized biological safety and security standards, including but not limited to *Biological Safety in Microbiological and Biomedical Laboratories* and the *Select Agent Act*.

- Reviewing Dual Use Research of Concern (DURC) Experiments. Based on information provided by Principal Investigators and other sources, the IBC makes an assessment as to whether a research project involves a DURC Experiment and therefore DURC. If the IBC makes a preliminary determination that the research is DURC, it will refer the matter to the Executive Vice President for Research (“EVPR”). The policy is provided in Addendum 1.

II. Responsibilities

A. IBC

1. Timely review of protocols for work involving rDNA for compliance with the Guidelines, including:
   a. Communication with investigators regarding approval of an rDNA submission or the need to modify a submission prior to approval.
   b. Continued support and enhancement of systems that allow for the submission of rDNA proposals to the IBC.
   c. Review of containment levels for the proposed activity as required by the NIH, OSHA, and the CDC.
   d. Assessment of personnel training, practices, procedures, and laboratory facilities for the proposed work.

2. Training of IBC members to ensure that the necessary expertise is maintained, including:
   a. Periodic review of the Guidelines and relevant regulations to ensure that updates are incorporated into IBC practices and recommendations.
   b. Reserving segments of each quarterly IBC meeting to provide in-house training to IBC members.
   c. Train-the-trainer efforts, in which a representative of the IBC may be sent to a relevant conference, then report back to the group on information learned.
   d. Hiring of an outside consultant as necessary.

3. Annual reporting to the NIH including a roster of all IBC members along with biographical sketches.

4. Reporting to OBA the following:
   a. Any significant problem, any violation of the NIH Guidelines or any significant research related accident or illness within 30 days;
   b. If research is conducted in a BSL-2 laboratory, any spill or accident resulting in an overt exposure to organisms containing rDNA molecules immediately upon notification from the PI;
   c. Any public comment received regarding rDNA activities or IBC affairs, and the IBC’s response to such comments; and,
   d. With respect to human gene transfer (HGT) research, any serious adverse event that is unexpected and associated with the gene transfer product within 15 days or if the event is fatal or life threatening, within 7 days.

5. Ensuring that all rDNA work involving human subjects is performed in compliance with Appendix M of the Guidelines, and that such work is not initiated until IBC and IRB approval have been granted and the Recombinant DNA Activities Committee (RAC) review process is complete. See Addendum 2 (attached) for more information on procedures specific to HGT research.
6. Reviewing this Policy/Operating Procedures:
   a. Annually.
   b. Upon proposal by any voting member of the IBC for adjustments or amendments.

B. Environmental Health and Safety (EH&S)
1. Receive protocol applications and prepare them for IBC review and approval.
2. Maintain a database of all IBC protocols.
3. Communicate decision of the IBC to Principal Investigators (PIs).
4. Ensure that all laboratories submitting rDNA protocols are audited on at least an annual basis for use of the proper containment level, safe practice, and compliance with the Guidelines. EH&S will use the audit as a means of ensuring that laboratory activities with rDNA are consistent with registered protocols.

C. Principal Investigator (PI)
1. Compliance with the Guidelines, as well as the OSHA Bloodborne Pathogens Standard and all other relevant federal, state, and local regulations.
2. Making an initial determination of containment levels required for rDNA work, as well as notification and approval requirements.
3. Submitting appropriate paperwork related to proposed rDNA work to the IBC.
4. Submitting an annual update regarding continuing protocols to the IBC.
5. Ensuring that all lab workers are trained regarding the hazards of rDNA work in the lab, and safe practices to be employed.
6. Ensuring that lab workers undergo medical surveillance based on anticipated exposure with Workforce Health and Safety, as per the Columbia University Medical Surveillance Policy.
7. Reporting to the IBC the following:
   a. Any significant problem, any violation of the NIH Guidelines or any significant research related accident or illness within 15 days;
   b. If the research is conducted in a BSL-2 laboratory, any spill or accident resulting in an overt exposure to organisms containing rDNA molecules immediately upon occurrence;
   c. With respect to human gene transfer (HGT) research, any serious adverse event that is unexpected and associated with the gene transfer product immediately upon occurrence.
8. Compliance with all shipping requirements for rDNA molecules, in adherence to Appendix H of the Guidelines.

