1. PURPOSE

Human subjects (see def.) involved in *research* (see def.) at Idaho National Laboratory (INL) are protected to ensure that the study protects their rights and welfare.

2. SCOPE AND APPLICABILITY

This procedure provides the process for protecting human subjects that are involved in research at INL. It commences when a need to use human subjects in experimentation is identified, and it includes the processes of obtaining INL *Institutional Review Board* (IRB; see def.) approval, which is required for all experiments using human subjects. It includes the process the researcher/principal investigator (PI) must follow for any research involving human subjects.

This procedure applies to all research involving human subjects at INL.

3. PREREQUISITES

The protection of human subjects involved in research studies supported by the Department of Energy (DOE) is a very important issue. In order to ensure that every laboratory and individual involved in human subjects research has the appropriate training, DOE has endorsed an online training program developed by the University of Miami, the Collaborative Institutional Review Board (IRB) Training Initiative (CITI) that provides an understanding of the rules, ethics, and practices that are required in order to conduct research with human subjects. The intent of this educational activity is to enhance the quality of these research projects and forestall any potential problems with research on human subjects conducted at DOE sites.

All IRB members, IRB staff, and PIs at INL performing, or intending to perform research involving human subjects are required to complete the identified modules of this online educational course. A refresher-training module is required every 2 years thereafter.

4. INSTRUCTIONS

4.1 Initiating a Research Project Using Human Subjects

4.1.1 Project Managers: Ensure that all principal investigators know their responsibility to protect the rights and welfare of human subjects, as defined by DOE order, including:

A. Minimizing risks (*minimal risk* [see def.])

B. Selecting subjects equitably

C. Obtaining *informed consent* (see def.)

D. Ensuring privacy and confidentiality

E. Complying with federal regulations and DOE orders to protect human subjects.

4.1.2 Principal Investigators (Researchers): Review the project requirements to determine or confirm the need for human subject involvement. The PI should be familiar with PDD-131, including Appendixes A through K.

4.1.2.1 Investigate the alternatives to using human subjects.

4.1.2.2 Submit a protocol summary to the IRB administrator that addresses:

A. Alternatives investigated

B. Merits and hazards of using human subjects

C. Basis for concluding human subjects must be used

D. Precautions to be taken and test protocols

E. Expected impacts on the subjects.

4.1.2.3 If the need for human subject involvement is confirmed, then contact the INL IRB chairman or administrator for assistance in determining the category of review required before beginning the project.

4.1.2.4 Obtain IRB approval before initiating any work involving human subjects.

4.1.2.5 Develop project protocol, informed consent forms, and supporting documents.

4.1.2.6 Supply copies of the protocol, informed consent forms, and supporting documents to the IRB administrator for inclusion in the project document packet.

4.1.2.7 Consult and work with the INL IRB administrator, as necessary, to develop the project document packet for submission to the IRB.

4.1.2.8 If the proposed research is determined to require a “full” board review, meet with the IRB to give a short presentation

and be prepared to answer questions relating to the research. See PDD-131 3.4.D.

4.1.3 INL IRB Chairman: Provide guidance and oversight of all proposed research at INL involving human subjects. Chair all IRB review meetings.

4.1.3.1 Review the protocol documents for all proposed research involving human subjects, submitted by the PI, for categorization of the type of *IRB review* (*full, expedited, exempt* [see def.]) required.

4.1.3.2 If the proposed research category is determined to be "exempt," then file the protocol documents with the IRB administrator (see Steps 4.1.4.1 and 4.1.4.3).

4.1.3.3 If the proposed research category is determined to be "expedited," then process the protocol documents with the IRB administrator (see Steps 4.1.4.1, 4.1.4.2, 4.1.4.4, 4.1.4.6).

4.1.3.4 If the proposed research is determined to require a "full" board review, then convene the INL IRB to review the project for approval and submission of project packet to the Department of Energy, SC-72 (see Steps 4.1.4.1, 4.1.4.2, 4.1.4.5).

4.1.3.5 INL will generally follow DOE Order 443.1A. However, in unusual circumstances where waivers may be appropriate, notification to DOE-Office of Biological and Environmental Research (OBER) is required, with appropriate justification.

4.1.4 INL IRB Administrator: Coordinate project documentation and maintain records on all projects involving human subjects.

