NEWS RELEASE LOG

NUMBER	TITLE	RELEASE DATE
74-01	NASA extends Boeing Contract for ASTP/Skylab Support	1/3/74
74-02	NASA extends ASTP support contract with General Elect.	1/3/74
74-03	NASA Plans 26 Launches in 1974	1/4/74
74-04	Skylab Hometown Release - Tandy N. Bruce	1/21/74
74-05	Skylab Hometown Release - Robert J. Green	1/21/74
74-006	Skylab Hometown Release - Alan Glines	1/21/74
74-07	Skylab Hometown Release - David D. DeAtkine	1/21/74
74-08	Skylab Hometown Release - David L. Kelley	1/21/74
74-09	Skylab Hometown Release - Sherman L. Webster	1/21/74
74-10	Skylab Hometown Release - Earl W. Thompson	1/21/74
74-11	Skylab Hometown Release - Stanley Tonnessen	1/21/74
74-12	NASA Issues Installment for Shuttle Development	1/9/74
74-13	Skylab Hometown Release - Richard B. Ramsell	1/21/74
74-14	Skylab Hometown Release - Gary B. Evans	1/21/74
74-15	Skylab Hometown Release - Anthony J. Pesko	1/21/74
74-16	Skylab Hometown Release - Edward Ramirez	1/21/74
74-17	Skylab Hometown Release - Frank E. Hughes	1/21/74
74-18	Skylab Hometown Release - Bruce C. Shraufnagle	121/74
74-19	Skylab Hometown Release - Leonard J. Riche	1/21/74
74-20	Crew cleared for another week in space	1/10/74
74-21	ASTP Working Groups to Meet	1/11/74

NEWS RELEASE LOG

NUMBER	TITLE	RELEASE DATE
74-22	Skylab Hometown Release - Ronald D. Cerdal	1/21/74
74-23	Skylab Hometown Release - Frank R. Hitz	1/21/74
74-24	SKYLAB HOMETOWN RELEASE - Charles R. Edwards	1/21/74
74-25	SKYLAB HOMETOWN RELEASE - John W. Maas	1/21/74
74-26	SKYLAB HOMETOWN RELEASE - William J. Moon	1/21/74
74-27	SKYLAB HOMETOWN RELEASE - Joseph William Hirman	1/15/74
74-28	SKYLAB HOMETOWN RELEASE - Louis V. Ramon	1/21/74
74-29	SKYLAB HOMETOWN RELEASE- Melvin R. Rother	1/21/74
74-30	JSC Issue Bid for New Data Processing Systems	
74-31	Crew given go for another week in space	1/17/74
74-32	Skylab.astronauts revealing ocean's mysteries	1/17/74
74-33	KEY EVENTS - DAY OF SPLASH	1/17/74
74-34	Volunteer subject suffers brief cardiac arrest	1/18/74
74-35	NASA Calls for Systems to Modify MCC, Other Areas	1/19/74
74-36	SKYLAB HOMETOWN RELEASE - John David Blalock	2/1/74
74-37	SKYLAB HOMETOWN RELEASE - Girish C. Joshi	2/1/74
74-38	SKLYAB HOMETOWN RELEASE - Stuart A. Bergman Jr., M.D., Ph.D.	2/1/74
74-39	SKYLAB HOMETOWN RELEASE - H. Gene Koch	2/1/74
74-40	SKYLAB HOMETOWN RELEASE - Robert Heselmeyer	1/21/74
74-41	SKYLAB HOMETOWN RELEASE - James E. Wallace	1/21/74
74-42	SKYLAB HOMETOWN RELEASE - Charles Alford	1/21/74

NEWS RELEASE LOG

NUMBER	TITLE	RELEASE DATE
74-43	SKYLAB HOMETOWN RELEASE - Don Hill	1/21/74
74-44	SKYLAB HOMETOWN RELEASE - Charles Robert Larsen	1/21/74
74-45	NASA issues installment for shuttle development	1/23/74
74-46	SKYLAB EXPOSES ADDITIONAL SOLAR SECRETS	1/24/74
74-48	SKYLAB HOMETOWN RELEASE - Louis A. Deluca	2/1/74
74-47	Skylab to be left in revisit condition	2/6/74
74-~~48~~ 49	Note to Editors/News Directors	2/6/74
74-~~49~~ 50	T-38 Mishap at Berstrom (Henize)	2/6/74
74-51	Energy Reductions Paying Space Center Big Dividends	2/20/74
74-52	Philco-Ford Contract Modified	2/19/74
74-53	Singer Simcom Contract Renewed	2/19/74
74-54	Northrop Contract Renewed	2/19/74
74-55	Pan-Am Awarded Support Contract	2/25/74
74-56	The 5th Annual Lunar Science Conference	3/7/74
74-57	NASA Remote Sensing to Assist in Eradicating Screwworm	3/12/74
74-58	JSC Visitor Program has New Attractions	3/11/74
74-59	Earth Resources Lab support contract negotiated	3/15/74
74-60	President Nixon Visits JSC	3/20/74
74-61	Grumman Contract Supplemented	3/20/74
74-62	Draper Lab to Develop ASTP/Shuttle Avionics Software	4/3/74

NEWS RELEASE LOG

NUMBER	TITLE	RELEASE DATE
74-63	McDonnell Douglas Selected for Space Shuttle Support	4/8/74
74-64	ASTP Working Groups to Meet at JSC	4/9/74
74-65	Skylab Awards Made at JSC	4/18/74
74-66	Aircraft Maintenance & Modification Contract	4/19/74
74-67	NASA Signs Major Supplemental Agreement to Space Shuttle Contract with Rockwell International Corporation	7/23/74
74-68	Philco-Ford/MCC Supplemental Agreement	4/24/74
74-69	Univac Contract Extended	4/25/74
74-69a	Woodling Receives AIAA Award	4/24/74
74-70	MCC/RTCC Contract Continued with IBM	4/25/74
74-71	Young to Head Astronaut Office	4/30/74
74-72	Astronaut Schweickart Moves to NASA Headquarters	4/30/74
74-73	Hordinsky Receives NASA Exceptional Service Medal	MAY 8 1974
74-74	McMann Receives NASA Exceptional Service Medal	MAY 8 1974
74-75	Stonesifer Receives NASA Exceptional Service Medal	MAY 8 1974
74-76	Smith " " " " "	MAY 8 1974
74-77	Thompson " " " " "	MAY 8 1974
74-78	Shelley " " " " "	MAY 8 1974
74-79	Frank " " " " "	MAY 8 1974
74-80	Louviere " " " " "	MAY 8 1974
74-81	McLeaish " " " " "	MAY 8 1974
74-82	Parten " " " " "	MAY 8 1974
74-83	Taylor " " " " "	MAY 8 1974

NEWS RELEASE LOG

NUMBER	TITLE	RELEASE DATE
74-84	Richmond Receives NASA Exceptional Service Medal	MAY 8 1974
74-85	Harris " " " " "	MAY 8 1974
74-86	Huffstetler " " " " "	MAY 8 1974
74-87	Miller " " " " "	MAY 8 1974
74-88	Williams " " " " "	MAY 8 1974
74-89	Honeycutt " " " " "	MAY 8 1974
74-90	Johnson "C " " " " "	MAY 8 1974
74-91	Bush " " " " "	MAY 8 1974
74-92	Sanborn " " " " "	MAY 8 1974
74-93	Dietlein " " " " "	MAY 8 1974
74-94	Armitage " " Group Achievement Award	MAY 8 1974
74-95	Hawkins " " " " "	MAY 8 1974
74-96	John F. Yardley named New Head of NASA Manned Space Flight	5/8/74
74-97	Cliff Charlesworth Honored	5/9/74
74-98	Contract Awarded for Engineering Support Services at JSC	5/13/74
74-99	Communique on Results of ASTP Meetings	5/3/74
74-100	Musgrave Receives NASA Exceptional Service Medal	5/13/74
74-101	Westinghouse Gets TV Contract	5/13/74
74-102	Astronaut Schmitt Heads new NASA Energy Office	5/13/74
74-103	McCandless Receives NASA Excptional Service Medal	6/12/74
74-104	IBM named for space shuttle software negotiations	5/17/74

NEWS RELEASE LOG

NUMBER	TITLE	RELEASE DATE
74-105	Proposals Requested for Orbiter Simulator	5/24/74
74-106	Kentron Support Services Contract Extended	5/31/74
74-107	Texas ERTS Mosaic	6/6/74
74-108	Lind Receives NASA Exceptional Service Medal	6/12/74
74-109	Lenoir Receives NASA Exceptional Service Medal	6/12/74
74-110	Lunney Receives Flemming Award	6/12/74
74-111	Brand Receives Exceptional Service Medal	6/12/74
74-112	RFP Goes Out For Shuttle Simulator Computer Complex	6/13/74
74-113	Piland, Aldrich Get New JSC Assignments	6/14/74
74-114	NASA Engineers to Moscow for ASTP Lighting Test	6/17/74
74-115	Former Resident Graham, to Moscow for ASTP Lighting Tests	6/18/74
74-116	Former Resident Land, to Moscow for ASTP Lighting Tests	6/18/74
74-117	Former Resident Edmiston, to Moscow for ASTP Lighting Tests	6/18/74
74-118	Former Resident Ragan, to Moscow for ASTP Lighting Tests	6/18/74
74-119	Former Resident Dennett, to Moscow for ASTP Lighting Tests	6/18/74
74-120	747 Selected For Space Shuttle Orbiter Ferry Flights	6/17/74
74-121	ASTP Crew to Train in U.S.S.R.	6/19/74
Released at NASA Hdqs. & MSFC	NASA to Award SRM Contract to Thiokol	6/27/74
Released at NASA HQS	Lockheed Named for NASA White Sands Test Facility Support	6/28/74
74-122	Delco gets ASTP Guidance Contract	7/8/74
74-123	GE Support Contract Modified	7/9/74

NEWS RELEASE LOG

NUMBER	TITLE	RELEASE DATE
74-124	Rockwell awarded supplemental space shuttle contract	7/11/74
74-125	Former Resident Madison Interns at NASA	7/15/74
74-126	Resident Bothe Interns At NASA	7/15/74
74-127	Resident Gibson Interns at NASA	7/15/74
74-128	Resident Simmons Interns at NASA	7/15/74
74-129	Resident Green Interns at NASA	7/15/74
74-130	Resident Lemieux Interns at NASA	7/15/74
74-131	Resident Johnson Interns at NASA	7/15/74
74-132	Resident Minor Interns at NASA	7/15/74
74-133	Resident Johnson Interns at NASA	7/15/74
74-134	Former Resident Mueller Interns at NASA	7/15/74
74-135	Three Area Residents Intern at NASA	7/15/74
74-136	Resident Thornton Interns at NASA	7/15/74
74-137	Resident Perko Interns at NASA	7/15/74
74-138	Three Area Residents Intern at NASA	7/15/74
74-139	Two Area Residents Intern at NASA	7/15/74
74-140	Resident Speake Interns at NASA	7/15/74
74-141	Former Resident Collins Interns at NASA	7/15/74
74-142	Resident Yeary Interns at NASA	7/15/74
74-143	Resident Goodman Interns at NASA	7/15/74
74-144	Resident Leake Interns at NASA	7/15/74

NEWS RELEASE LOG

NUMBER	TITLE	RELEASE DATE
74-145	Resident Kent Interns at NASA	7/15/74
74-146	Resident Doucet Interns at NASA	7/15/74
74-147 146	JSC Observes Fifth Anniversary of First Lunar Landing	7/12/74
	* Also Released at NASA Headquarters	
74-148	Apollo/Soyuz Crews to Observe; Photograph Earth Features	9/9/74
74-149	ASTP Exp. MA-083 Extreme Ultraviolet Telescope	7/22/74
74-150	ASTP Exp. MA-048 X-ray Observation	7/22/74
74-151	ASTP Exp. MA-106 Light Flash	7/22/74
74-152	ASTP Exp. MA-147 Zone Forming Fungi	7/22/74
74-153	ASTP Exp. MA-088 Helium Glow Detector	7/22/74
74-154	ASTP Exp. MA-148 Artificial Solar Eclipse	7/22/74
74-155	ASTP Exp. AR-002 Microbial Exchange	7/22/74
74-156	ASTP Exp. MA-107 Biostack	7/22/74
74-157	ASTP Exp. MA-028 Crystal Growth in Zero Gravity	7/22/74
74-158	ASTP Exp. MA-089 Doppler Tracking	7/22/74
74-159	ASTP Exp. MA-059 Ultraviolet (UV) Absorption	7/22/74
74-160	Astronaut Alan B. Shepard, Jr., Announces Retirement	7/19/74
74-161	ESRO Meeting	7/22/74
74-162	Aircraft flammability test	7/30/74
74-163	JSC Participation in Skylab Conference	8/1/74
74-164	Whitsett Presents Skylab Paper -AAS	8/15/74
74-165	Sevier Presents Skylab Paper - AAS	8/15/74