III. Composition

IBC membership is appointed by the Executive Vice President for Research (EVPR). Membership shall include faculty members and administrative officials with relevant knowledge and interest including but not limited to molecular biology, epidemiology, infection control, regulatory compliance and research facility design. The IBC’s Biological Safety Officer (BSO) is the Senior Biological Safety Officer, and the Secretary is the Biological Safety Officer, with each being appointed in accordance with Section IV-B-1-c. of the Guidelines. The IBC shall have two non-affiliated Community Members.

Because the University conducts rDNA research with animals requiring approval in accordance with Appendix Q of the Guidelines, the Committee will have at least one individual with expertise in animal containment principles.

Because the University conducts rDNA research with human subjects requiring adherence to Appendix M of the Guidelines, the Committee will have at least one individual with expertise in Human Gene Transfer principles. If necessary, the Committee may use ad hoc consultants for this purpose as well.

The IBC will ensure adequate and appropriate training for its members, Chair, BSO, and containment expert with regard to laboratory safety and the implementation of the Guidelines. A member with expertise in research facilities design shall also serve on the Committee.

Committee members may request the appointment of alternates to allow for more consistent participation and representation on the Committee. Such appointments must meet the following conditions:

A. The alternate member must be appointed by the EVPR, formally added to the IBC roster, and trained as to their role and responsibilities as a member of the IBC.
B. The alternate member, if serving as an alternate for an IBC member with special expertise on the committee (e.g. animal containment expert), must have sufficient expertise to fulfill that role, and the authority to speak and vote on behalf of their respective regular members.
C. The alternate member may attend meetings alongside their respective regular members, but will not be able to vote in the presence of the regular member, and will not count towards a quorum in such an event.

D. The alternate member may not attend more meetings than their respective regular member in a given calendar year.

E. In order to ensure compliance with the training requirements of the NIH Guidelines, alternates must attend at least two quarterly meetings annually.

IV. Meeting Procedures

A. Meeting Frequency
The IBC shall meet at intervals of four to six weeks. Meetings will be conducted in either a traditional setting (convening in a conference room) or via conference call that allows for real-time, interactive discussion. Quarterly meetings will be in face-to-face. Ad hoc meetings may be conducted for urgent or time-sensitive issues. All meetings are open to the public. Any member of the public may contact the Biological Safety Officer for information on meeting attendance. Due to scheduling challenges, meeting schedules are not openly posted.

B. Conflict of Interest
IBC members shall be recused from discussion and voting on any protocol for which there may be any connection or personal interest (conflict of interest) beyond their capacity as IBC members. This includes any projects with which the IBC member may be engaged or have a direct financial interest.

C. Voting Procedures
A quorum shall consist of greater than one-half of the voting members. The Secretary of the Committee will collect and compile protocol submissions in advance of each meeting and send to the Committee members for review in advance. In Vitro works involving BSL-1 containment may be approved en masse, while all other protocols will be reviewed and approved individually.

The IBC approves protocols by majority vote of the eligible voting members present at a given meeting, provided there is a quorum present. If any protocol does not receive approval, the Secretary will direct any comments or requests for additional information to the concerned PI. The Committee will determine if, after any issues of concern are addressed by the PI, the protocol must be resubmitted to the Committee at the next meeting for a re-vote, or if the Secretary may provide approval on behalf of the Committee. In addition:

1) The IBC must vote to approve all newly submitted protocols before approval is granted by the Biosafety Officer in RASCAL.
2) The IBC must vote to approve all protocol renewals, or modifications that include any changes to the hazardous materials appendices or to procedures involving the use of recombinant DNA or potentially infectious materials, before approval is granted by the Biosafety Officer in RASCAL.
3) The IBC will review each protocol annually, or upon the submission of a modification.
4) The Biosafety Officer may grant approval for annual renewals or modifications submitted to the IBC in advance of the IBC meeting, if:
   a. The protocol has previously been approved by the IBC, and;
   b. There are no changes to the protocol that will impact biosafety or involve any changes to the hazardous materials appendices or to procedures involving the use of recombinant DNA or potentially infectious materials.
5) In order to ensure expeditious review of protocols that are submitted to the IBC as attachments to animal care protocols that are reviewed in parallel by the IACUC, the Biosafety officer may grant preliminary administrative approval for protocols in advance of the IBC meeting if the Principal Investigator agrees in writing that the laboratory will not begin work associated with the recombinant DNA-related activities described in the protocol until final approval is granted following a vote from the IBC. Such preliminary administrative approval is intended solely to allow non-rDNA work to proceed (e.g. ordering of animals, animal breeding, etc.).

