

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
John F. Kennedy Space Center
Kennedy Space Center, FL 32899

Broad Agency Announcement NNK09291248K
Amendment 01

For

Constellation Ground Operations Commodities Architecture Study

Attachment 04 - COMMODITY ESTIMATES FOR STENNIS SPACE CENTER

The user location for this commodities study is KSC/ CCAFS. However, the Constellation Program requires the same 4 major fluids at other NASA locations; specifically at Stennis Space Center (SSC) for RS-68 and J-2X engine testing, and Marshall Spaceflight Center (MSFC) for component/systems development testing. SSC will be the largest annual user location of hydrogen and oxygen, and will impact overall Constellation demands. See Table below, "Commodity Estimates for Stennis Space Center" for estimates at SSC that could impact the strategy and concepts for production and support architecture for this KSC/CCAFS focused study.

Commodity	Units	FY-11	FY-12	FY-13	FY-14	FY-15	FY-16/25
Hydrogen	Lbs x 1000	5,700	9,800	10,100	5,300	6,900	6,000
Oxygen	tons	22,984	47,462	47,574	21,200	27,600	25,000
Nitrogen	tons	39,332	40,882	40,932	23,850	31,050	30,000
Helium	Scf x 1000	9,720	16,095	14,670	7,950	10,350	10,000

Notes:

1. FY-11 thru FY-15 based on scheduled test estimates
2. FY-16 thru FY-25 are estimates based on past consumption