

Planetary Defense Conference  
2021

- Key International and Political Developments
- Advancements and Progress in NEO Discovery
- NEO Characterization Results
- Deflection and Disruption Models & Testing
- Mission & Campaign Designs
- Impact Consequences
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- Decision to Act
- Public Education & Communication

Session: The Decision to Act: Political, Legal and Economic Aspects of Planetary Defense

To consider for oral presentation.

**LEGAL ASPECTS OF THE USE OF A NUCLEAR EXPLOSIVE DEVICE IN SPACE <sup>(1)</sup>**

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**ABSTRACT**

The possible use of a nuclear explosive device (NED) in a future planetary defense mission raises numerous unprecedented legal issues. The Space Mission Planning Advisory Group (SMPAG) established an Ad-Hoc Legal Working Group to identify and address these and other important legal challenges, and the group issued its first report in February 2020. The first set of legal constraints arises from the 1967 Outer Space Treaty, which prohibits placing a nuclear weapon

into orbit around the Earth, installing it onto a celestial body, or stationing it in space in any other manner. Second, the 1963 Limited Test Ban Treaty bans the conduct of a nuclear explosion in space, regardless of the purpose of the detonation. Third, a cluster of nuclear non-proliferation treaties restricts parties' participation in nuclear-weapons-related activities, which could inhibit international collaboration in a planetary defense mission that relied upon a NED.

The Ad-Hoc Legal Working Group investigated these diverse legal obstacles and evaluated several possible work-arounds, including amendments or withdrawals from the treaties, and invoking legal excuses for non-performance. Ultimately, the Group concluded that the most appropriate mechanism would be to seek a legally-binding resolution from the U.N. Security Council, pursuant to its authority under Chapter VII of the U.N. Charter.

The goals of this presentation at PDC 2021 will be to explain the legal dilemmas regarding the use of a NED for planetary defense, to describe the possible solutions, and to highlight the Ad-Hoc Legal Working Group's recommendations.