NEWS RELEASE LOG

NUMBER	TITLE	RELEASE DATE
74-166	Roach Presents Skylab Paper - AAS	8/15/74
74-167	Primeaux Presents Skylab Paper - AAS	8/15/75
74-168	Schultz Presents Skylab Paper - AAS	8/15/74
74-169	MacLeod Presents Skylab Paper - AAS	8/15/74
74-170	Huffstetler Presents Skylab Paper - AAS	8/15/74
74-171	Stonesifer Presents Skylab Paper - AAS	8/15/74
74-172	Bush Presents Skylab Paper - AAS	8/15/74
74-173	Henize Presents Skylab Paper - AAS	8/15/74
74-174	Gibson Presents Skylab Paper - AAS	8/15/74
74-175	Parker Presents Skylab Paper - AAS	8/15/74
74-176	Wilmarth Presents Skylab Paper - AAS	8/15/74
74-177	Johnson Presents Skylab Paper - AAS	8/15/74
74-178	Truly Presents Skylab Paper	8/15/74
74-179	Crippen Presents Skylab Paper	8/15/74
74-180	Potter Presents Skylab Paper	8/15/74
74-181	Bond Presents Skylab Paper	8/15/74
74-182	Lenoir Presents Skylab Paper	8/15/74
74-183	ASTP Docking Test Near Completion	8/2/74
74-184	NASA Monitoring Instrument May Aid Hypertension Studies	8/6/74
74-185	Anthony Calio Gets Sloan Fellowship	8/5/74
74-186	Dr. Robert A. Parker New Chief, Astronaut Office S & AD	8/15/74

NEWS RELEASE LOG

NUMBER	TITLE	RELEASE DATE
74-~~169~~187	Holloway Presents Skylab Paper	8/15/74
74-188	Ahsan in NASA Faculty Program	8/16/74
74-189	Allen " " " "	8/16/74
74-190	Amoss " " "	8/16/74
74-191	Andrus " " "	8/16/74
74-192	Anderson " " "	8/16/74
74 - 193	Aronhime " " "	8/16/74
74-194	Belkin " " "	8/16/74
74-195	Chao " " "	8/16/74
74-196	Chopin " " "	8/16/74
74-197	Corke " " "	8/16/74
74-198	Cox " " " "	8/16/74
74-199	Frank " " "	8/16/74
74-200	Heenan " " "	8/16/74
74-201	Henry " " "	8/16/74
74-202	Higgs " " "	8/16/74
74-203	Murray " " "	8/16/74
74-204	Naugle " " "	8/16/74
74-205	Owen " " "	8/16/74
74-206	Pendleton " " "	8/16/74
74-207	Ruffin " " "	8/16/74
74-208	Silver " " " "	8/16/74

NEWS RELEASE LOG

NUMBER	TITLE	RELEASE DATE
74-209	Smith in NASA Faculty Program	8/16/74
74-210	Solomon " " "	8/16/74
74-211	Walton " " "	8/16/74
74-212	Wang in " " "	8/16/74
74-213	Whitson " " "	8/16/74
74-214	Williamson " " "	8/16/74
74-215	Wolf " " "	8/16/74
74-216	Wolgamott " " "	8/16/74
74-217	Yeh " " "	8/16/74
74-218	Antunes " " "	8/16/74
74-219	Carmichael " "	8/16/74
74-220	CHENG " " "	8/16/74
74-221	Halter & Holm " "	8/16/74
74-222	Kuester " " "	8/16/74
74-223	Lutes " " "	8/16/74
74-224	Maples " " "	8/16/74
74-225	Meyers " " "	8/16/74
74-226	Rao " " "	8/16/74
74-227	Riesco " " "	XXXX 8/16/74
74-228	Swift and Wiebe " "	8/16/74
74-229	Turner " " "	8/16/74

NEWS RELEASE LOG

NUMBER	TITLE	RELEASE DATE
74-230	Van Poolen in NASA Faculty Program	8/16/74
74-231	Steib " " "	8/16/74
74-232	Chang " " "	8/16/74
74-233	Krause " " "	8/16/74
74-234	Hordinsky Presents Skylab Paper	8/12/74
74-235	Vance Brand attends Apollo/Soyuz Soviet Meetings	AUG 2 2 1974
74-236	Skylab Life Science Symposium Scheduled	8/16/74
74-237	Ken Young Attends Apollo/Soyuz Soviet Meetings	AUG 2 2 1974
74-238	Lawrence Bourgeois Jr. Attends Apollo/Soyuz Soviet Meetings	AUG 2 2 1974
74-239	Harold Black Attends Apollo/Soyuz Soviet Meetings	AUG 2 2 1974
74-240	M. P. Frank Attends Apollo/Soyuz Soviet Meetings	AUG 2 2 1974
74-241	Astronaut Karol K. Bobko Attends Apollo/ Soyuz Soviet Meetings	AUG 2 2 1974
74-242	Daniel A. Bland Jr. Attends Apollo/Soyuz Soviet Meetings	AUG 2 2 1974
74-243	Elvin B. Pippert Jr. Attends Apollo/Soyuz Soviet Meetings	AUG 2 2 1974
74-244	Robert W. Becker Attends Apollo/Soyuz Soviet Meetings	AUG 2 2 1974
74-245	Maurice Kennedy Attends Apollo/Soyuz Soviet Meetings	AUG 2 2 1974
74-246	Astronaut Gibson announces resignation	8/20/74
74-247	Steve McLendon Attends Apollo/Soyuz Soviet Meetings	8/22/74
74-248	Charles F. Deiterich Attends Apollo/Soyuz Soviet Meetings	9/4/74
74-249	Sy Liebergot attends apollo/soyuz Soviet Meetings	9/5/74
74-250	ASTP Activities in U.S. and U.S.S.R.	9/6/74

NEWS RELEASE LOG

NUMBER	TITLE	RELEASE DATE
74-251	Earth Orbit Maintenance Study Contract	9/9/74
74-252	Shuttle Earth Observ ations Package Study	9/9/74
74-254	BUSS Flight	9/27/74
74-253	Solar Observatory Closes at JSC	9/23/74
74-255	Spacelab Simulation Underway at JSC	10/1/74
74-256	Dr. Morgan Investigator on Shuttle Balloon Test	10/2/74
74-257	White, Manager of Shuttle Balloon Test	10/2/74
74-258	Supplemental Contract Award to RI	10/2/74
74-259	Apollo Soyuz Crews to Produce own Solar Eclipse	10/2/74
74-260	Dr. Carolyn Leach to get Civil Service League Award	10/8/74
74-261	Apollo Soyuz Experiments to Study Interstellar Helium	10/15/74
74-262	Affects of Long-Term Space Flight Object of ASTP Medical Experiments	
74-263	Initial Space Shuttle Flights to Land in CA.	10/18/74
74-264	Soviet Flight Controllers at JSC for ASTP Training	10/23/74
74-265	NASA-JSC Tests Apollo-Soyuz Satellite Communications Relay	10/22/74
74-266	Skylab Photographs Aid City Planning	11/1/74
Also Released at NASA Headquarters 74-267	Large Area Crop Inventory Experiment	11/6/74
74-268	RAF Physician Named to Post at JSC	11/6/74
VOID 74-269	Houston Firemen get NASA-Develloped Lightweight Breathing Gear VOID (Scrubbed, that is!)	VOID 11/13/74
74-269	NASA JSC Aircraft Operatinns Flys Project Airstream	11/21/74
74-270	ASTP Experiment Promotes Understanding of Energy Generation	11/18/74

RELEASED AT NASA HDQS.

NEWS RELEASE LOG

NUMBER	TITLE	RELEASE DATE
Also Released at NASA Headquarters		
74-271	ALSEP 12 Five Years Old & Still Going Strong	12/2/74
74-272	U.S. Tracking Soyuz 16	12/3/74
74-273	Houston Firemen Get NASA-Developed Lightweight Breathing Gear	12/5/74
74-274	Boeing Awarded R&QA Contract	12/12/74
74-275	Joint US/USSR Procedures Simulation this Week for ASTP	12/17/74
74-276	NASA, Singer to Negotiate Shuttle Simulator Contract	12/20/74
74-277	NASA Negotiates with Klate-Holt for JSC Custodial Services	12/24/74
74-278	Technicolor Contract Extension	12/30/74

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
Johnson Space Center
Houston, Texas 77058

Milton E. Reim
713/483-5111

FOR RELEASE:
January 3, 1974

RELEASE NO: 74-001

NASA EXTENDS BOEING CONTRACT FOR ASTP/SKYLAB SUPPORT

The NASA Johnson Space Center has extended its contract (NAS 9-10364) with the Boeing Company to provide support to the Apollo/Soyuz Test Project (ASTP) and Skylab for the period January 1, 1974 through September, 1975.

The value of the extension was negotiated for a total estimated cost and fixed fee of $2,424,250. This modification to the Boeing contract provides for approximately 62.5 man-years of systems and project engineering support to the ASTP and Skylab Program Offices.

This latest addition to the contract which commenced January 1, 1970, increases the total value of Boeing support on all Apollo hardware-related programs to $33,961,771.

# # #

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
Johnson Space Center
Houston, Texas 77058

Milton E. Reim
713/483-5111

FOR RELEASE:
January 3, 1974

RELEASE NO: 74-002

NASA EXTENDS ASTP SUPPORT CONTRACT WITH GENERAL ELECTRIC

The NASA Johnson Space Center has extended its contract (NAS 9-10230) with the General Electric Corporation to provide for program support to the Apollo/Soyuz Test Project (ASTP) at the center in Houston.

Value of the extension for the period January 1, 1974 through September 1975 was negotiated for a total estimated cost and fixed fee of $1,695,077.

Modification to the General Electric contract provides for approximately 37-man-years of systems and project engineering support to the ASTP Program Office.

This increases the total value of the contract which commenced January 1, 1970, and has supported all Apollo hardware related programs including the automatic checkout equipment (ACE) to $85,028,508.

# # #

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
Johnson Space Center
Houston, Texas 77058

Robert V. Gordon
713/483-5111

FOR RELEASE:
January 4, 1974

RELEASE NO: 74-03

ALSO RELEASED AT NASA HEADQUARTERS

NASA PLANS 26 LAUNCHES IN 1974

Twenty-six vehicles will be boosted into space during 1974 in a busy launch schedule planned by NASA.

For the first time in the agency's history more spacecraft will be launched for organizations outside NASA than launches for which the agency is solely or primarily responsible. NASA will be reimbursed for providing launching and tracking services for 15 corporations and governments or government-connected organizations, both domestic and foreign.

Among the 11 NASA launches, the first Synchronous Meteorological Satellite (SMS) is scheduled for liftoff using a Delta booster, in March. To be placed in stationary orbit 22,300 miles above the equator, it is the first of two satellites to be used by the National Oceanic and Atmospheric Administration in development of an operational geosynchronous weather satellite system. SMS-B is set for a May launch.

A Titan-Centaur booster is scheduled for launch January 24. The new configuration, which mates a liquid hydrogen-fueled Centaur upper stage with the Titan IIIC, will launch two Viking spacecraft to Mars.

The Titan-Centaur will carry a mass model of a Viking, similar in weight and shape to the spacecraft scheduled for launch in 1975, and a SPHINX (Space Plasma High Voltage Interaction Experiment) spacecraft to be released in Earth orbit.

- more -

Helios-A to be launched by a Titan III E-Centaur, is a NASA-German cooperative satellite designed to study the solar environment. GEOS-C, a Geodetic Explorer, is scheduled for launch from the Western Test Range atop a Delta in late summer. Later in the year the second Earth Resources Technology Satellite (ERTS-B) will be launched from the Western Test Range.

Two spacecraft will be launched from the San Marco launch site off the east coast of Africa -- San Marco C2, a scientific vehicle featuring NASA-Italian cooperation in January, and UK-5, a NASA-United Kingdom scientific project in April.

ATS-F is scheduled for an April launch aboard a Titan IIIC booster from the Eastern Test Range. Hawkeye, launched by a Scout booster, will blast off from the Western Test Range in May.

ANS-A, a jointly operated NASA-Netherlands astronomical satellite, is scheduled for an August launch aboard a Scout rocket from the Western Test Range.

Twenty-four launches are scheduled from NASA U.S. complexes in 1974 with 17 from spaceport facilities at Cape Kennedy and seven from the Western Test Range.

Five of the reimbursable launches will be for the Comsat Corporation and three for the United Kingdom. NASA will begin a series of domestic communications satellite launches for Western Union for the first time in June, with a total of three scheduled during 1974.

Two launches will be reimbursed by the National Oceanic and Atmospheric Administration (NOAA). One spacecraft will be launched for West Germany and one for a two-nation consortium, West Germany and France.

All 1974 launches will be unmanned spacecraft with the next manned effort, ASTP, a joint United States-Soviet mission, scheduled for mid-1975.

Tentative dates have been established for the first four 1974 launches -- San Marco C2, Jan. 15; Skynet IIA, Jan. 18; Titan IIIE/Centaur, Jan. 24; and Intelsat IV, Jan. 30. See the attached schedule for other listings.

Planned 1974 Launches

1 January 1974

Mission	Date	Vehicle	Range	Remarks
R Skynet IIA	18 Jan 74	Delta	ETR	United Kingdom communications satellite.
Viking Proof Flight	24 Jan 74	TitanIIIE/ Centaur	ETR	First launch of the vehicle to be used for Viking.
R INTELSAT IV	30 Jan 74	Atlas Centaur	ETR	Launch for Comsat - INTELSAT. series.
San Marco C2	15 Jan 74	Scout	San Marco Africa	Italian scientific.
R UK-X4	Feb 74	Scout	WTR	UK scientific reimbursable mission.
SMS-A	Feb 74	Delta	ETR	First launch of a synchronous meteorological satellite.
UK-5	Apr 74	Scout	San Marco Africa	UK scientific; NASA cooperativ
R WESTAR-A	Apr 74	Delta	ETR	First U.S. domestic communications satellite for Western Union
ATS-F	Apr 74	Titan IIIC	ETR	Applications technology satellite
Hawkeye	May 74	Scout	WTR	Scientific satellite.
SMS-B	May 74	Delta	ETR	Synchronous meteorological satellite.
R INTELSAT IV	May 74	Atlas Centaur	ETR	Launch for Comsat.
R WESTAR B	Jun 74	Delta	ETR	Launch for Western Union
R Skynet IIB	Jun 74	Delta	ETR	UK communications satellite.

