

CHARTER
of the
INTERAGENCY NUCLEAR SAFETY REVIEW BOARD

I. Purpose

It is the policy of the United States that it will develop and use space nuclear systems where such systems safely enable or enhance space exploration or operational capabilities. To effect this policy, National Security Presidential Memorandum-20 - Launch of Spacecraft Containing Space Nuclear Systems was issued on August 20, 2019 (hereinafter “NSPM-20” or “the Memorandum”), which establishes a rigorous, risk informed safety analysis and launch authorization process for United States launches of space nuclear systems. Pursuant to NSPM-20, the Interagency Nuclear Safety Review Board (hereinafter the “INSRB”) was established in February 2020. This Charter of the INSRB (hereinafter the “Charter”) establishes the governance structure for the INSRB, including identification of INSRB Participating Agencies, Participating Agency Roles and Responsibilities, and INSRB meeting process and procedure.

The Memorandum applies to Federal Government launches and launches for which the Department of Transportation has statutory authority to license as commercial space launch activities (commercial launches) which include space nuclear systems. Space nuclear systems include radioisotope power systems (RPSs), such as radioisotope thermoelectric generators (RTGs) and radioisotope heater units (RHUs), and fission reactors used for power and/or propulsion.

II. Governing Council

The permanent members of the INSRB shall (per NSPM-20) include civil service or military officer appointees from the following Departments or Agencies:

- The National Aeronautics and Space Administration (Administering agency)
- The Department of Defense
- The Department of Transportation
- The Department of Energy
- The Environmental Protection Agency
- The Nuclear Regulatory Commission
- The Department of State

III. Organizational Structure and Functions

- a. Each Participating Agency shall (per NSPM-20) designate technically qualified personnel to the INSRB.

- b. A Board Secretariat (referring to a role associated with the standing Board function), typically expected to be the NASA Nuclear Flight Safety Officer (NFSO) or their designee, will be appointed by the NASA Chief of Safety and Mission Assurance to:
 - i. Distribute meeting invitations and background materials.
 - ii. Record actions, dispositions, and any formal dissents during INSRB activities.
 - iii. Distribute meeting minutes, including actions and decisions, within five business days of the meeting and subsequently archive same.
 - iv. Facilitate development and execution of INSRB guidance (e.g., INSRB Playbook).
- c. For Federal Government missions, the INSRB Review Group (IRG) will be Chaired by the member from the organization sponsoring a proposed launch (typically NASA or the Department of Defense) or system (when applicable).
- d. For commercial launches licensed by the Secretary of Transportation, upon the Secretary of Transportation’s request to engage the INSRB, the IRG will be chaired by the member from the Department of Transportation. A schematic of this arrangement is provided in Figure 1.

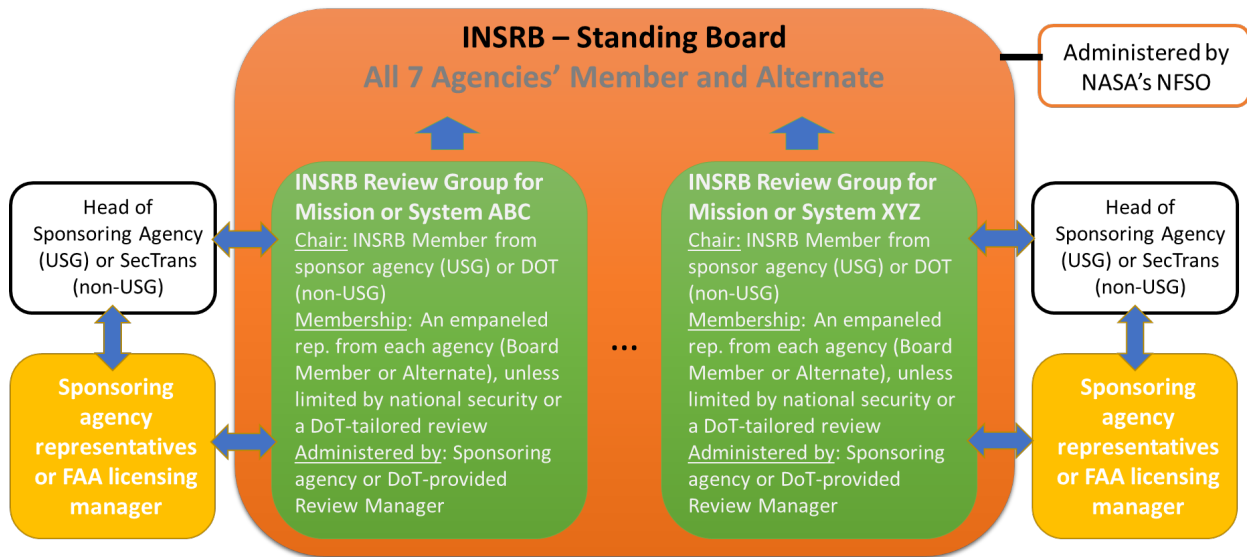


Figure 1: INSRB Organizational Structure

IV. Meetings

- a. INSRB meetings will be administered by the Secretariat, or a designated representative. INSRB Board meetings will normally be held quarterly to consider policy, technical developments, lessons learned, and other issues that could affect future Federal Government or Commercial launches, and to stay abreast of early mission planning that will likely affect INSRB. Informational-only Board meetings may be called at the Board’s