The IBC approves protocols for work at the respective biosafety containment level chosen by the PI, provided that the chosen containment level is appropriate for the work proposed.

D. Compilation of Minutes
   1) Minutes will be recorded at each meeting by the IBC Secretary.
2) The results of each procedural vote will be recorded in the minutes, along with voting member names and any significant discussion points regarding the protocols being discussed. If a protocol approval is not unanimous, minority views will be recorded in the minutes. Minutes will also reflect the time and place of the meeting, whether the minutes of the previous meeting were approved, members in attendance, all major motions, major points of order, and the time of meeting adjournment.

E. Redaction of Minutes

When processing such requests, The University shall comply with the NIH Guidelines and pertinent supplementary guidance. In reviewing all requests for IBC minutes or other documents, the University reserves the right to redact information from IBC minutes or other IBC documents that will be made available to the public due to privacy, security or proprietary concerns. In order to ensure redaction is performed consistently, the following procedure is adopted.

Information that will not be redacted includes:
• Committee roster and biographical sketches of members.
• Names of principal investigators.
• Vectors, inserts, hosts, animal species employed.
• Details of any significant problems with, or violations of, the NIH Guidelines.
• Any significant recombinant DNA-related accidents and illnesses.

Information that will be redacted includes, but is not necessarily limited to:
• Private information (names of research staff other than Principal Investigators, addresses, telephone numbers, e-mail addresses).
• Proprietary information, information that could affect the conduct or outcome of research or ability to patent or copyright the research, trade secrets, proprietary information received from sponsors of clinical gene transfer studies.
• Location of biohazardous agents/toxins or research animals, and any information that might compromise University, local, or national security.
• The IBC is also kept abreast of activities that are non-recombinant DNA-related and not subject to the public access provisions of the NIH Guidelines. This includes training initiatives, conference reports, facilities and engineering, risk and exposure assessments, medical surveillance program and regulatory compliance such as the OSHA bloodborne pathogen standard, select agent program, and non-recombinant DNA-related accident reports. Such information will also be redacted.

The IBC shall refer to or coordinate with the Office of General Counsel and Office of Communications any requests it receives from the public for IBC minutes or documents. The IBC will be notified of all such requests. Principal Investigators identified in the minutes will be notified that a public request has been made and will be offered copies of the redacted minutes. All such requests will be handled expeditiously.
Addendum 1: Dual Use Research of Concern at Columbia University

A. Background
The Department of Health and Human Services Policy for Institutional Oversight of Life Sciences Dual Use Research of Concern (the DURC Policy), took effect on September 24, 2015. In order to be compliant with the DURC Policy, in February 2015, the Columbia University Office of the Executive Vice President for Research (EVPR) and the Institutional Biosafety Committee (IBC) created an internal policy (the CU Policy) that outlines oversight responsibilities for Columbia University stakeholders, including Principal Investigators and the IBC. These responsibilities include establishing institutional mechanisms for identifying potential dual use research, providing for expert committee review of such research and developing standards for risk assessment and management. The CU Policy has been posted on the EVPR website (http://evpr.columbia.edu/files/evpr/pdf/DURC%20Policy%20February%202015%20Final.pdf).

B. DURC Review by Institutional Biosafety Committee (IBC)
The IBC will undertake the review process outlined in the CU Policy for identifying and managing DURC. A standing agenda item for IBC meetings will be “DURC Review”, whether or not any research has been reviewed.
Addendum 2: Human Gene Transfer

Meetings

- For time sensitive proposals, an ad hoc meeting will be convened.
- HGT review meetings will require the agreement of the IBC’s designated HGT expert. If the designated HGT expert is not able to attend the meeting in person, the Biosafety Officer will obtain feedback regarding the HGT protocol from the designated HGT expert in advance of the meeting, and will relay this information to the Committee at the meeting.
- The IBC may consider review of human use protocols involving administration of nucleic acids or other biological materials that do not meet the definition of Human Gene Transfer as outlined in the NIH Guidelines. The Committee will use its discretion and the expertise of its scientific members to determine which protocols warrant review.