4.1.4.1 Assist the principal investigator with preparation of the project documents.

4.1.4.2 Develop and prepare the project document packet, including the project protocol, informed consent forms, and any supporting documents. Submit the project document packet to the INL IRB chairman and IRB members for review. Retain a copy of the packet in the project file.

4.1.4.3 If the project is determined to be in the "exempt" category from IRB review, then provide the PI with a statement of

exemption for the PI's files and keep the submitted protocol documents in the IRB files.

4.1.4.4 If the project is determined to be in the "expedited" category by the INL chairman, then document the approval in the IRB file.

4.1.4.5 If the project is determined to be in the "full" review category and approved by the INL IRB, then document the approval in the IRB file.

4.1.4.6 Upon receipt of the project approval, file the approval in the project file and send a copy of the approval letter to the PI, informing the PI of the right to begin the research project.

4.1.4.7 Prepare and submit an annual report for the DOE Human Subjects Research Database in accordance with directions and schedules provided by SC-72 and the contracting officer. The IRB administrator is notified electronically to enter project data into the database by the DOE contractor, currently Oak Ridge Institute of Science & Education (ORISE), on an annual basis. When the data is entered, the ORISE point of contact will notify the INL administrator of annual report acceptance. Review of the annual reports can be seen at http://www.eml.doe.gov/hsrd/.

4.1.5 INL IRB: Review all research that is greater than minimal risk involving human subjects to ensure that the study protects the rights and welfare of human subjects by minimizing risks, selecting subjects equitably, obtaining informed consent, and ensuring privacy and confidentiality.

4.2 Control of Ongoing Research Projects Using Human Subjects

4.2.1 IRB Chairman: Conduct continuing review of approved research at intervals appropriate to the degree of risk, but not less than once a year. See Form 420.19, "Annual Continuing Review Form for INL IRB."

4.2.2 IRB Chairman: Report the following to DOE-OBER (and any designated Program Secretarial Officer [PSO], National Nuclear Security Administration [NNSA] point of contact or Head of Field Organization [HFO] point of contact):

A. Any adverse events, unanticipated risks, or complaints about the research, and a description of any corrective actions taken and/or to be taken

B. Any changes to the IRB membership

C. Any suspension or termination of IRB approval of research

D. Any significant non-compliance with Human Subjects Research Program procedures or other requirements.

4.2.3 INL IRB: Control, approve, and periodically review all research involving human subjects to ensure that the study protects the rights and welfare of human subjects by minimizing risks, selecting subjects equitably, obtaining informed consent, and ensuring privacy and confidentiality.

4.2.4 Principal Investigator: Notify the IRB immediately if a human subject is injured, if private information is disclosed improperly, or if other events occur that could have harmful consequences for the participants.

4.2.5 Principal Investigator: If the event meets the criteria in MCP-190, "Event Investigation and Occurrence Reporting," then report the event in accordance with that procedure.

4.3 Periodic Self-Assessments

4.3.1 A contractor self assessment should be conducted every 3–5 years, to include review of Contractor Required Documents, review of IRB meetings and review of minutes from previous meetings, review of the annual report available on the DOE Protecting of Human Subjects Home Page, and interviews of selected PI's involved in research involving human subjects, in accordance with PDD-1064. Any noncompliances identified during these self-assessments will require reporting, disposition, and tracking to closure, as directed in MCP-598 and the company Quality Assurance Program.

5. EDUCATION

The protection of human subjects involved in research studies conducted by staff at the national laboratories is a very important issue. In order to ensure that every laboratory and individual involved in human subjects research has the appropriate training, DOE has put in place an educational course that provides an understanding of the rules, ethics, and practices that are required in order to conduct research with human subjects.

The OBER supports DOE-wide access to a comprehensive Web-based training program on the protection of human research subjects: the "Collaborative IRB Training Initiative Course (CITI)." Implementation of this course by DOE is essential for compliance with DOE Order 443.1, "Protection of Human Subjects."

All IRB members, IRB staff, and PIs at the INL performing, or intending to perform, research with human subjects are required to complete the identified modules of this online education course. The INL IRB Administrator will monitor INL compliance of completion of this course.