Mission	Date	Vehicle	Range	Remarks
Nimbus F	Jun 74	Delta	WTR	Experimental; weather & climate observations.
R AEROS-B	Jul 74	Scout	WTR	German scientific.
R ITOS-G	Jul 74	Delta	WTR	Operational weather satellite; funded by NOAA.
ANS-A	Aug 74	Scout	WTR	Cooperative with Netherlands; astronomical satellite.
R GOES-A (SMS-C)	Aug 74	Delta	ETR	Operational synchronous meteorological satellite.
R INTELSAT	Aug 74	Atlas Centaur	ETR	Launch for Comsat.
GEOS-C	Sep 74	Delta	WTR	Earth and ocean physics satellite.
Helios-A	Sep 74	Titan IIIE/Centaur	ETR	Cooperative with Germany.
R Marisat-A	Sep 74	Delta	ETR	Launch for Comsat; communications.
R WESTAR C	Oct 74	Delta	ETR	Launch for Western Union.
R Marisat B	Nov 74	Delta	ETR	Launch for Comsat; Communications.
R Symphonic A	Dec 74	Delta	ETR	Launch for Germany & France Experimental communications.

R -- Reimbursable launches -- for government entities domestic and foreign, or corporations, outside NASA.

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
Johnson Space Center
Houston, Texas 77058

Robert V. Gordon
713/483-5111

FOR RELEASE:

FEB 21 1974

RELEASE NO: 74-04

SKYLAB HOMETOWN RELEASE - TANDY N. BRUCE

Tandy N. Bruce, 32, formerly of Beaumont, Texas, is among the group of flight controllers supporting Skylab IV, which, if all goes as planned, should be the longest manned space flight mission in history. The Skylab IV crew of Gerald Carr, Edward Gibson and William Pogue, are scheduled to splash down in the Pacific Ocean on February 8, 1974.

Bruce, a 1966 graduate of Lamar University, is a member of the "Bronze" team of flight controllers at the NASA Johnson Space Center's Mission Control Center. He is responsible for communications systems between the orbiting space station and the Mission Control Center.

When the mission passed the half-way mark of the scheduled 12-week flight, William C. Schneider, Director of NASA's Skylab Program, said "We think the crew is doing a fine job". At a recent press conference, Schneider singled out some of the scores of significant accomplishments of the crew -- in December the first observation by man in space of a limb flare on the Sun and visual confirmation of water/atmospheric phenomena in the Gulf of Mexico off the Yucatan Peninsula. Skylab crews, with the use of the onboard instruments aboard Skylab have provided more quality data of the Sun to scientists than from all previous observations from Earth.

Space Station Skylab's final tenants moved into their orbiting home 270 miles above the Earth on November 16, 1973. The crew of Carr, Gibson, and Pogue

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are daily adding to the harvest of scientific information about our home planet and our life-giving star, the Sun and will continue this search for knowledge until February 8, 1974.

Two earlier threesomes of tenants occupied the space station for 28 and 59 days before "leaving the key under the mat" for the final crew that will live aboard Skylab for up to three months.

Earth resources, solar astronomy, medical and other experiments fill the waking hours of the Skylab crewmen, with the opportunity to view the comet Kohoutek as an added bonus in December and January.

Flying above the distorting layers of Earth atmosphere, Skylab's solar telescopes and astronomical cameras are expected to provide valuable data about the make-up of comets as well as continuing the surveillance of the flares, prominences and other dynamic events taking place on the face of the Sun.

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FOR RELEASE:

FEB 21 1974

RELEASE NO: 74-05

SKYLAB HOMETOWN RELEASE - ROBERT J. GREEN

Robert J. Green, 32, a former resident of Teaneck, New Jersey, is among the group of flight controllers supporting Skylab IV which, if all goes as planned, should be the longest manned space flight mission in history. The Skylab IV crew of Gerald Carr, Edward Gibson and William Pogue are scheduled to splash down in the Pacific Ocean on February 8, 1974.

Green, an employee of Bendix Aerospace Corporation, is one of many contractor personnel supporting the flight at the NASA Johnson Space Center's Mission Control Center, Houston, Texas.

When the mission passed the half-way point of the scheduled 12-week flight, William C. Schneider, Director of NASA's Skylab Program, said "We think the crew is doing a fine job." At a recent press conference, Schneider singled out some of the scores of significant accomplishments of the crew -- in December the first observation by man in space of a limb flare on the Sun and visual confirmation of water/atmospheric phenomena in

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the Gulf of Mexico off the Yucatan Peninsula. Skylab crews, with the use of the onboard instruments aboard Skylab have provided more quality data of the Sun to scientists than from all previous observations from Earth.

Green is a member of team four flight controllers and is responsible for monitoring and solving problems on all the hardware and pointing control system. He has been an employee of Bendix since 1965.

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Green, a graduate of Fairleigh Dickinson University, Teaneck, is married to the former Barbara Hilpert, of Teaneck. They live in Seabrook, Texas with their two children Christopher, three, and Jennifer, one.

- end -

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FOR RELEASE:
FEB 21 1974

RELEASE NO: 74-06

SKYLAB HOMETOWN RELEASE - ALAN GLINES

Alan Glines, 31, formerly of Independence, is among the group of flight controllers supporting Skylab IV which, is all goes as planned, should be the longest manned space flight mission in history. The Skylab IV crew of Gerald Carr, Edward Gibson and William Pogue are scheduled to splash down in the Pacific Ocean on February 8, 1974.

A 1966 graduate of the University of Kansas, Glines is lead instrumentation and communications officer for flight control team three at the Mission Control Center at the NASA Johnson Space Center, Houston, Texas.

When the mission passed the half-way point of the scheduled 12-week flight, William C. Schneider, Director of NASA's Skylab Program, said "We think the crew is doing a fine job." At a recent press conference, Schneider singled out some of the scores of significant accomplishments of the crew -- in December the first observation by man in space of a limb flare on the

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Sun and visual confirmation of water/atmospheric phenomena in the Gulf of Mexico off the Yucatan Peninsula. Skylab crews, with the use of the onboard instruments aboard Skylab have provided more quality data of the Sun to scientists than from all previous observations from Earth.

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continuing the surveillance of the flares, prominences and other dynamic events taking place on the face of the Sun.

Glines is recepient of the Presidential Medal of Freedom as part of the Apollo 13 mission operations team.

- end -

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FOR RELEASE:

FEB 21 1974

RELEASE NO: 74-08

SKYLAB HOMETOWN RELEASE - DAVID L. KELLEY

David L. Kelley, 40, a former Kansas City, Missouri resident is among the group of flight controllers supporting Skylab IV which, if all goes as planned, should be the longest manned space flight mission in history. The Skylab IV crew of Gerald Carr, Edward Gibson and William Pogue are scheduled to splash down in the Pacific Ocean on February 8, 1974.

Kelley graduated from Wichita State University in 1966 where he majored in Mathematics. He is married to the former Charlene Marie Heugel of Ft. Scott, Kansas.

When the mission passed the half-way mark of the scheduled 12-week flight, William C. Schneider, Director of NASA's Skylab Program said "We think the crew is doing a find job." At a recent press conference, Schneider singled out some of the scores of significant accomplishments of the crew — in December the first observation by man in space of a limb flare on the Sun and visual confirmation of water/atmospheric phenomena in the Gulf of Mexico off the Yucatan Peninsula. Skylab crews, with the use of the onboard instruments aboard Skylab have provided more quality data of the Sun to scientists than from all previous observations from Earth.

Kelley is one of a number of NASA contractor employees supporting the earth resources program at the Mission Control Center at the Johnson Space Center, Houston, Texas.

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FOR RELEASE:

RELEASE NO: 74-09

SKYLAB HOMETOWN RELEASE - SHERMAN L. WEBSTER

Sherman L. Webster, 45, a former resident of North Platte, Nebraska is among the group of flight controllers supporting Skylab IV which, if all goes as planned, should be the longest manned space flight mission in history. The Skylab IV crew of Gerlad Carr, Edward Gibson and William Pogue are scheduled to splash down in the Pacific Ocean on February 8, 1974.

Webster, a senior engineer with Martin-Marietta Corporation, is one of the many NASA contractor employees supporting the Skylab mission at the Johnson Space Center's Mission Control Center, at Houston, Texas.

When the mission passed the half-way mark of the scheduled 12-week flight, William C. Schneider, Director of NASA's Skylab Program, said "We thing the crew is doing a fine job." At a recent press conference, Schneider singled out some of the scores of significant accomplishments of the crew -- in December the first observation by man in space of a limb flare on the Sun and visual confirmation of water/atmospheric phenomena in the Gulf of Mexico off the Yucatan Peninsula. Skylab crews, with the use of the onboard instruments aboard Skylab have provided more quality data of the Sun to scientists than from all previous observations from earth.

Webster, graduated from the United Stated Military Academy, West Point, where he received a bachelor of science in engineering in 1952. He received a MS in management from the University of Southern California in 1966.

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Webster is data manager for JSC's flight operations Directorate. Before joining Martin-Marietta in 1971, he served in the United States Air Force from 1952 until 1970.

Webster is married to the former Judith Levy of Newburgh, New York. They live in Alvin, Texas with their children Keith, 21 and Drew, 18.

- end -

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FOR RELEASE:

RELEASE NO: 74-10

SKYLAB HOMETOWN RELEASE - EARL W. THOMPSON

Earl W. Thompson, 35, formerly of Lufkin, Texas, is among the group of flight controllers supporting Skylab IV which, if all goes as planned, should be the longest manned space flight mission in history. The Skylab IV crew of Gerald Carr, Edward Gibson and William Pogue are scheduled to splash down in the Pacific Ocean on February 8, 1974.

Thompson, a 1961 graduate of Lamar University, Beaumont, Texas, is a member of the "Bronze" team of flight controllers at NASA's Johnson Space Center's Mission Control Center. He plans and aides in the execution of the earth resources passes.

When the mission passed the half-way mark of the scheduled 12-week flight, William C. Schneider, Director of NASA's Skylab Program, said "We think the crew is doing a fine job." At a recent press conference, Schneider singled out some of the scores of significant accomplishments of the crew -- in December the first observation by man in space of a limb flare on the

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to provide valuable data about the make-up of comets as well as continuing the surveillance of the flares, prominences and other dynamic events taking place on the face of the Sun.

Before joining the NASA in 1966, Thompson served in the U. S. Air Force. He is married to the former Henrietta Brown of Port Arthur, Texas. The Thompson's reside in Seabrook with their children Randy, 10, and Tracey, 7.

- end -

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Johnson Space Center
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Robert V. Gordon
(713/483-5111)

FOR RELEASE:

RELEASE NO: 74-11

SKYLAB HOMETOWN RELEASE - STANLEY TONNESSEN

Stanley Tonnessen, 31, a native of New york City, is among the group of flight controllers supporting Skylab IV which, if all goes as planned, should be the longest manned space flight mission in history. The Skylab IV crew of Gerald Carr, Edward Gibson, and William Pogue are scheduled to splash down in the Pacific Ocean on February 8, 1974.

Tonnessen is a senior electrical engineer with Bendix Aerospace Corporation and supports flight crew planning activities at the NASA Johnson Space Center's Mission Control Center. He assists the flight activities officer and checklist personnel in planning daily crew activities and making changes in the day-to-day flight plan.

When the mission passed the half-way mark of the scheduled 12-week flight, William C. Schneider, Director of NASA's Skylab Program, said "We think the crew is doing a fine job." At a recent press conference, Schneider singles out some of the scores of significant accomplishments of the crew -- in December the first ob-

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Tonnessen is a graduate of the Polytechnic Institute of New York (formerly of Brooklyn) and is married to the former Betty A. Kjellberg of New York. The Tonnessens' live at 15311 Baybrook Drive, Houston, with their three children, Keith six, Scott three, and Kristin one.

- end -

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
Johnson Space Center
Houston, Texas 77058

Don J. Green
713/483-5111

FOR RELEASE:
January 9, 1974

RELEASE NO: 74-12

NASA ISSUES INSTALLMENT FOR SHUTTLE DEVELOPMENT

The NASA Lyndon B. Johnson Space Center has made a payment of $6,901,500 to Rockwell International Corporation, Downey, California, for continued development of the Space Shuttle vehicle.

The installment increases the total amount of the award to $205,595,500 and covers Rockwell's performance through January 8, 1974.

More than 4400 contractor personnel now are employed in shuttle development.

- end -

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RELEASE NO: 74-13

FOR RELEASE:

FEB 21 1974

SKYLAB HOMETOWN RELEASE - RICHARD B. RAMSELL

Richard B. Ramsell, 35, a native of Des Moines, Iowa, is among the group of flight controllers supporting Skylab IV, which if all goes as planned, should be the longest manned space flight mission in history. The Skylab IV crew of Gerald Carr, Edward Gibson and William Pogue are scheduled to splash down in the Pacific Ocean on February 8, 1974.

Ramsell, a 1961 graduate of Drake University, is the operations and procedures officer for Team Four (Bronze) at the Mission Control Center at NASA's Johnson Space Center, Houston, Texas. The operations and procedures officer is responsible for retrieval of data from Skylab from the time it is received at a tracking site until it is received by other flight controllers or scientists.

A veteran of the U. S. Air Force, Ramsell served as a tactical communications officer, a tanker co-pilot, and also a helicopter pilot in Southeast Asia. He joined NASA in 1971 and supported the Apollo 15, 16, and 17 missions.

