

HOUSTON, Aug 18, 2000 -- The NASA Johnson Space Center has awarded its Environmental Systems Commercial Space Technology Center (ESCSTC) to the University of Florida Team, with Tempest Environmental Systems for the development of advanced water purification technologies and their applications, specifically for long-duration human space missions.

Tempest Environmental Systems will be concentrating on projects that utilize its unique talents in the areas of water and wastewater treatment and purification, while its top-level commercialization goals can be summarized as "self-contained, self-sustained water processing", Tempest has the technical capability to take wastewater and purify it to four (4) grades of water quality:

- (1) Drinking water quality to meet or exceed US-EPA and W.H.O. standards
- (2) Industrial process water quality (ASTM Type III and IV) for the washing or rinsing of machine and glass parts
- (3) Nuclear reactor feed water quality (ASTM Type III and IV) and for most analytical or general laboratory testing such as hematological, serological, and microbiological procedures.
- (4) Sterile USP XXII for human injection and water quality used as the standard for procedures requiring maximum accuracy and precision such as HPLC, ICP/MS, atomic absorption, flame photometry, tissue culture, blood gas, reference buffer solutions and reconstruction of lyophilized materials (ASTM Type I).

Tempest Environmental Systems has expertise in water recovery that will be very applicable to the program, having proprietary technologies in specific areas of technical expertise applicable to the NASA JSC project, as follows:

- *Patented "Package Plant" Drinking Water Purification Systems:*
Rugged, self-contained, small footprint water purification systems able to produce large volumes of high-quality drinking water from human wastewater sources.
- *Patented Process Media for Removal of Heavy Metals from Fluids:*
Process media has a unique molecular structure, which results in a very high adsorption capacity for selective inorganic ions. The mechanism(s) by which inorganic ions are removed by our media is complex and is a combination of adsorption, surface complexation and chemisorption, making the actual removal of inorganic ions quick and effective.

The ES CSTC is being established to allow NASA to partner with academia and industry in advancing state-of-the-art environmental systems in order to develop technologies that meet NASA's needs for safe long-duration spaceflight, while serving as a catalyst for commercial, terrestrial application of the technologies developed.

The focus of the ES CSTC will be on the development of water recovery, solid waste recovery, and air revitalization technologies. The University of Florida has identified the following organizations as its initial ES CSTC partners: North Carolina State University; University of Central Florida; University of North Carolina; AJT & Associates, Inc.; Bionetics Corporation; Dynamac Corporation; Eltron Research, Inc.; Hamilton Sundstrand; Honeywell; Multiplexed Plasma Technologies, Inc.; Sigarca, Inc.; Tempest Environmental Systems, Inc.; and Wylie Laboratories.

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