- discretion when there is a special topic that does not have a direct nexus to an ongoing or imminent INSRB review; as a general rule, no formal decisions can occur at such meetings (since it's designation as an informational-only meeting may affect some members' attendance and or preparedness). Prior to each meeting of the INSRB, the Secretariat, will develop and distribute a draft agenda for the Board members' consideration and comment.
- b. IRG meetings will be held at the call of the Chair for each mission (or system, when applicable), and, when practical, will be held in conjunction with regularly scheduled INSRB Board meetings.
 - c. Attendance will be either in-person or via remote video/teleconferencing. A member must report the assignment of a proxy to the Secretariat/Chair (as applicable) with the expectation that the assigned proxy has the appropriate delegated authority from the INSRB member being represented.
 - d. Non-INSRB individuals may attend INSRB meetings if the attendance is requested by a Board member. Requests for attendance of non-INSRB individuals will be in writing with a justification as to why the individual's attendance is necessary. All requests for attendance of non-INSRB individuals will be coordinated in advance with the Secretariat/Chair. Approval of the attendance and participation of non-INSRB participants at INSRB meetings will be at the discretion of the participating INSRB members.
 - e. For sessions that include classified or other sensitive information, a non-INSRB participants' organization must attest to the individual's "need to know," and provide appropriate credentialing and/or verification of security clearance, when applicable.

V. Functioning of the INSRB

- a. The INSRB has an advisory role, reporting to the sponsoring agency or department. The INSRB conducts its assessment of the safety analysis independently and can provide recommendations, but the INSRB members do not impose requirements on, make decisions for, or direct the mission under review.
- b. The INSRB is not an advisory committee subject to the open meeting provisions of the Federal Advisory Committee Act. It is an "Intragovernmental Committee" comprised wholly of full-time officers or employees of the Federal Government (see 41 CFR 102-3.40(h) – Types of committees or groups not covered by FACA). On an ad hoc basis, the INSRB may invite non-federal government subject matter experts (e.g., National Laboratory personnel, academic interests with relevant expertise) to attend meetings and present information to the members on matters of general interest, or specific aspects of mission reviews, on an individual, occasional basis. Further, INSRB can utilize contracted subject matter experts (SMEs) that are not full-time officers or employees of the Federal Government to support the IRGs, however, in such cases it is important that the IRG not operate in a way that would make these SMEs de facto Board members.

- c. Agency representatives will support INSRB functions, including, but not limited to:
 - i. Participating in quarterly and as-needed INSRB meetings;
 - ii. Participating in mission-specific reviews, or appointing another qualified individual from their agency to participate;
 - iii. Making available subject matter experts from their agency, when requested;
 - iv. Supporting the development and maintenance of INSRB guidance documents.
- d. Attendance by a majority of the member organizations will be considered a quorum for meetings of the INSRB. For civilian Federal Government missions, a quorum is constituted by the presence of four members. For a mission in which national security considerations require consultation with the Assistant to the President of National Security Affairs (APNSA) to limit membership, or for commercial launches where the Secretary of Transportation has requested a tailored review to provide a more effective review in terms of the burden on an applicant, the quorum criteria will be at least one half of the membership of the Board identified to review that mission.
- e. The INSRB is a consensus body. It is the responsibility of the INSRB, or the Chair of the IRG, as applicable, to ensure that all Board members are given the opportunity to review and comment on proposed findings issued by the INSRB. To the maximum extent possible, consensus findings are encouraged. In instances where unanimity of opinion on certain matters is not achieved, the INSRB will prepare a “minority report” to document the specific matters where consensus was not achieved, explain the rationale, and enter the report into the record of the matter under consideration.
 - i. It is the responsibility of every INSRB member to ensure the INSRB is aware of dissenting opinions, that these dissents are discussed, and that the dissenter is advised of the disposition. INSRB members who have dissenting opinions may document them directly to the organization sponsoring the launch, or to the Director of the Office of Science and Technology Policy or the Assistant to the President for National Security Affairs, as appropriate, for Tier III launches.

