



# Technology Opportunity

## Dissipating High Power Safely and Efficiently with a Radio Frequency Power Load

NASA's Marshall Space Flight Center is seeking licensees for an innovative radio frequency (RF) power load that is capable of dissipating high power in a cost-effective, safe, and efficient way. The innovation was designed as a "dummy load" to replace the broadcast antenna during diagnostic testing, tuning, and installation while absorbing full transmitter power but also may be used as a "reject load" to dissipate wasted power in an RF system caused by mismatched Voltage Standing Wave Ratio. Marshall's technology is an improvement on large and costly conventional techniques consisting of water-cooled carbon piles. NASA has applied for a U.S. Patent on the RF Power Load and invites companies to license this innovative technology.

## Benefits

- **Cost-effective:** Reduces test load expenses considerably (one-tenth the outlay of currently available dry or water-circulating systems) and requires virtually no maintenance
- **Scalable:** Offers the potential to be used at any frequency in a high power RF system
- **Adjustable:** Permits resistance tuning to any required impedance value
- **Robust:** Allows a high power range of 1-100 kilowatts
- **Reliable:** Contains no moving parts and is easy to construct, resulting in fewer failures

## Commercial Applications

- High power RF systems (greater than 1 kilowatt)
- Commercial television broadcasts
- FM and AM radio broadcasts
- Electric propulsion systems
- Various military functions including frequency jammers, communications transmitters, and over-the-horizon radar systems

## Licensing and Partnering Opportunities

This technology is part of NASA's technology transfer program. The program seeks to stimulate development of commercial uses of NASA-developed technologies. NASA is flexible in its agreements, and opportunities exist for licensing and joint development. MSFC is interested in a partnership to commercialize the technology.

## Patents

U.S. Patent Number: 7,831,225

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