When the mission passed the half-way mark of the scheduled 12-week flight, William C. Schneider, Director of NASA's Skylab Program, said "We think the crew is doing a fine job." At a recent press conference, Schneider singled out some of the scores of significant accomplishments of the crew -- in December the first observation by man in space of a limb flare on the Sun and visual confirmation of water/atmospheric phenomena in the Gulf of Mexico off

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Flying above the distorting layers of Earth atmosphere, Skylab's solar telescopes and astronomical cameras are expected to provide valuable data about the make-up of comets as well as continuing the surveillance of the flares, prominences and other dynamic events taking place on the face of the Sun.

Ramsell is married to the former Gail A. Vandewater of El Dorado, Arkansas. The Ramsells live with their son Todd, three, in Clear Lake City near the Johnson Space Center.

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FOR RELEASE:

FEB 21 1974

RELEASE NO: 74-14

SKYLAB HOMETOWN RELEASE - GARY B. EVANS

Gary B. Evans, 32, a native of Redondo Beach, California, is among the group of flight controllers supporting Skylab IV, which if all goes as planned, should be the longest manned space flight mission in history. The Skylab IV crew of Gerald Carr, Edward Gibson and William Pogue are scheduled to splash down in the Pacific Ocean on February 8, 1974.

Evans an employee of the Garrett Corporation is one of many contractor personnel assigned to the Mission Control Center at NASA's Johnson Space Center, Houston, Texas. He is assigned as a systems expert for the enviromental control system of the command module.

When the mission passed the half-way mark of the scheduled 12-week flight, William C. Schneider, Director of NASA's Skylab Program, said "We think the crew is doing a fine job." At a recent press conference, Schneider singled out some of the scores of significant accomplishments of the crew -- in December the first observation by man in space of a limb flare on the Sun and visual confirmation of water/atmospheric phenomena in the Gulf of Mexico off the Yucatan Peninsula. Skylab crews, with the use of the onboard instruments aboard Skylab have provided more quality data of the Sun to scientists than from all previous observations from Earth.

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Evans, with Garrett since 1962, has worked on all U. S. manned missions including the Gemini and Apollo missions specializing in life support systems for extravehicular work on the moon and in outer space.

Evans graduated from the Redondo Union High School in 1959 and attended Unviersity of California.

-End-

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FOR RELEASE:

FEB 2 - 1974

RELEASE NO: 74-15

SKYLAB HOMETOWN RELEASE - ANTHONY J. PESZKO

Anthony J. Peszko, 29, a native of Pittsburgh, Pennsylvania, is among the group of flight controllers supporting Skylab IV, which, if all goes as planned, should be the longest manned space flight mission in history. The Skylab IV crew of Gerald Carr, Edward Gibson and William Pogue are scheduled to splash down in the Pacific Ocean on February 8, 1974.

Peszko is a member of team four (Bronze Team) and is assigned as a console engineer in the staff support room at the Mission Control Center. He is responsible for monitoring the electrical and general instrumentation systems of the Apollo Telescope Mount.

When the mission passed the half-way mark of the scheduled 12-week flight, William C. Schneider, Director of NASA's Skylab Program, said "We think the crew is doing a fine job." At a recent press conference, Schneider singled out some of the scores of significant accomplishments of the crew -- in December

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as continuing the surveillance of the flares, prominences and other dynamic events taking place on the face of the Sun.

Peszko, a 1966 graduate of Carnegie - Mellon University, is married to the former Jean Dahl of Minot, North Dakota. The Peszkos live in Clear Lake City near the Johnson Space Center with their daughter Rebekah Jean, three.

- end -

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FOR RELEASE:

RELEASE NO: 74-16

SKYLAB HOMETOWN RELEASE - EDWARD RAMIREZ

Edward Ramirez, formerly of Austin, Texas, is among the group of flight controllers supporting Skylab IV, which, if all goes as planned, should be the longest manned space flight mission in history. The Skylab IV crew of Gerald Carr, Edward Gibson and William Pogue are scheduled to splash down in the Pacific Ocean on February 8, 1974.

Ramirez, 24, an employee of TRW, Inc., is one of the many contractor personnel assigned to the Mission Control Center at NASA's Johnson Space Center, Houston, Texas. Ramirez is responsible for generating flight plan and detail activities for each day's activities for the Skylab IV crew members.

When the mission passed the half-way mark of the scheduled 12-week flight, William C. Schneider, Director of NASA's Skylab Program, said "We think the crew is doing a fine job." At a recent press conference, Schneider singled out some of the scores of significant accomplishments of the crew -- in December, the first observation by man in space of a limb flare on the Sun and visual confirmation of water/atmospheric phenomena in the Gulf of Mexico off the Yucatan Peninsula. Skylab crews, with the use of the onboard instruments aboard Skylab have provided more quality data of the Sun to scientists than from all previous observations from Earth.

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Ramirez is a graduate of Our Lady of the Lakes College where he received a degree in physics in 1973. His wife is the former Anna Marie Granados of Austin.

- end -

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FOR RELEASE:

FEB 21 1974

RELEASE NO. 74-17

SKYLAB HOMETOWN RELEASE - FRANK E. HUGHES

Frank E. Hughes, 31, a native of Butte, Montana is among the group of flight controllers supporting Skylab IV, which if all goes as planned, should be the longest manned space flight mission in history. The Skylab IV crew of Gerald Carr, Edward Gibson and William Pogue are scheduled to splash down in the Pacific Ocean on February 8, 1974.

Hughes, a 1965 graduate of St. Mary's College, has been with the NASA since 1966 and has served both at Kennedy Space Center, Florida and the Johnson Space Center in Houston, Texas. He is the flight activities officer for the Bronze Team (Team Four) at the Mission Control Center at JSC. He coordinates science systems and operational requirements for each day's flight plans for the Skylab IV crew.

When the mission passed the half-way mark of the scheduled 12-week flight, William C. Schneider, Directer for NASA's Skylab Program, said "We think the crew is doing a fine job."

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At a recent press conference, Schneider singled out some of the scores of significant accomplishments of the crew -- in December the first observation by man in space of a limb flare on the Sun and visual confirmation of water/atmospheric phenomena in the Gulf of Mexico off the Yucatan Peninsula. Skylab crews, with the use of the onboard instruments abroard Skylab have provided more quality data of the Sun to scientists than from all previous observations from Earth.

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Hughes is married to the former Rosemary Bellew of Seattle, Washington. The Hughes live at 730 Beachcomber Lane, Houston, Texas.

- end -

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Johnson Space Center
Houston, Texas 77058

Robert V. Gordon
713/483-5111

FOR RELEASE:

RELEASE NO. 74-18

SKYLAB HOMETOWN RELEASE - BRUCE C. SHRAUFNAGLE

Bruce C. Shraufnagle, 40, a native of Ashland, Wisconsin, is among the group of flight controllers supporting Skylab IV, which, if all goes as planned, should be the longest manned space flight mission in history. The Skylab IV crew of Gerald Carr, Edward Gibson and William Pogue are scheduled to splash down in the Pacific Ocean on February 8, 1974.

Shraufnagle, an employee of General Electric, is one of the many NASA contractor employees supporting the operation of the Mission Control Center at the Johnson Space Center, Houston, Texas. He is responsible for crew procedure plans and operations specifically in the earth resources experiment area.

When the mission passed the half-way mark of the scheduled 12-week flight, William C. Schneider, Director of NASA's Skylab Program, said "We think the crew is doing a fine job." At a recent press conference, Schneider singled out some of the

- more -

scores of significant accomplishments of the crew -- in December the first observation by man in space of a limb flare on the Sun and visual confirmation of water/atmospheric phenomena in the Gulf of Mexico off the Yucatan Peninsula. Skylab crews, with the use of the onboard instruments aboard Skylab have provided more quality data of the Sun to scientists that from all previous observations from Earth.

Space Station Skylab's final tenants moved into their orbiting home 270 miles above the Earth on November 16, 1973. The crew of Carr, Gibson, and Pogue are daily adding to the harvest of scientific information about our home planet and our life-giving star, the Sun and will continue this search for knowledge until February 8, 1974.

Two earlier threesomes of tenants occupied the space station for 28 and 59 days before "leaving the key under the mat" for the final crew that will live aboard Skylab for up to three months.

Earth resources, solar astronomy, medical and other experiments fill the waking hours of the Skylab crewmen, with the opportunity to view the comet Kohoutek as an added bonus in December and January.

Flying above the distorting layers of Earth atmosphere, Skylab's solar telescopes and astronomical cameras are expected

to provide valuable data about the make-up of comets as well as continuing the surveillance of the flares, prominences and other dynamic events taking place on the face of the Sun.

Shraufnagle has been with GE since 1968. He is married to the former Kathleen Murray of Gary, Indiana. The Shraufnagles live at 15414 Banff Drive, Houston, with their two children, Diane 17 and Thomas 11.

- end -

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Robert V. Gordon
713/483-5111

FOR RELEASE:

FEB 21 1974

RELEASE NO. 74-19

SKYLAB HOMETOWN RELEASE - LEONARD J. RICHE

Leonard J. Riche, 33, a native of Simmesport, Louisiana, is among the group of flight controllers supporting Skylab IV which if all goes as planned should be the longest manned space flight mission in history. The Skylab IV crew of Gerald Carr, Edward Gibson and William Pogue are scheduled to splash down in the Pacific Ocean on February 8, 1974.

Riche is book manager for the stowage book used in maintaining accurate location record and usage record of the more than 20,000 items aboard the space station. Prior to Skylab, Riche prepared flight plans and supported Apollo missions 8, the first manned orbital flight around the Moon, Apollo 11, the first manned landing on the Moon and Apollo 15, the mission which saw the first use of the lunar rover.

When the mission passed the half-way mark of the scheduled 12-week flight, William C. Schneider, Director of NASA's

- more -

Skylab Program, said "We think the crew is doing a fine job." At a recent press conference, Schneider singled out some of the scores of significant accomplishments of the crew -- in December the first observation by man in space of a limb flare on the Sun and visual confirmation of water/atmospheric phenomena in the Gulf of Mexico off the Yucatan Peninsula. Skylab crews, with the use of the onboard instruments aboard Skylab have provided more quality data of the Sun to scientists than from all previous observations from Earth.

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Riche is married to the former Barbara Maddie of Opolousas, Louisiana. The Riches live at 2706 Wisdom, Deer Park, Texas with their two children, Mary Angela, nine; and Leonard, eight.

- end -

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
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Houston, Texas 77058

Bill Pomeroy
713/483-5111

FOR RELEASE:
January 10, 1974

RELEASE NO: 74-20

CREW CLEARED FOR ANOTHER WEEK IN SPACE

The three Skylab astronauts, now in their 56th day in orbit, today were given a go-ahead for seven additional days.

For the remainder of the mission, weekly evaluations of the hardware, consumables and crew will be made by NASA officials. The first such weekly review was completed this afternoon.

William C. Schneider, Skylab Program Director, said, the crew members "are in good spirits and excellent physical condition and the spacecraft is in good shape to continue."

Originally, the three Skylab manned missions were planned, successively, for one of 28 days and two of 56 days. The first mission lasted 28 days, the second was extended to 56 days, and the third was then planned as an open-ended 60-day mission with consumables aboard to provide for as many as 85 days.

-end-

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
Johnson Space Center
Houston, Texas 77058

Jack Riley
713/483-5111

FOR RELEASE:
January 11, 1974
9:00 a.m.

RELEASE NO: 74-21

ASTP WORKING GROUPS TO MEET

Three Apollo-Soyuz Test Project working groups will begin technical meetings Monday at the Johnson Space Center in the areas of mission plans and experiments, communications and tracking, and life support and crew transfer.

Thirty-five Soviet engineers and specialists will work at JSC for periods ranging from 16 to approximately 90 days. The nine members of the communications and tracking working group who will spend three months here will take part in extensive compatibility testing of the radio and cable communications systems for the Soviet and American spacecraft.

The meetings are part of a continuing exchange of working groups between the U.S. and the U.S.S.R. in preparation for a joint manned earth-orbital mission in July, 1975 to test a compatible rendezvous docking systems and techniques.

Project technical directors are scheduled to meet again in March at JSC. Their last meeting was in Moscow in October, 1973.

-end-

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Johnson Space Center
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F. D. Williams
713/483-5111

FOR RELEASE:

RELEASE NO: 74-22

SKYLAB HOMETOWN RELEASE - RONALD D. LERDAL

A Sioux Falls native, Ronald D. Lerdal, is keeping close watch on the large gyroscopes that are used to control the Skylab space stations's orientation to the Earth and Sun. When the first gyroscope failed in November, the 30-year-old flight controller turned it off via ground command.

Ron, who received his B.S. from Augustana College in Sioux Falls in 1966, is a guidance and navigation engineer for the third Skylab flight--already the longest manned spaceflight in history.

Astronauts Gerald Carr, Edward Gibson, and William Pogue are scheduled to splash into the Pacific Ocean southwest of San Diego on February 8, completing an 84-day flight.

Although the second of the three attitude control gyroscopes has behaved erratically on several occasions, Skylab Program Director William C. Schneider has expressed the hope that it will survive long enough to allow the flight to be completed.

- more -

Should Ron or one of his counterparts on the other flight teams which maintain a 24-hour watch over Skylab's crew and systems, have to shut down a second gyroscope, the astronauts would probably return within a week.

Two back-up systems could maintain Skylab's attitude through the conclusion of the flight, but to reduce risk, Schneider said the crew should return after stowing the extensive collection of photographs and other scientific data in their command module.

When the mission passed the half-way mark of the scheduled 12-week flight, William C. Schneider, Director of NASA's Skylab Program, said "We think the crew is doing a fine job." At a recent press conference, Schneider singled out some of the scores of significant accomplishments of the crew -- in December the first observation by man in space of a limb flare on the Sun and visual confirmation of water/atmospheric phenomena in the Gulf of Mexico off the Yucatan Peninsula. Skylab crews, using instruments aboard the space station have provided more quality data of the Sun to scientists than from all previous observations from Earth.

