

## Recommendation for Committee Decision

**Prepared by: Working Group B, Space Use Subgroup (SUSG)**  
*(Working Group, or individual Members or Associate Members)*

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**Issue Title: Joint ICG-IOAG organization of multilateral workshop on cislunar PNT**

### **Background/Brief Description of the Issue:**

China, Europe, India, Japan and the USA plan to deploy cislunar infrastructure to provide real-time Positioning, Navigation and Timing (PNT) services for missions on the lunar surface, in lunar orbits, and within the Earth-Moon L2 Lagrange point. According to tentative timelines outlined in presentations and papers, initial operational capabilities (IOCs) of some of these PNT services are being planned for around 2028. With these initial system developments underway, it is critically important for these systems to be interoperable, compatible and available to maximize their utility for lunar space users.

LunaNet represents an international framework for the standardization of lunar PNT, communications and other services. The LunaNet framework is being documented in a standardization document called the LunaNet Interoperability Specification (LNIS).

At the recent Interagency Operations Advisory Group (IOAG) IOP-5 meeting, held June 20th-22nd, 2023, the IOP adopted a plan for the IOAG and ICG to jointly organize a multilateral forum for the coordination of cislunar PNT systems. The next step is for the ICG to adopt this multilateral coordination plan via this recommendation.

### **Discussion/Analyses:**

Some elements of various lunar PNT systems architectures have been discussed in the following international coordination groups: the ICG, the IOAG, CCSDS, the International Space Exploration Coordination Group (ISECG) and the Space Frequency Coordination Group (SFCG). But a full understanding of cislunar PNT development plans, specifications, planned reference frames and timing architectures, across international space agencies and commercial entities, is currently not known. To maximize interoperability, compatibility and availability of lunar PNT signals, a multilateral communication of cislunar PNT plans and developments—early and often—is crucial. Leveraging the outstanding GNSS coordination performed by the ICG, a similar international effort, through workshops and international delegates meetings, should be performed for Lunar PNT. This multilateral cislunar PNT coordination should be co-led by the ICG and the IOAG. To kickoff this coordination effort, a proposed ICG-IOAG multilateral workshop, called the multilateral cislunar PNT workshop,

