

NASA astronauts will breathe easier with new oxygen recovery systems

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ISS Air Revitalization System rack represents the state of the art in spacecraft oxygen recovery technology. Credit: NASA

For NASA's long-duration human spaceflight missions, travelers will need to recycle as much breathable oxygen in their spacecraft environments, as possible. To turn that need into a reality, NASA is

seeking proposals for lightweight, safe, efficient and reliable systems for regenerating oxygen on future human exploration missions.

The first of two phases of this new NASA solicitation will consist of a detailed design, development, fabrication, and testing of an advanced oxygen recovery technology. Under a two year Phase II contract, the proposer then will develop a prototype hardware system, capable of an oxygen recovery rate of at least 75 percent.

"Lengthy spaceflight missions in Earth's orbit and beyond must have life support systems that are more self-sufficient and reliable," said Michael Gazarik, associate administrator for Space Technology at NASA Headquarters in Washington. "The spacecraft life support system technologies for this proposal must significantly improve the rate of oxygen recovery while achieving high degrees reliability. NASA and its partners will need to develop new technologies to 'close' the atmosphere revitalization loop."

In addition to improving the oxygen recovery rate, the new systems must reduce mass required or take up less space and reduce power consumption. NASA's goal is to award technology development efforts that will increase the oxygen recovery rate to at least 75 percent without adversely impacting other design requirements.

Provided by NASA

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