Space station Skylab's final tenants moved into their orbiting home 270 miles above the Earth on November 16, 1973.

The crew of Carr, Gibson, and Pogue are daily adding to the harvest of scientific information about our home planet and our life-giving star, the Sun, and will continue this search for knowledge until February 8, 1974.

Two earlier threesomes of tenants occupied the space station for 28 and 59 days before "leaving the key under the mat" for the final crew that will live aboard Skylab for nearly three months.

Earth resources, solar astronomy, medical and other experiments fill the waking hours of the Skylab crewmen, with the opportunity to photograph and study the comet Kohoutek an added bonus in December and January.

Flying above the distorting layers of Earth atmosphere, Skylab's solar telescopes and astronomical cameras are expected to provide valuable data about the make-up of the mysterious comet as well as continuing the surveillance of the flares, prominences and other dynamic events taking place on the face of the Sun.

Ron now lives in Houston with his wife, the former LuRae M. Irwin of Sioux Falls. They have two children: Eric Paul, 4; and Andrew Michael, 18 months.

- end -

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FOR RELEASE:

RELEASE NO. 74-23

SKYLAB HOMETOWN RELEASE - FRANK R. HITZ

Frank R. Hitz, a native of Waukesha, Wisconsin, is a member of the flight control team supporting the third manned Skylab mission--the longest manned spaceflight in history.

Daily work schedules for Skylab astronauts Gerald Carr, Edward Gibson, and William Pogue are planned carefully by Frank and the other members of the flight activities staff.

Frank's family home is now Arvada, Colorado. A 1960 graduate of Baylor University in Waco, Texas, where he also did advanced work in physics, Frank had previously attended the University of Wisconsin at Milwaukee and Trinity University in San Antonio, Texas.

The Skylab crew was launched on November 16, 1973, and passed the previous Skylab team's 59 day 11 hour mark for the longest manned spaceflight on January 14. If everything continues to go well they are scheduled to splash into the Pacific Ocean on February 8.

When the mission passed the halfway mark of the scheduled 12-week flight, William C. Schneider, Director of NASA's Skylab Program, said "We think the crew is doing a fine job." At a recent press conference, Schneider singled out some of the scores of significant accomplishments of the crew--in December the first observation by man in space of a limb flare on the Sun and visual confirmation of water/atmospheric phenomena in the Gulf of Mexico off the Yucatan Peninsula. Skylab crews using instruments aboard Skylab have provided more quality data of the sun to scientists than from all previous observations from Earth.

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Frank is married to the former Olga Lou Hammer of Houston. They have three children: Michael, 17, Cynthia, 15, and Laurie, 13.

- end -

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Johnson Space Center
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Robert V. Gordon
713/483-5111

FOR RELEASE:

RELEASE NO:: 74-24

SKYLAB HOMETOWN RELEASE - CHARLES R. EDWARDS

Charles R. Edwards, 35, a native of Monroe, North Carolina, is busily engaged in supporting the third and final Skylab mission -- longest manned space flight in history.

Edwards, a member of the Biomedical Systems team, evaluates biomedical data to determine if Skylab on board medical hardware is functioning properly. Medical data is of extreme importance in a space mission of this length which is planned to last 84 days. The Skylab crew of astronauts Gerald Carr, Edward Gibson and William Pogue are scheduled to splash down in the Pacific Ocean on February 8, 1974, following a November 16, 1973, launch from the Kennedy Space Center, Florida.

When the mission passed the half-way mark of the scheduled 12-week flight, William C. Schneider, Director of NASA's Skylab Program, said "We think the crew is doing a fine job." At a recent press conference, Schneider singled out some of the

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scores of significant accomplishments of the crew -- in December the first observation by man in space of a limb flare on the Sun and visual confirmation of water/atmospheric phenomena in the Gulf of Mexico off the Yucatan Peninsula. Skylab crews, with the use of the onboard instruments aboard Skylab have provided more quality data of the Sun to scientists than from all previous observations from Earth.

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Edwards, a 1961 graduate of the Georgia Institute of Technology, has been with NASA since 1965 where he was previously employed at the Johnson Space Center, Houston, as a Simulation Flight Controller. In this capacity, he was engaged in the planning and execution of simulations designed to train Apollo and Skylab flight controllers.

He is married to the former Donna Clare Cates of Amarillo, Texas. The Edwards reside in Houston with their two children Elaine Heather, age 6; and Elizabeth Marie, age 2.

- end -

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F. D. Williams
713/483-5111

FOR RELEASE:

RELEASE NO: 74-25

SKYLAB HOMETOWN RELEASE - JOHN W. MAAS

Keeping constant watch over the health of the three Skylab astronauts, John W. Maas, a native of Louisville, Kentucky is an important member of the mission control team at the Johnson Space Center.

Astronauts Gerald Carr, Edward Gibson, and William Pogue perform frequent medical experiments to help doctors on the ground measure changes in their physical condition as the result of weightlessness.

John, an aeromedical officer at the Mission Control Center, assists the flight surgeon in monitoring the crew's health and in collecting medical data transmitted by telemetry from the space station.

The Skylab astronauts, launched November 16, 1973 from Kennedy Space Center in Florida, passed the record for the longest manned spaceflight in history on January 14. They are scheduled to conclude their 84-day flight on February 8, when they will splash into the Pacific Ocean southwest of San Diego.

- more -

All three astronauts continue in excellent health. Complete medical reviews are being held weekly during the final third of the flight.

When the mission passed the half-way mark of the scheduled 12-week flight, William C. Schneider, Director of NASA's Skylab Program, said "We think the crew is doing a fine job." At a recent press conference, Schneider singled out some of the scores of significant accomplishments of the crew -- in December the first observation by man in space of a limb flare on the Sun and visual confirmation of water/atmospheric phenomena in the Gulf of Mexico off the Yucatan Peninsula. Skylab crews using instruments aboard Skylab have provided scientists with more quality data of the Sun than gathered in decades of observation from Earth.

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Two earlier astronaut teams occupied the space station for 28 and 59 days before "leaving the key under the mat"

for the final crew now living aboard Skylab for nearly three months.

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John Maas attended the University of Alabama and the Auburn University extension. Master Sergeant Maas has been working at the Johnson Space Center since 1969 as a member of Detachment 12, 1137th U.S. Air Force Special Activities Squadron.

John is married to the former Ann Harrison of Selma, Alabama. They live in Houston with their two children, Susan and Robin.

- end -

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Robert V. Gordon
713/483-5111

FOR RELEASE:

RELEASE NO: 74-26

SKYLAB HOMETOWN RELEASE - WILLIAM J. MOON

William J. Moon, 31, a native of Cleveland, Mississippi, is among a group of Skylab life support systems engineers supporting the third and final Skylab mission--a mission destined to become the longest manned spaceflight in history. The current Skylab crew of astronauts Gerald Carr, Edward Gibson, and William Pogue are scheduled to splash down in the Pacific Ocean on February 8, 1974, completing an 84-day mission.

As a Skylab systems engineer, Moon is responsible for the electrical power, environmental (life support and thermal system) and instrumentation on the Skylab space station and the Apollo spacecraft that ferries the Skylab crews to and from orbit.

When the mission passed the halfway mark of the scheduled 12-week flight, William C. Schneider, Director of NASA's Skylab Program, said "We think the crew is doing a fine job." At a recent press conference, Schneider singled out some of the scores of significant accomplishments of the crew--in December the first observation by man in space of a limb flare on the Sun and visual confirmation of water/atmospheric phenomena in the Gulf of Mexico off the Yucatan Peninsula. Skylab crews, with the use of the onboard instruments aboard Skylab have provided more quality data of the Sun to scientists than from all previous observations from Earth.

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Moon, a 1964 graduate of Mississippi State University, has been with the NASA Johnson Space Center, Houston, since 1965. Prior to joining NASA, he was an electrical design engineer with McDonnell Aircraft.

Moon is married to the former Shelia Ann Nice of Pampa, Texas. They reside in Houston with their two children, Lori and Michael.

- end -

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
Johnson Space Center
Houston, Texas 77058

F.D. Williams
(713/483-5111)

FOR RELEASE:
January 15, 1974

RELEASE NO.: 74-27

SKYLAB HOMETOWN RELEASE - JOSEPH WILLIAM HIRMAN

Although most of us think that the Sun is a constant and unchanging source of energy, solar physicist Joseph W. Hirman knows exactly how far that belief is from the truth.

Hirman, a 35-year-old native of Raymond, Minnesota, and a 1964 graduate of the University of Minnesota, is Director of the Skylab Forecast Center.

As chief forecaster of solar activity, Joe keeps a large team of scientists informed in detail of changes occurring on the Sun. Using data from world-wide observatories and several satellites, Joe helps scientists plan solar studies by the Skylab crew.

Astronauts Gerald Carr, Edward Gibson, and William Pogue began their record-breaking flight on November 16, 1973. They have already passed the 59-day, 11-hour record of the second Skylab crew as they complete the longest manned space flight in history.

The crew is scheduled to splash into the Pacific

(more)

Ocean southwest of San Diego on February 8, completing an 84-day mission.

Despite the failure of one of Skylab's three large gyroscopes, used to maneuver the space station and to hold it in the proper position for solar observations, photography of stars and the Comet Kohoutek, and studies of the Earth, the flight has been very successful in expanding scientific knowledge.

Tens of thousands of photographs of the Sun have been taken already by the Skylab astronauts, using a collection of large telescopes that can gather data obscured from ground-based telescopes by Earth's distorting atmosphere.

Aided by Joe Hirman's forecasts of large solar storms and unusual conditions in the Sun's atmosphere, the Skylab crew will bring back data that should keep scientists busy for many years.

One of the most important potential benefits of solar studies may be a better understanding of the effect of the Sun's activity on weather conditions here on Earth. The Sun's energy, striking the upper atmosphere, produces most of the major patterns in the world's weather.

The Skylab astronauts confirmed a finding made after they were launched that may tell scientists more about the other major influence on Earth's weather. Unusual cloud-

free areas above the Gulf Stream may be a by-product of swirling circular regions of cold water in the warm current.

Such eddies may change the direction of hurricanes. The eddies were discovered with photographs taken on a previous Skylab flight.

Joe Hirman's work in the Mission Control Center, where every facet of the Skylab flight is planned and monitored, is not his first important work as a scientific investigator.

Working for the U.S. Department of Interior, Joe aided in the survey of U.S. mineral deposit reserves in Alaska a decade ago.

From 1964 to 1966, Joe was in charge of a research station in Antarctica, where he studied the Earth's upper atmosphere. Mt. Hirman on the cold continent at the bottom of the world bears his name.

During 1966 and 1967, Joe assisted in the preparation of the Orbiting Geophysical Observatory and the analysis of data returned by the satellite.

After nearly five years in charge of the solar observatory at the NASA tracking station on the Canary Islands off the coast of northwest Africa, Joe joined the National Oceanic and Atmospheric Administration (NOAA) as a solar physicist.

His current work at the Johnson Space Center is by

special arrangement with NOAA.

Joe is married to the former Ella M. Gibson of Jackson, Michigan. They live in Houston with their six children: Deborah, 17, Charles, 16, Michael, 15, Crystal, 10, and Joseph and Julie, both 3.

# # #

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FOR RELEASE:

F. D. Williams
713/483-5111

RELEASE NO. 74-28

SKYLAB HOMETOWN RELEASE - LOUIS V. RAMON

Louis V. Ramon, 31, a native of Rahway, New Jersey, is among the group of flight controllers supporting Skylab IV, the longest manned space flight mission in history. The Skylab IV crew of Gerald Carr, Edward Gibson and William Pogue are scheduled to splash down in the Pacific Ocean on February 8, 1974.

Ramon, a 1964 graduate of the California State Polytechnic University at Pomona, is an experiment operations specialist for a half dozen experiments aboard the Space station. He monitors experiment procedures and works with the experiment scientists.

When the mission completed the eighth of the scheduled 12-week flight, William C. Schneider, Director of NASA's Skylab Program, said "We think the crew is doing a fine job." At a recent press conference, Schneider singled out some of the scores of significant accomplishments of the crew -- in December the first observation by man in space of a limb flare on the Sun and visual confirmation of water/atmospheric phenomena in the Gulf of Mexico off the Yucatan Peninsula. Skylab crews, with the use of the onboard instruments aboard Skylab have provided more quality data of the Sun to scientists than from all previous observations from Earth.

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RELEASE NO. 74-28

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Flying above the distorting layers of Earth atmosphere, Skylab's solar telescopes and astronomical cameras are expected to provide valuable data about the make-up of comets as well as continuing the surveillance of the flares, prominences and other dynamic events taking place on the face of the Sun.

Ramon is married to the former Jeannene Zimmerman of Houston and they have two children Lori, five and Noah, four months. The Ramons live in Houston.

-End-

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F. D. Williams
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FOR RELEASE:

FEB 21 1974

RELEASE NO: 74-29

SKYLAB HOMETOWN RELEASE - MELVIN R. ROTHER

Melvin R. Rother, 32, a native of Halletsville, Texas is among the group of flight controllers supporting Skylab IV, the longest manned space flight mission in history. The Skylab IV crew of Gerald Carr, Edward Gibson and William Pogue are scheduled to splash down in the Pacific Ocean on February 8, 1974.

Rother, a 1963 graduate of Sam Houston State University, is one of a group of flight controllers responsible for monitoring and evaluating the attitude and maneuvering system of Skylab. A member of the Mission Planning and Analysis Division since 1963, Rother is assigned to the mission operations support system room and is directly responsible for planning and designing maneuvers that should be performed by the space station.