6. RECORDS

Record	Uniform File Code	Disposition Authority	Retention Period
Program Planning Records including (but not limited to) - Project document packet and approvals/authorizations filed separately from the Human Research Project files.	8401	RD2-A-3	Cutoff files every 5 years and transfer to storage. Destroy 20 years after cutoff. Retain until no longer needed for reference, then transfer to Record Storage.
Human Research Project Files - documenting the history of research projects on human subjects from initiation to completion. The records may include but are not limited to the following: project proposal, review memoranda and comments, project authorizations and directives, approved protocols, documentation of assurance, unpublished manuscripts, journal articles and conference papers, progress reports, correspondence, lists of publications resulting from the project, test treatment data, daily calibration data, equipment operation logs, operation and safety procedures, and Institutional Review Board records.	2400	RD3-B	Permanent. Cutoff at the end of each fiscal year. Retain until no longer needed for reference, then transfer to Record Storage.

7. DEFINITIONS

Human subject. A living individual about whom an investigator (whether professional or student) conducting research obtains (1) data through intervention or interaction with the individual, or (2) identifiable private information.

Informed consent. The legally effective consent by the human research subject, or the subject's legally authorized representative, to participate in research covered under DOE Order 443.1, "Policy on the Protection of Human Subjects." It is obtained after providing

to the subject the basic elements of informed consent, as set forth in 10 CFR Part 745. Informed consent documents shall include disclosure of all potential risks and related consequences or adverse effects, as well as any benefits that may occur as a result of such participation.

Institutional Review Board (IRB). Reviews all research that is greater than minimal risk involving human subjects to ensure that the study protects the rights and welfare of human subjects by minimizing risks, selecting subjects equitably, obtaining informed consent, and ensuring privacy and confidentiality. Appointed by the chief executive officer of the prime management and operating contractor for INL.

Institutional Review Board (IRB) review. IRB review includes the following types:

- Full Board—Review of proposed research at a convened meeting. For the research to be approved, it must receive the approval of a majority of those members present.

- Expedited—Review of proposed research by the IRB chair or a designated voting member or group of voting members rather than by the entire IRB. Federal rules permit expedited review for certain kinds of research involving no more than minimal risk and for minor changes in approved research.

- Exemption—Exemption from the requirement for IRB approval when IRB review of proposed research indicates that research does not involve human subjects as defined in 10 CFR 745 and/or the only involvement of human subjects is in one of the categories listed under 10 CFR 745 Sec. 101 (b)(1)-(9). Human subjects regulations do not apply to exempt projects.

Minimal risk. 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.

Research. A systematic investigation, including research development, testing, and evaluation, designed to develop or contribute to general knowledge.

8. REFERENCES

Title 10, Code of Federal Regulations, Part 745, *Federal Policy for the Protection of Human Subjects, Common Rule*

DOE Order 443.1A, “Policy on the Protection of Human Subjects”

DOE Order 481.1, “Work for Others (Non-Department of Energy Funded Work)”

MCP-190, “Event Investigation and Occurrence Reporting”

Form 420.18, “Human Subject Proposal Review Recommendation”

Form 420.19, “Annual Continuing Review Form for INL IRB”

See Appendix A, Procedure Basis

9. APPENDIX

Appendix A, Procedure Basis

Appendix A

Procedure Basis

Step	Requirement	Source
4.1.1	Risk to subjects must be minimized, subjects must be selected equitably, informed consent must be obtained, subject's privacy and confidentiality must be maintained.	10 CFR 745.111, (1)-(7) DOE 443.1A
4.1.2	Except as provided in paragraph (b) of is section, this policy applies to all research involving human subjects conducted, supported or otherwise, subject to regulation by any federal department or agency that takes appropriate administrative action to make the policy applicable to such research.	10 CFR 745.101, (a)
4.1.1 4.1.2	Project managers must be familiar with terms and concepts that apply to protecting human research subjects.	Company administrative requirement
4.1.2	Principle investigators should review project requirements to make sure human subjects are required.	10 CFR 745.101 through 124
4.1.3.1	IRB chairman or administrator must assist the principal investigator in determining the type of review required before a project can be initiated.	Company administrative requirement
4.1.2.5	Principal investigators must develop the project protocol, informed consent forms, and supporting documents (they are the most knowledgeable individuals in these subject areas).	Company administrative requirement
4.1.2.6	Principal investigators must supply copies of the project protocol, informed consent forms, and supporting documents to the IRB administrator for inclusion in the project document packet so the IRB can evaluate the project.	Company administrative requirement
4.1.2.7	Principle investigator and IRB administrator must work together to develop the project document package.	Company administrative requirement
4.1.4	Documentation for all human subject projects must be developed, submitted to the IRB for approval, and maintained on file.	10 CFR 745.115