NOTE: The Guidelines delineate different requirements for ‘sponsors’ and ‘additional clinical trial sites’. It is anticipated that the University’s status will remain exclusively as an ‘additional clinical trial site’.

Submittal Requirements

Principal Investigators (PIs) must submit to the IBC:

- A completed Columbia University Institutional Biosafety Committee Application for the use of Recombinant DNA (rDNA) Molecules in Human Gene Transfer [link](http://ehs.columbia.edu/IBC%20Human%20Gene%20Therapy%20Application%20Appendix%20M.docx), which will indicate whether the PI or the Sponsor shall be responsible for the reporting requirements of the Guidelines.
- If the Sponsor (not the PI) will be responsible for the reporting requirements, PI must submit a copy of the letter sent to the OBA of this delegation.
- The scientific abstract. The abstract from the grant proposal may be used.
- A copy of the Clinical Investigator’s Brochure.
- The Informed Consent Document that is currently (or will be) under consideration by the University’s Institutional Review Board (IRB).
- The Sponsor’s NIH submittal as per Appendix M of the rDNA Guidelines, Considerations for Human Gene Therapy.
- A copy of the NIH’s response to the Sponsor’s Appendix M submittal.
- If the aforementioned response, ‘Outcome of the Initial Review by the Recombinant DNA Activities Committee’, indicates comments by RAC members, the Sponsor’s reply to the comments must be provided to the IBC.

Voting & Approval Procedures

- All the materials in the Submittal Requirements section shall be sent to the IBC at least five days prior to the meeting.
- At the meeting, a member of the IBC shall present the proposal to the Committee. The presentation will include:
  - the clinical trial phase of the project
  - the condition being addressed
  - a description of the vector, the gene product(s) to be expressed and how this might have a positive impact on study subject
  - whether viral replication is expected if a viral vector is being used
  - any relevant information on adverse events from prior clinical or pre-clinical descriptions
  - the considerations to ensure that recombinant DNA or its products are not spread to personal contacts of trial subjects or the community
- If a proposal is approved, the Secretary will inform the PI and the IRB.
- If a proposal is not approved, the Secretary will contact the PI and request further information or clarification as deemed necessary by the Committee for approval.
- For proposals where further information or clarification will be required for approval, the Committee shall determine if the responses are to be brought to the next Committee meeting for a re-vote or if the Secretary may provide approval on behalf of the Committee.
- In the latter case, the Secretary is responsible for reintroducing the proposal to the Committee if the PI’s responses do not provide sufficient clarification or modification.
- Minutes of HGT discussion shall include:
  - any questions or issues brought up during the discussion and how they were addressed
  - whether the proposal was approved during the meeting or if approval was made contingent on the provision of additional information
  - whether the Secretary was allowed to grant approval on behalf of the Committee or if discussion was to be continued at a subsequent meeting
  - any minority viewpoints presented, if the approval is not unanimous
**Reporting Requirements**

- Upon approval as an “Additional Clinical Trial Site”, the PI shall be notified by the IBC of reporting requirements in the following areas:
  - **enrollment** (the signing of an Informed Consent form), which must be preceded by the PI’s submission to OBA of
    - IBC approval
    - IRB approval and the IRB-approved informed consent document
    - Curriculum Vitae (CV) of the PI
    - NIH grant numbers if applicable
  - **annual reporting**, which is typically done by the Sponsor, from data supplied from multiple clinical trial sites, will include
    - clinical trial information
    - progress report and data analysis
    - a copy of the updated clinical protocol, if applicable
  - **safety reporting** by the PI (to the sponsor or to OBA, as applicable) of any serious adverse event that is unexpected and associated (reasonable possibility) with the use of the gene transfer product.

The IBC’s designated HGT expert(s) will review annual reports on behalf of the committee when the focus is human safety. If there are technical or environmental issues, addition committee expertise will be solicited. The committee will be briefed on the review.