When the mission passed the eighth of the scheduled 12-week flight, William C. Schneider, Director of NASA's Skylab Program, said "We think the crew is doing a fine job."

- more -

At a recent press conference, Schneider singled out some of the scores of significant accomplishments of the crew -- in December the first observation by man in space of a limb flare on the Sun and visual confirmation of water/atmospheric phenomena in the Gulf of Mexico off the Yucatan Peninsula. Skylab crews, with the use of the onboard instruments aboard Skylab have provided more quality data of the Sun to scientists than from all previous observation from Earth.

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Rother has worked on the propulsion system for the two-manned Gemini program (1963-64), the Apollo program (1964-72) and has been involved in the Skylab program since launch of the workshop since May of last year.

Rother is marred to the former Gail Wartnan of Sheridan, Texas and they live at 11502 Sagehurst, Houston, with their two children Michelle, eight and Melanie, five.

- end -

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
Johnson Space Center
Houston, Texas 77058

Don J. Green
713/483-5111

FOR RELEASE:
January 17, 1974

RELEASE NO: 74-30

JSC ISSUE BID FOR NEW DATA PROCESSING SYSTEMS

Requests for proposal for computing and data processing for the space program software systems have been released to the aerospace industry by NASA. The request for bids was sent out by the Johnson Space Center, Houston, Texas.

Eleven companies were invited to submit bids. Included were: Control Data Corporation, General Electric, International Business Machines, Philco-Ford Corporation, Sperry Rand Corporation, and TRW Systems Group, all with operations in Houston; also the Lockheed Aircraft Corporation, with operations in Webster, Texas; Computer Sciences Corporation, Falls Church, Virginia; Intermetrics Incorporated, Cambridge, Massachusetts; Radio Corporation of America, Moorestown, New Jersey; and Systems Development Corporation, Santa Monica, California.

The contractor has been requested to develop systems covering the Space Shuttle, the Earth Resources Program and other science programs. Much of the design and development work will be

- more -

necessary for control center support during testing of the Space Shuttle.

Primary objective, of contract is to provide the space agency with software systems that have "maximum flexibility for supporting a wide variety of missions and ... readily capable of supporting future requirements," according to the technical information document that accompanied the proposal for bids.

The term "software" relates to mathematical computations and information translated into language acceptable for computer systems.

"The contract shall define, design, develop, test, and maintain software packages, exclusive of operating systems, necessary for the Mission Control Center to support the Shuttle vertical flight tests, the shuttle operational phase, and other assigned projects."

The contract will be awarded July 1, 1974 and will be effective through December 31, 1979. This period runs concurrently with the Space Shuttle program design, development, test and evaluation period--acronym DDT&E.

The government plans to negotiate the contract in two increments. Increment No. 1 will cover 24 months from July 1st, and the second phase will cover an additional 42 months.

A cost-plus-award-fee contract is planned. Amount of award will be determined by the Government based on the level of the contractor's performance.

Proposals are to be submitted in two increments. The first is due February 4, 1974 and the second on February 14th.

# # #

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
Johnson Space Center
Houston, Texas 77058

Gatha Cottee
713/483-5111

FOR RELEASE:
January 17, 1974

RELEASE NO: 74-31

CREW GIVEN GO FOR ANOTHER WEEK IN SPACE

Astronauts Carr, Gibson, and Pogue now in their 63rd day in space were given the go for another seven days.

For the remainder of the mission, weekly evaluations of crew, consumables and hardware will be made by NASA officials. The second weekly review was completed this afternoon.

Following the review of inflight medical data and the recommendation of Dr. Charles A. Berry, NASA Director for Life Sciences, William C. Schneider, Skylab Program Director, gave approval for the mission to continue until at least January 24.

Originally, the three Skylab manned missions were planned, successively, for one of 28 days and two of 56 days. The first mission lasted 28 days, the second was extended to 59 days, and the third was then planned as an open-ended 60-day mission with consumables aboard to provide for as many as 85 days.

-end-

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
Johnson Space Center
Houston, Texas 77058

F. D. Williams
713/483-5111

FOR RELEASE:
January 17, 1974

RELEASE NO: 74-32

SKYLAB ASTRONAUTS REVEALING OCEAN'S MYSTERIES

Using cameras just like those owned by photographers on the Earth's surface, astronauts aboard the Skylab space station are permanently recording the appearance of an ever-changing sea.

Gerald Carr, Edward Gibson, and William Pogue, with the most thorough training ever given a team of orbiting observers, have already seen and reported extensively on little known ocean phenomena--phenomena that affect the lives of every person on Earth.

From their excellent vantage point 270 miles above the planet's surface, the astronauts have seen and photographed ocean currents and huge concentrations of marine life in areas so remote that such changing conditions would be virtually impossible to monitor from any other location.

A tremendous range of oceanographic studies will benefit from the Skylab observations.

George A. Maul, a principal investigator for Skylab's earth resources research and an oceanographer with the National Oceanic and Atmospheric Administration's Atlantic Oceanographical and Meteorological Laboratories in Miami, Florida, says the unique observations by Carr, Gibson, and Pogue will add significantly to man's knowledge and understanding of the oceans.

With handheld cameras, the astronauts are gathering data that will permit scientists to make significant revisions of ocean color charts prepared before the Second World War, says Maul.

- more -

One area of particular interest, says Maul, is the South Atlantic Ocean, where only 4 per cent of the World's oceanographic stations are located.

On numerous occasions, Skylab astronauts passing over this area have observed, described, and photographed the Falkland Current, a river of cold water flowing from just beyond the Antartic in a great arc swirling northeast along the coast of Argentina to mix with the Brazil Current from the north.

It has been known for years that the Falkland Current carries great icebergs into the Atlantic from their source in Antartic's Weddell Sea, hundreds of miles to the south. Its location--remote from the heavily travelled shipping lanes of the North Atlantic--has severely restricted the scientific investigation of its winding course.

Until the Skylab crew began ocean observations, the most definitive studies of the Falkland and Brazil Currents had been made by German and British expeditions in the late 1920's and early 1930's--studies that took years to complete, says Maul.

Because ocean currents affect weather conditions, the distribution of marine life, the movement of sediments, and the course of international shipping, very detailed knowledge of the changes they undergo would be of clear benefit to people everywhere.

Within the Falkland Current, and in many other places on the surface of the World's oceans, the astronauts have observed yet another transient feature of great importance to man. Huge concentrations of microscopic marine life covering hundreds of square miles of the sea surface have been observed and photographed by the third Skylab crew.

Because these microorganisms are at the base of the ocean food chain that supplies an important part of the world's protein, knowledge about the population explosions or "plankton blooms" is essential to ecologically sound

management of food sources.

Jerry Carr described one suspected bloom, which may have been produced by sunlight warming the ocean's surface during the southern hemisphere's summer:

"You could see the Falkland Current again very, very plainly, the long, light-green, almost fluorescent-looking light-green, serpentine current moving its way to the northeast.

"I found another patch of red. I would estimate the patch of red to be 15 to 20 miles wide and 25 to 40 miles in length."

Carr said the red surface was within the current, never touching the blue of the adjacent waters.

Such red plankton blooms are often associated with massive fish kills. As algae populations explode, changing the ocean color to a distinct red, the great volume of waste material and the death and decay of the one-celled creatures may make the water poisonous to larger life forms.

Such "red tides" strike coasts around the world, killing great numbers of fish, and sometimes making shellfish poisonous to man.

The prediction and prevention of such destructive growths is virtually impossible without timely world-wide observations of the sort made by the Skylab astronauts.

Maul notes that the third crew has also seen and recorded large oceanic eddies, and swirling cloud patterns produced by islands jutting from the surface of the sea. The study of currents by the space crew has also revealed new information about the movement of oil spills, and the crew has detected and photographed branching within the world's currents.

By regular reports to the ground, the Skylab astronauts have aided scientists in planning more effective use of the sophisticated cameras and electronic sensors in the space station's Earth Resources Experiment Package.

Data from the ocean and atmospheric studies conducted during earth resource surveys made by the astronauts will be returned on February 8, when they splash into the Pacific Ocean southwest of San Diego.

The skill of trained observers may become an increasingly important part of man's venture into near-Earth space when the Space Shuttle becomes available in the coming decade. Maul says that space researchers could be part of an alarm system to forewarn of dangerous ocean phenomena such as red tides and to observe and report other important changes in the surface of the sea.

Space photography of the Gulf of Mexico, supported by the visual observations of the current Skylab crew, allowed oceanographer Dr. Robert E. Stevenson of the Office of Naval Research, La Jolla, California to detect swirling disks within the Gulf Stream, which carries more water than all the world's rivers combined.

The Gulf Stream has long been treated as a warm current, and has frequently been credited with bringing Europe its mild winters. But Stevenson has suggested that the disks or eddies are much cooler than the surrounding current.

If continuing research confirms the finding indicated by Skylab photography, the new data may change both oceanographic maps and the predictability of hurricanes, which draw their strength from warmer waters and are frequently dissipated by cooler regions.

-end-

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
Johnson Space Center
Houston, Texas 77058

Gatha Cottee
713/483-5111

FOR RELEASE:

RELEASE NO: 74-33

KEY EVENTS - DAY OF SPLASH

EVENTS	TIME		LONG/LAT	ΔV
	GMT	CDT		
Undocking	10:31	5:31	33° 32' N 53° 54' W	
Separation	10:57	5:57	38° S 14° E	ΔV=5FPS, 12 sec. RCS
Shape (SPS-1)	11:29	6:29	00° S 145° E	ΔV=268 FPS 11 sec, SPS
Deorbit (SPS-2)	14:33	9:33	9° N 106° E	ΔV=190 FPS, 8 sec, SPS
Entry Interface	14:58	9:58	46° N 148° W	
Black out (in)	15:00	10:00		
Black out (exit)	15:04	10:04		
Drogue Chute	15:08	10:08		
Main Chutes	15:09	10:09		
Splash *	15:14	10:14	29° 44' N 120° 21'	

*All Events Based on Present Time Lines, and February 8, 1974 Splash Down.

As of 17, January 74

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
Johnson Space Center
Houston, Texas 77058

Gatha Cottee
713/483-5111

FOR RELEASE:
January 18, 1974

RELEASE NO: 74-34

A volunteer subject fainted and suffered a brief loss of heart beat but was immediately revived during a cardiac output evaluation test conducted under controlled conditions for the Skylab medical program. The subject, Lt. Col. Edouard Burchard, required no hospitalization and was back on duty a short time later.

The incident occurred after a needle had been placed in Lt. Col. Burchard's artery during the test. He responded immediately to the normal therapy that includes an injection of atropine and external heart massage.

The test, conducted at the Space Center Hospital near the Johnson Space Center, was a simulation of one of the post flight medical analysis checks considered for the Skylab 4 astronauts after their return to Houston. The purpose of the test is to get a precise measurement of cardiac output by introducing a dye into the blood system.

Such dye dilution tests are routinely used in cardiac research diagnosis and medical officials said Lt. Col. Burchard's reaction was very unusual. As a result of the incident, however, Skylab program officials have decided that the test will not be performed on any of the returning crew members.

Lt. Col. Burchard is a West German Air Force medical officer detailed to NASA. He serves as deputy flight surgeon for the Skylab program.

-end-

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
Johnson Space Center
Houston, Texas 77058

Don J. Green
713/483-5111

FOR RELEASE:
January 19, 1974

RELEASE NO: 74-35

NASA CALLS FOR SYSTEMS TO MODIFY MCC, OTHER AREAS

The Johnson Space Center has issued a bid for contractual services which eventually leads to modification of the Mission Control Center (MCC) at the Houston, Texas facility to support the Space Shuttle program.

In space agency language, the Government has requested the aerospace industry to submit proposal for "Ground Based Data Systems, Design, Implementation, Operation, and Maintenance," of equipment to support the Space Shuttle, life sciences and other science programs.

While much of the modification will effect the MCC, the contractor also will provide services in the simulation, training, and medical areas.

Primary objective of the contract is to provide NASA with a "flexibility for supporting a...variety of missions...," according to the technical information document that accompanied the proposal for bids.

"It is also anticipated that new systems design and support requirements for future missions will evolve....due to changing mission concepts." the document says.

The contract will be awarded July 1, 1974 and will be effective through the Space Shuttle program design, development, test and evaluation period--acronym DDT&E.

- -more- -

A phasing program is called for in the bid package. The incumbent - or current - contractor has basic responsibility for control center systems through the Skylab and Apollo Soyuz Test Projects (ASTP). Certain of the tasks--relating principally to new and projected hardware--will be the responsibility of the new contractor.

"At the completion of the ASTP, presently scheduled for August 1, 1975, the new contractor will assume total responsibility of all systems.. with the exception of operations of the Real Time Computer Complex (RTCC)." according to the document.

Significant mission-related events require the new contractor's attention. These are:

December 1, 1975: Begin crew training for orbiter Horizontal Test Flight (HTF)

December 1, 1976: First orbiter HTF

September 1, 1977: Begin crew training for Vertical Flight Test (VFT)

March 1, 1978: Begin VFT control center simulations

September 1, 1978: First Space Shuttle VFT

A cost-plus-award-fee contract is planned. The government asks for bids by January 21, 1974. They are to be submitted in three volumes: No. 1, the Technical Proposal, No. 2, Management Proposal, and No. 3, the Cost Proposal.

