Abstracts

An Overview of Satellite Power Systems--Microwave Health and Ecology Program

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The Satellite Power System (SPS) is a concept under consideration by the Department of Energy (DOE) for its potential as an alternative source of energy. In the basic system design for SPS, solar energy will be converted to microwave energy and transmitted to receiving antennae on earth. The microwave power transmission system presently under consideration would employ continuous (CW) 2450 MHz radiation. The main beam power densities within a control exclusion zone at a rectenna site are anticipated to range up to 23 mW/cm^2. Scatter from the main beam, side lobe radiation, and antenna reradiation would also result in low level microwave exposures of the general public and the ecology outside of the controlled area. Many questions regarding health and ecological impacts of low to moderate exposures to microwaves must be addressed in assessing the feasibility of the SPS as an energy alternative. The overview will present the organization, philosophy, and program direction of the SPS microwave health and ecology program.

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