To- Dr. Bill Tedderson DF-2

cc- Kerwin

Subj- Contract extension for Shuttle Exercise Device

Bill as we discussed an existing contract with a San Antonio contractor has been verbally approved by DA.

(continue P-1 etc)

A Proposal for a prototype shuttle exercise device -

Background - Whitmore Enterprises of San Antonio currently has two feasibility prototypes under construction and every indication is they will demonstrate the practicality of a passive treadmill ergometer capable of maintaining muscular and cardiovascular condition with a minimum time requirement in weightlessness. It is desirable to continue i.e. ~~expo~~ extend this contract to produce a flight prototype compatible with shuttle. This was verbally agreed to by the chief of life sciences who indicated $30K would be available.

Such an extension of the contract would include:

One model of this treadmill ~~would~~ will be ~~doo~~ produced and delivered, using where possible practice and materials compatible with space flight but not built to flight specs. Design goals are a weight of 20# exclusive of harness & instrumentation, ability to be attached to a single point not requiring load carrying but only for positioning, storable in

the cabinet dimensions shown on the enclosed sketch and with a maximum use dimension of 36". The device ~~must~~ should be capable of accomodating a crewman running or jogging at speeds of at least 8 MPH, ~~or more~~ preferably more. It must be passive i.e. no external power, with passive speed indicator of 0-10 MPH and allow jogging walking and running in the range of 4-8 MPH min. at an equivalent elevation angle of 5° min (0° desired) to 15° max. with this angle being set manually with manual indication to ±1°. A limit speed will be adjustable over the specified range by a passive brake arrangement. Overall friction losses over the speed range must be determined and provided. Input forces, less friction, will be ~~measured~~ indicated by a reaction scale from the brake assembly. One simple belt, shoulder restraint harness with elastic elements coupled to the ergometer frame will provide equivalent 1 G loads of 135 to 200 lbs on the

The technical work will be under my direction and the delivery date should be no more than 1 year from contract award.

I would suggest contacting Mrs. Henry Whitmore of Whitmore Enterprises, Rt. 5 Box 369 San Antonio, Tx. 78211 Phone (FTS) 87-512-225-5511 - 624-2121 with these requirements and getting a bid. I have been over the technical details of this with him and he is well versed in it.

Don't know what the urgency of funding is but suggest contacting DA immediately.