# # # #

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
Johnson Space Center
Houston, Texas 77058

Robert V. Gordon
713/483-5111

FOR RELEASE:
February 1, 1974

RELEASE NO: 74-36

SKYLAB HOMETOWN RELEASE - JOHN DAVID BLALOCK

John David Blalock, 31, a native of Alexandria, Louisiana, is among the group of flight controllers supporting Skylab IV, the longest manned space flight mission in history. The Skylab IV crew of Gerald Carr, Edward Gibson and William Pogue are scheduled to splash down in the Pacific Ocean on February 8, 1974.

Blalock, a 1965 graduate of Louisiana Tech University, is responsible for planning and monitoring crew activities in the area of solar observations. He also assists in responding to crew queries concerning changes in solar activity and the ATM flight plan.

When the mission passed the half-way mark of the scheduled 12-week flight, William C. Schneider, Director of NASA's Skylab Program, said "We think the crew is doing a fine job." At a recent press conference, Schneider singled out some of the scores of significant accomplishments of the crew -- in

- more -

December the first observation by man in space of a limb flare on the Sun and visual confirmation of water/atmospheric phenomena in the Gulf of Mexico off the Yucatan Peninsula. Skylab crews, with the use of the onboard instruments aboard Skylab have provided more quality data of the Sun to scientists than from all previous observations from Earth.

Blalock received the Sustained Superior performance award in 1972 for his work in preparing for the Skylab mission.

Space Station Skylab's final tenants moved into their orbiting home 270 miles above the Earth on November 16, 1973. The crew of Carr, Gibson, and Pogue are daily adding to the harvest of scientific information about our home planet and our life-giving star, the Sun and will continue this search for knowledge until February 8, 1974.

Two earlier threesomes of tenants occupied the space station for 28 and 59 days before "leaving the key under the mat" for the final crew that will live aboard Skylab for up to three months.

Earth resources, solar astronomy, medical and other experiments fill the waking hours of the Skylab crewmen, with the opportunity to view the comet Kohoutek as an added bonus in December and January.

Flying above the distorting layers of Earth atmosphere, Skylab's solar telescopes and astronomical cameras are expected to provide valuable data about the make-up of comets as well as continuing the surveillance of the flares, prominences and other dynamic events taking place on the face of the Sun.

Blalock is married to the former Delores Leavines of Alexandria. The Blalocks live in Seabrook with their two children Carrie and Catherine.

- end -

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Johnson Space Center
Houston, Texas 77058

Robert V. Gordon
713/483-5111

FOR RELEASE:
February 1, 1974

RELEASE NO: 74-37

SKYLAB HOMETOWN RELEASE - GIRISH C. JOSHI

Girish C. Joshi, a native of Bombay, India, is among the group of flight controllers supporting Skylab IV, the longest manned space flight mission in history. The Skylab IV crew of Gerald Carr, Edward Gibson and William Pogue are scheduled to splash down in the Pacific Ocean on February 8, 1974.

Joshi, a graduate of the University of Bombay, provides technical expertise for the operation of two of the Skylab solar X-ray instruments. He also assisted in preparing material for the training of the flight control group and the astronauts.

When the mission passed the half-way mark of the scheduled 12-week flight, William C. Schneider, Director of NASA's Skylab Program, said "We think the crew is doing a fine job." At a recent press conference, Schneider singled out some of the scores of significant accomplishments of the crew -- in December the first observation by man in space of a limb flare

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on the Sun and visual confirmation of water/atmospheric phenomena in the Gulf of Mexico off the Yucatan Peninsula. Skylab crews, with the use of the onboard instruments aboard Skylab have provided more quality data of the Sun to scientists than from all previous observations from Earth.

Joshi, in conjunction with Dr. William Granger of the New England Medical Centers, built and designed a portable cardiac monitor which is used on exercising rehabilitation patients.

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RELEASE SENT TO:

Mr. Walter White
Branch Public Affairs Officer
American Consulate General
U S I S
Bombay, INDIA

(Information obtained from: Emma Davis, Headquarters)

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
Johnson Space Center
Houston, Texas 77058

Robert V. Gordon
713/483-5111

FOR RELEASE:

February 1, 1974

RELEASE NO:74-38

SKYLAB HOMETOWN RELEASE - STUART A. BERGMAN, JR., M.D., Ph.D.

Dr. Stuart A. Bergman, Jr., a native of San Antonio, Texas, is among the group of flight controllers supporting Skylab IV, the longest manned space flight mission in history. The Skylab IV crew of Gerald Carr, Edward Gibson and William Pogue are scheduled to splash down in the Pacific Ocean on February 8, 1974.

Dr. Bergman's primary responsibility is to check out mission activity which may effect crew health status. He monitors biomedical experiments and reviews electrocardiograms and vectrocardiograms from these experiments.

When the mission passed the half-way mark of the scheduled 12-week flight, William C. Schneider, Director of NASA's Skylab Program, said "We think the crew is doing a fine job." At a recent press conference, Schneider singled out some of the scores of significant accomplishments of the crew -- in December the first observation by man in

- more -

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Dr. Bergman is a member of the Psy Chi. Honor Society, and a past President of the Phi Beta Pi Medical Fraternity. He is also a fellow of the National Institute of Health Research in Cardiology.

Space Station Skylab's final tenants moved into their orbiting home 270 miles above the Earth on November 16, 1973. The crew of Carr, Gibson, and Pogue are daily adding to the harvest of scientific information about our home planet and our life-giving star, the Sun and will continue this search for knowledge until February 8, 1974.

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Dr. Bergman is married to the former Nancy Middleton. They live in Seabrook with their two children, Anthony,5; and Aaron, 3.

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
Johnson Space Center
Houston, Texas 77058

Robert V. Gordon
713/483-5111

FOR RELEASE:
February 1, 1974

RELEASE NO: 74-39

SKYLAB HOMETOWN RELEASE - H. GENE KOCH

H. Gene Koch, 34, a native of Eads, Colorado, is among the group of flight controllers supporting Skylab IV, longest manned space flight mission in history. The Skylab IV crew of Gerald Carr, Edward Gibson and William Pogue are scheduled to splash down in the Pacific Ocean on February 8, 1974.

Kock attended the University of Colorado. He has been employed at JSC 2½ years and is responsible for operations associated with the Naval Research Laboratory ATM solar telescopes.

When the mission passed the half-way mark of the scheduled 12-week flight, William C. Schneider, Director of NASA's Skylab Program, said "We think the crew is doing a fine job." At a recent press conference, Schneider singled out some of the scores of significant accomplishments of the crew -- in December the first observation by man in space of a limb flare on the Sun and visual confirmation of water/atmospheric

- more -

phenomena in the Gulf of Mexico off the Yucatan Peninsula. Skylab crews, with the use of the onboard instruments aboard Skylab have provided more quality data of the Sun to scientists than from all previous observation from Earth.

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comets as well as continuing the surveillance of the flares, prominences and other dynamic events taking place on the face of the Sun.

Koch is married to the former Glenda C. Dye of Great Bend, Kansas. The Kochs live in Seabrook with their children, Stewart and Heidi.

- end -

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Johnson Space Center
Houston, Texas 77058

Robert V. Gordon
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FOR RELEASE:

RELEASE NO: 74-40

SKYLAB HOMETOWN RELEASE - ROBERT HESELMEYER

Robert Heselmeyer, 30, a former resident of Cleveland, Tennessee, is among the group of flight controllers supporting Skylab IV, the longest manned flight mission in history. The Skylab IV crew of Gerald Carr, Edward Gibson and William Pogue are scheduled to splash down in the Pacific Ocean on February 8, 1974.

Heselmeyer, a 1966 graduate of Georgia Institute of Technology, has been with NASA since 1966. Serving as a flight controller he has supported Apollo missions 9 through 16.

When the mission passed the three-quarter mark of the scheduled 12-week flight, William C. Schneider, Director of NASA's Skylab Program, said "We think the crew is doing a fine job." At a recent press conference, Schneider singled out some of the scores of significant accomplishments of the crew -- in December the first observation by man in space of

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a limb flare on the Sun and visual confirmation of water/ atmospheric phenomena in the Gulf of Mexico off the Yucatan Peninsula. Skylab crews, with the use of the onboard instruments aboard Skylab have provided more quality data of the Sun to scientists than from all previous observations from Earth.

As a Skylab flight controller, Heselmeyer is responsible for providing real time support in the area of medical experiments. Generally he provides support to the crew for the medical experiment hardware and associated equipment, as well as providing the final, processed medical data products to principal investigators for these experiments.

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Heselmeyer is married to the former Melba Tipton of Port Arthur, Texas. They live at 15514 Seahorse Drive in Houston.

- end -

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
Johnson Space Center
Houston, Texas 77058

Robert V. Gordon
713/483-5111

FOR RELEASE:

RELEASE NO: 74-41

SKYLAB HOMETOWN RELEASE - JAMES E. WALLACE

James E. Wallace, 30, a native of Vero Beach, Florida, is among the group of flight controllers supporting Skylab IV, the longest manned space flsight mission in history. The Skylab IV crew of Gerald Carr, Edward Gibson and William Pogue are scheduled to splash down in the Pacific Ocean on February 8, 1974.

Wallace, a 1965 graduate of Florida A&M University is responsible for analyzing assigned scientific experiments and for the development of operating techniques necessary for optimum management and operation of these experiments.

When the mission passed the half-way mark of the scheduled 12-week flight, William C. Schneider, Director of NASA's Skylab Program, said "We think the crew is doing a fine job." At a recent press conference, Schneider singled out some of the scores of significant accomplishments of the crew -- in December the first observation by man in space of a limb flare on the Sun and visual confirmation of water/atmospheric

- more -

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and other dynamic events taking place on the face of the Sun.

Wallace is married to the former Rosa M. Jordan of Douglas, Georgia. They have two children; Derrick and Damita.

- end -

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Johnson Space Center
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Robert V. Gordon
713/483-5111

FOR RELEASE:

RELEASE NO: 74-42

SKYLAB HOMETOWN RELEASE - CHARLES ALFORD

Charles Alford, 32, a native of Wichita Falls, Texas, is among the group of flight controllers supporting Skylab IV, the longest manned space flight mission in history. The Skylab IV crew of Gerald Carr, Edward Gibson and William Pogue are scheduled to splash down in the Pacific Ocean on February 8, 1974.

Alford, a 1963 graduate of Texas (Arlington), is an optical sensor systems engineer in the Earth Resources Experiment Area of Skylab. As such, he is responsible for managing the cameras, film and magnetic tape used by the crew in gathering data on Earth's natural resources.

When the mission passed the three-quarter mark of the scheduled 12-week flight, William C. Schneider, Director of NASA's Skylab Program, saie "We think the crew is doing a fine job." At a recent press conference, Schneider singled out some of the scores of significant accomplishments of the crew -- in December the first observation by man in space of

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Alford is married to the former Carolyn Eaton of Fort Worth, Texas. The Alfords have five children 11 year old twin girls, Kathryn and Karen; Kristin, six; Scott, three and Craig, two.

- end -

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
Johnson Space Center
Houston, Texas 77058

Robert V. Gordon
713/483-5111

FOR RELEASE:

JAN 21 ..

RELEASE NO: 74-43

SKYLAB HOMETOWN RELEASE - DON HILL

Don Hill, 41, a native of Hempstead, Texas, is among the group of flight controllers supporting Skylab IV, the longest manned space flight mission in history. The Skylab IV crew of Gerald Carr, Edward Gibson and William Pogue are scheduled to splash down in the Pacific Ocean on February 8, 1974.

Hill is a member of the planning and operations team of the Earth Resources experiment program at the Mission Control Center. As a member of the team, Hill assists in preparation and the planning of each pass Skylab makes gathering data on natural resources.

When the mission passed the three-quarter mark of the scheduled 12-week flight, William C. Schneider, Director of NASA's Skylab Program, said "We think the crew is doing a fine job." At a recent press conference, Schneider singled out some of the scores of significant accomplishments of the crew -- in December the first observation by man in space of

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of a limb flare on the Sun and visual confirmation of water/ atmospheric phenomena in the Gulf of Mexico off the Yucatan Peninsula. Skylab crews, with the use of the onboard instruments aboard Skylab have provided more quality data of the Sun to scientists than from all previous observations from Earth.

Hill is a 1961 graduate of the University of Houston.

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as continuing the surveillance of the flares, prominences and other dynamic events taking place on the face on the Sun.

Hill is married to the former Martha Ellington of Houston. The Hills and their two children, Craig, nine and Scott, seven, live at 15731 Buccaneer, Houston.

- end -

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Johnson Space Center
Houston, Texas 77058

Robert V. Gordon
713/483-5111

FOR RELEASE:

JAN 21 [illegible]

RELEASE NO: 74-44

SKYLAB HOMETOWN RELEASE - CHARLES ROBERT LARSEN

Charles Robert Larsen, 29, a native of Independence, Missouri, is among the group of flight controllers supporting Skylab IV, the longest manned space flight mission in history. The Skylab IV crew of Gerald Carr, Edward Gibson and William Pogue are scheduled to splash down in the Pacific Ocean on February 8, 1974.

Since launch of Skylab on Mar 14, 1973, Larsen has been responsible for monitoring the space station's thermal and environmental control systems. This involves identifying potential problems, analyzing them, recommending a course of action to correct the problem, and analyzing the results.

Larsen is a graduate of the University of California, Berkeley, where he received a degree in mechanical engineering in 1966. Before Skylab, Larsen worked on the lunar surface science experiment area.

When the mission passed the three-quarter mark of the scheduled 12-week flight, William C. Schneider, Director of

- more -

NASA's Skylab Program, said "We think the crew is doing a fine job." At a recent press conference, Schneider singled out some of the scores of significant accomplishments of the crew -- in December the first observation by man in space of a limb flare on the Sun and visual confirmation of water/ atmospheric phenomena in the Gulf of Mexico off the Yucatan Peninsula. Skylab crews, with the use of the onboard instruments aboard Skylab have provided more quality data of the Sun to scientists than from all previous observations from Earth.