VI. Mission-specific Review Plans

- a. NSPM-20 directs that “The terms of any INSRB review, including the costs of such review, shall be agreed upon between the NASA Administrator and the head of the agency requesting INSRB review.” These terms will be addressed in the INSRB Mission-specific Review Plan, and subsequently the mission Terms of Review, to include the cost for any civil service participants requiring reimbursement, and support for any required non-civil service subject matter experts. An important aspect of this plan is the provision of a process and schedule for delivering actionable mission Safety Analysis Report (SAR) information (including precursor and supporting technical documents) for Safety Evaluation Report (SER)

development, as well as the routine communication expectations between the INSRB and the sponsoring agency's mission program office.

- b. The IRG Chair and the INSRB Secretariat will coordinate this plan and any cost estimate with the sponsoring agency during mission formulation. The INSRB will periodically review progress, and the IRG Chair will coordinate any changes to the review plan or cost estimates with the sponsoring agency throughout the mission development lifecycle.
- c. A separate document (e.g., an Interagency Agreement) will be developed to codify any support that goes beyond routine INSRB interactions (e.g., interagency funds transfers needed to support execution), or any deliverables that require an additional level of certainty (e.g., a no-later-than date for SAR delivery when not already covered by other Agreements/contracts).

VII. Conflicts of Interest

- a. Due to the potentially limited availability of expertise associated with advanced technologies and modeling to support both SAR and SER development, INSRB member agencies which engage non-federal subject matter experts will take appropriate precautions to identify and eliminate actual or apparent conflicts of interest that may currently exist or which may arise in the future.
- b. Board members will notify the INSRB of any potential conflicts of interest as they are identified and the step(s) taken to address them; this information will be recorded and archived appropriately by the INSRB Secretariat.

VIII. Requirements

- a. For Federal Government Missions in all Tiers
 - i. The head of the sponsoring agency shall ensure that a mission Safety Analysis Report (SAR) be prepared (NSPM-20, section 5(b)).
- b. For the Licensing of Commercial Launches in all Tiers
 - i. The Secretary of Transportation shall, if necessary, issue a notice or proposed rulemaking to require a mission SAR is prepared to inform a launch determination, and;
 - ii. Obtain review of the mission SAR in consultation with other agencies as appropriate. (NSPM-20, section 5(b))

- c. For Federal Government launches in Tier II and Tier III
 - i. The head of the sponsoring agency shall (per NSPM-20) request the INSRB review the nuclear safety analysis, including the mission SAR, and report its findings, in the form of a SER, to the head of the sponsoring agency in order to inform the decision to proceed with launch and, for Tier III missions, inform any decision to request Presidential launch authorization.
 - ii. When necessary to protect national security, the head of the sponsoring agency, in consultation with APNSA, may restrict INSRB member participation in any mission review.

- d. For the Licensing of Commercial Launches in Tier II and Tier III
 - i. The Secretary of Transportation shall:
 - 1. Consult with the heads of any other agencies that the Secretary deems appropriate to review the SAR.
 - 2. Request, as appropriate, the INSRB to review any nuclear safety analysis associated with potential commercial launch of a space nuclear system under review by the Secretary.

- e. For all requested INSRB reviews, the INSRB (per NSPM-20):
 - i. Shall engage early in the safety analysis process, after the conceptual design of the mission is generated;
 - ii. Will deliver a review plan and any cost estimate to the sponsoring agency's project office during mission formulation, via the IRG Chair;
 - iii. Shall evaluate the quality of the safety analysis and identify any significant gaps in the analysis;
 - iv. May recommend areas for additional analysis where gaps are identified;
 - v. Shall, before completion of the mission SAR, advise the head of the sponsoring agency of any omissions or gaps which have been identified in the analysis that is planned or underway;
 - vi. May provide recommendations for corrective action as necessary.

- f. The terms of any INSRB review, including the costs of such review, shall (per NSPM-20) be agreed upon between the NASA Administrator and the head of the agency requesting INSRB review.

IX. Funding

There will be no transfer of funds between the Parties under this Agreement (mission-specific Agreements are discussed in Section VI) and each Party will fund its own civil service participants for the Board's standing activities. Each Party will also fund its own civil service participants on

mission-specific reviews, to the greatest extent allowable, noting that some Parties may be limited by fee recovery budget structures, or other considerations. All activities under or pursuant to this Agreement are subject to the availability of funds, and no provision of this Agreement shall be interpreted to require obligation or payment of funds in violation of the Anti-Deficiency Act (31 U.S.C. § 1341). For Tier II and Tier III missions, interagency agreements with the sponsoring agency for INSRB support will be coordinated by the INSRB Secretariat and IRG Chair, as necessary.

X. Revision of This Charter

Revisions to this Charter must be approved by the Board at its quarterly meetings, or via an email vote should extenuating circumstances dictate. As with other matters, a consensus is required (either unanimity or due deliberation on, and documentation of, dissenting views).