C.22 RADIOISOTOPE POWER SYSTEMS (RPS) ENABLING MISSIONS BEGINNING WITH RESEARCH AND TECHNOLOGY

NOTICE: NASA intends to solicit proposals for this program element in ROSES-2020 and final text and due dates for proposals to this program element will be released as an amendment to ROSES no fewer than 90 days in advance of the proposal due date.

1. Scope of Program

The goal of the Radioisotope Power Systems (RPS) Enabling Missions Beginning with Research and Technology (REMBRandT) program element of ROSES is to develop innovative energy conversion and supporting technologies for use in future planetary science missions (such as those selected under the Discovery, New Frontiers, SIMPLEx, Mars Exploration, and other planetary science programs, including those flown on commercial spacecraft) in support of the Planetary Science Division. Specifically, the REMBRandT program seeks to enable advancements in thermoelectric, thermionic, thermodynamic cycle-based technology, and other viable means of converting heat flux directly into electrical energy for use in radioisotope power systems for deep space science missions. The goals of the program are to improve radioisotope power systems by:

- increasing their performance, reliability, and efficiency
- enabling long life operation (greater than 20 years), and/or
- enhancing manufacturing processes for materials and components

2. Summary of Key Information

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