Step	Requirement	Source
4.1.3.1	IRB chairman must review all document packets that pertain to research involving human subjects to determine what type of IRB review is required.	Company administrative requirement
4.2.1	All proposed research involving human subjects shall be reviewed at a convened meeting of the IRB, unless an expedited review process is used, as prescribed in 10 CFR 745	10 CFR 745.108, (b)
4.1.3	IRB chairman will chair all meetings.	Company administrative requirement
4.1.2.8	Principle investigator shall present the project to the IRB for consideration and approval.	Company administrative requirement
4.2.2	IRB shall consider each project and decide whether or not to approve each submitted research project based on the merits and hazards of the specific project as presented by the principle investigator and the approval criteria contained in 10 CFR 745.111.	10 CFR 745.111, (a) and (b)
4.1.4.8	INL IRB administrator shall file approval of the documents, when received, and send copies to the principle investigator.	Company administrative requirement
4.1.4	INL IRB administrator shall keep IRB members apprised of all activities involving human subjects.	Company administrative requirement
4.2.1	The INL IRB must be convened at regular intervals (at least annually) for review of all active projects involving human subjects.	10 CFR 745.109 (e)
4.2.2	The INL IRB shall control, approve, and periodically review all research involving human subjects to ensure that the study protects the rights and welfare of human subjects by minimizing risks, selecting subjects equitably, obtaining informed consent, and ensuing privacy and confidentiality.	10 CFR 745
4.2.1	The INL IRB shall review and approve continuing projects at least once a year.	10 CFR 745.109, (e)
4.2	If the approved procedures for a research project that involves human subjects change, review and either approve or disapprove the changes.	10 CPR 745.110, (b)(2)

Step	Requirement	Source
4.2.3	The principle investigator must notify the IRB immediately if a human subject is injured, if private information is disclosed improperly, or if other events occur that could have harmful consequences for the participants.	10 CFR 745.113 and Company administrative requirement
4.1.4.2	Ensure that the Doe Human Subjects Research Program Manager (SC-72) is notified of any new human subjects research project involving: a. An institution without an established IRB b. A foreign country c. The potential for significant controversy (e.g., negative press or reaction from stakeholder or oversight groups) d. Research subjects in a protected class e. The generation or use of classified or sensitive unclassified information.	DOE Order 443.1A
4.1.2.4	Ensure no research involving human subjects conducted at the contractor-operated institution, with the contractor's DOE-contract funding, or by contractor personnel is initiated without prior IRB approval under the terms of an approved assurance covering the research.	DOE Order 443.1A
4.2.1	Ensure research is reviewed at intervals appropriate to the degree of risk, but not less than once per year, to determine whether test subjects are at risk and if they are, whether the risk is reasonable in relation to anticipated benefits.	DOE Order 443.1A
4.3.1	Periodically conduct self-assessments to ensure compliance with the Human Subjects Research Program procedures and other requirements.	DOE Order 443.1A
4.1.4.2	Prepare and submit an annual report for the DOE Human Subjects Research Database in accordance with directions and schedules provided by SC-72 and the contracting officer	DOE Order 443.1A

Step	Requirement	Source
4.2.2	Report the following to OBER (and any designated Program Secretarial Officer, National Nuclear Security Administration point of contact or Field Organization point of contact): a. Any adverse events, unanticipated risks, or complaints about the research, and a description of any corrective actions taken and/or to be taken b. Any suspension or termination of IRB approval of research c. Any significant non-compliance with Human Subjects Research Program procedures or other requirements.	DOE Order 443.1A
4.1.3.5	Submit requests for waivers from these requirements in writing, through the designated cognizant PSO, NNSA Administrators, or field organization point of contact to DOE-OBER, with appropriate justification	DOE Order 443.1A
5	Actively participate in human subjects research educational programs	DOE Order 443.1A