Space Station Skylab's final tenants moved into their orbiting home 270 miles above the Earth on November 16, 1973. The crew of Carr, Gibson, and Pogue are daily adding to the harvest of scientific information about our home planet and our life-giving star, the Sun and will continue this search for knowledge until February 8, 1974.

Two earlier threesomes of tenants occupied the space station for 28 and 59 days before "leaving the key under the mat" for the final crew that will live aboard Skylab for up to three months.

Earth resources, solar astronomy, medical and other experiments fill the waking hours of the Skylab crewmen,

with the opportunity to view the comet Kohoutek as an added bonus in December and January.

Flying above the distorting layers of Earth's atmosphere, Skylab's solar telescopes and astronomical camers are expected to provide valuable data about the make-up of comets as well as continuing the surveillance of the flares, prominences and other dynamic events taking place on the face of the Sun.

Larsen is married to the former Doris Elaine Craig of Washington. The Larsens live at 730 Seamaster Drive in Houston.

- end -

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
Johnson Space Center
Houston, Texas 77058

Don J. Green
713/483-5111

FOR RELEASE:
January 23, 1974

RELEASE NO: 74-45

NASA ISSUES INSTALLMENT FOR SHUTTLE DEVELOPMENT

The NASA Lyndon B. Johnson Space Center has made a payment of $125,000,000 to Rockwell International Corporation, Downey, California, for continued development of the Space Shuttle vehicle.

The installment increases the total amount of the award to $330,595,500 and covers Rockwell's performance through April 22, 1974.

More than 4460 contractor personnel now are employed in shuttle development.

-end-

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
Johnson Space Center
Houston, Texas 77058

Milt Reim
713/483-5111

FOR RELEASE:
January 24, 1974

RELEASE NO: 74-46

SKYLAB EXPOSES ADDITIONAL SOLAR SECRETS

A solar flare recorded on January 21, 1974 by the Skylab SL-4 mission has created considerable excitement within the worldwide solar physics community.

The flare was not large by comparison with those recorded on previous Skylab flights. Ground observers classified it as a medium sized flare.

The excitement stems from the news that for the first time in the history of the Skylab missions a solar flare has been recorded from its beginning through its expiration.

Previous Skylab crews have not been able to gather data on solar flare beginnings because the systems that warn of flares were not sensitive enough to detect the comparatively weak X-Ray emissions from the Sun that signal the beginning of a solar flare.

In the hope that he might catch the earliest stages of a solar flare, Skylab Science Pilot Edward G. Gibson had

- more -

been spending long hours observing the Sun through the Skylab Apollo Telescope Mount (ATM) instruments.

On January 21, Dr. Gibson's vigils were rewarded when he observed indications of increasing radiation from the western half of the Sun and immediately concentrated the ATM instruments on the phenomenon.

According to ground controllers and scientists, Gibson's patience and vigilance have resulted in the acquisition of data of extreme significance to the understanding of solar processes not otherwise possible to obtain.

Involved early in the Skylab program by participating in the design and development of the ATM solar instruments, Gibson has been described by ATM principal investigators as one of the most enthusiastic Skylab astronauts regarding solar physics. Dr. Gibson, an experienced solar physicist, is the author of "The Quiet Sun," a book that has received considerable praise from other solar physicists.

Dr. Neil R. Sheeley, solar physicist with the U.S. Naval Research Laboratory (NRL), Washington, D.C., was on duty at the ATM science room console while Gibson was making his unforeseen observations. Dr. Sheeley stated that to the

best of his knowledge neither of the previous Skylab crews had been able to catch a flare from beginning to end.

"The importance is that certain things happened in the rise of a flare that don't happen at any other time. One of these is the flash phase. At some time in the increase of X-radiation, there is a 15- to 20-second period in which the energy increases very quickly," Sheeley noted.

"We had no way of plotting or predicting it," Sheeley continued," -- it can come at any time. It was a challenge to Gibson and very exciting for the crew and for mission planners, and it will be very exciting for scientists after the mission is over."

Scheeley is one of the principal scientists on the team responsible for the coronal spectroheliograph (S082A) and the chromospheric spectrograph (S082B) telescopes. The Principal Investigator for the S082 experiments is Dr. R. Tousey, head of NRL's Rocket Spectroscopy Branch.

Dr. A. S. Krieger of American Science and Engineering, Inc., (AS&E), noted that "One of the most important and baffling mysteries in solar physics concerns the process whereby energy is transferred from the Sun's magnetic field into thermal, or

heat, energy. This process takes place during the early phases of a solar flare. Thanks to Dr. Gibson's alertness we have been able to observe this process from Skylab for the first time.

"If we can further unlock the secrets of this energy-transfer process, it may become possible to develop energy-transfer processes on Earth that will be of inestimable value in our search to find cheaper sources of energy," Dr. Krieger said.

Dr. Krieger is principal scientist on the ATM X-Ray Spectrographic Telescope (S054) team. The S054 was developed and built by AS&E, Cambridge, Massachusetts. Dr. G. Vaiana of AS&E is principal investigator for the S054 experiment.

- end -

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
Johnson Space Center
Houston, Texas 77058

Dave Garrett
713/483-5111

FOR RELEASE:
February 6, 1974

RELEASE NO: 74-47

SKYLAB TO BE LEFT IN REVISIT CONDITION

Astronauts Gerald Carr, Ed Gibson and Bill Pogue, the final Skylab crew, will leave their space station in a condition which may permit revisit by some future spacecraft when they splashdown in the Pacific on February 8, 1974.

Although there are no present plans for a specific Skylab revisit mission, the deactivation sequence has been designed to leave Skylab in a posture that would permit a docking and entry by the revisit crew in their spacesuits.

Following the departure of the astronauts, there will be about 2 days of testing via ground command. All systems will then be deactivated and the cabin pressure vented. The vehicle will be oriented in a gravity gradient attitude with the longitudinal axis aligned toward the center of the Earth, the communication links shut down and active ground monitoring terminated.

It is anticipated that the orbital life of Skylab will be about ten years.

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NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
Johnson Space Center
Houston, Texas 77058

Robert V. Gordon
713/483-5111

FOR RELEASE:
February 1, 1974

RELEASE NO: 74-48

SKYLAB HOMETOWN RELEASE - LOUIS A DELUCA

Louis A Deluca, 47, son of Mr. and Mrs. Louis Deluca of Sharpsville, Pennsylvania, is among the group of flight controllers supporting Skylab IV , the longest manned space flight mission in history. The Skylab IV crew of Gerald Carr, Edward Gibson and William Pogue are scheduled to splash down in the Pacific Ocean on February 8, 1974.

When the mission passed the three-quarter mark of the scheduled 12-week flight, William C. Schneider, Director of NASA's Skylab Program, said "We think the crew is doing a fine job." At a recent press conference, Schneider singled out some of the scores of significant accomplishments of the crew -- in December the first observation by man in space of a limb flare on the Sun and visual confirmation of water/ atmospheric phenomena in the Gulf of Mexico off the Yucatan Peninsula. Skylab crews, with the use of the onboard instruments aboard Skylab have provided more quality data of the Sun to scientists than from all previous observations from Earth.

-more -

Deluca serves as a Biomedical officer and daily monitors performance by the crew of the various medical experiments aboard Skylab. Deluca has been with NASA since 1961 and has served as a flight controller on all U. S. manned spaceflight programs -- Mercury, Gemini and Apollo.

Space Station Skylab's final tenants moved into their orbiting home 270 miles above the Earth on November 16, 1973. The crew of Carr, Gibson, and Pogue are daily adding to the harvest of scientific information about our home planet and our life-giving star, the Sun and will continue this search for knowledge until February 8, 1974.

Two earlier threesomes of tenants occupied the space station for 28 and 59 days before "leaving the key under the mat" for the final crew that will live aboard Skylab for up to three months.

Earth resources, solar astronomy, medical and other experiments fill the waking hours of the Skylab crewmen, with the opportunity to view the comet Kohoutek as an added bonus in December and January.

Flying above the distorting layers of Earth's atmosphere, Skylab's solar telescopes and astronomical cameras are expected to provide valuable data about the make-up of

comets as well as continuing the surveillance of the flares, prominences and other dynamic events taking place on the face of the Sun.

Deluca is married to the former Vera Elesin of Detroit, Michigan. They now live at 10327 Collingswood Road, Houston. They have two children Louis Deluca, Jr., and Lina Jean both of Huntsville, Alabama.

- end -

RELEASE SENT TO:

Mr. G. A. Harshman, Editor
SHARON HERALD
42 S. Dock Street
Sharon, PA 16146

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
Johnson Space Center
Houston, Texas 77058

Gatha F. Cottee
713/483-5111
RELEASE NO: 74-49

FOR RELEASE:

February 2, 1974

NOTES TO EDITORS/NEWS DIRECTORS

The launch of Titian-Centaur 1 from the Kennedy Space Center's Complex 41, Cape Kennedy Air Force Station, has been rescheduled for 9:03 a.m. EDT Monday, February 11.

A Prelaunch Press Conference will be held at the Cape 12:00 noon Sunday, February 10. (11:00 a.m. CDT)

The press Conference will be two way between members of the launch team at the Kennedy Space Center, and the New's media at the Johnson Space Center in Houston, Texas.

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NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
Johnson Space Center
Houston, Texas 77058

FOR RELEASE:
February 6, 1974

Terry White
713/483-5111

RELEASE NO: 74-50

Astronaut Dr. Karl G. Henize was uninjured Wednesday in a T-38 landing mishap at Bergstrom Air Force Base near Austin, Texas.

The mishap occured at 10 a.m. CDT as Henize was landing at Bergstrom after a flight from Ellington Air Force Base, Houston. Henize took off from Ellington at 9:28 a.m. CDT on an instrument flight rules (IFR) flight plan for Bergstrom.

Details of the mishap and extent of damage to the aircraft are not known at this time.

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NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
Johnson Space Center
Houston, Texas 77058

F. Dennis Williams
713/483-5111

FOR RELEASE:
February 20, 1974

RELEASE NO: 74-51

ENERGY REDUCTIONS PAYING SPACE CENTER BIG DIVIDENDS

A three-part program to substantially reduce energy consumption at the Johnson Space Center has already begun to pay significant dividends.

The first part of the program seeks to save power through changes in work hours or procedures, and through minor modifications to facilities and equipment.

Meanwhile, engineers are investigating more extensive changes that might be made to conserve energy. Because improvements to the center would be required to realize an additional saving, a careful study of such modifications must be made before approval can be given and the funds requested.

The third step, which promises long-range benefits to people everywhere, is research and development to reduce power consumption and to increase the supply of energy available to the world.

Most of the early savings have been produced by changes in the working conditions at JSC, including sharp reductions in non-essential lighting, adjustments in heating and cooling requirements, and limitations on official transportation.

Despite the activity associated with the longest manned spaceflight in history, an 84-day Skylab mission concluded February 8, energy uses at the space center have been cut remarkably.

In December, JSC's total energy use was 23.9 per cent lower than was anticipated based on previous years' figures.

- more -

These results, which reflect a continued trend toward lower energy consumption, were brought about by cutting lighting by as much as three-fourths in some areas, by permitting a wider range of temperatures inside buildings, by improving control of the heating and cooling system, by withholding one-fourth of the approved travel budget, and by cutting aircraft use by one-fifth.

Such changes, along with the restriction of most lighting and temperature control to working hours, has reduced energy use steadily since September.

Despite rising prices for most fuels, the bill for energy consumed from July through December 1973, was reduced by more than $100,000.

Although substantial energy savings have already been realized, center officials continue to seek areas where further reductions may be made without interfering with other center efforts.

At present, some further reductions in lighting are being considered.

In addition to the reduced use of natural gas, electricity, and liquid fuels by the center itself, a conservation program by employees has also been successful.

A car pooling program, with preferential parking for those who share rides, has also been successful. As more and more drivers become riders, NASA employees are contributing directly to easing the national shortage of gasoline.

About 800 fewer cars are now driven to work at JSC, and the number of riders per car continues to increase.

A test project to evaluate the potential for commuter buses to carry employees to the center from residential developments in the area is also under consideration. The Johnson Space Center is not served by mass transit.

While the first part of JSC's energy conservation program has been very successful, part two is expected to take longer to reach its goals.

Among the areas likely to benefit from investments in improved technology are heat production and utility control.

Center officials are now considering a plan to reclaim heat lost through the exhaust stacks from boilers at the Central Heating and Cooling Plant. An engineering study will be necessary to determine the most effective technique and to calculate the potential savings.

A computerized control system to manage power uses at the center is also under consideration as a means of saving energy and dollars through technological investment.

Part three of the energy conservation program is expected to receive attention from scientists and engineers at the Johnson Space Center for many years to come.

A program to design cities and building complexes that use less energy and produce less refuse and pollution has been underway for some time at JSC.

The Modular Integrated Utility System (MIUS) project has already made substantial progress toward designing the city of the future. It's advanced engineering concepts will help solve the twin problems of limited natural resources and undesirable pollution of our land, water, and air.

Extensive research and development projects like MIUS will be an important element in assuring the world of sufficient energy in future years.

The Johnson Space Center will make every effort to contribute to solving tomorrow's problems, just as JSC's quick action in recent months has helped solve those facing us today.

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NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
Johnson Space Center
Houston, Texas 77058

FOR RELEASE:
February 19, 1974

Terry White
713/483-5111

RELEASE NO: 74-52

PHILCO-FORD CONTRACT MODIFIED

HOUSTON, Texas ---Philco-Ford Corporation's Western Development Laboratories, Palo Alto, California have received a $4,095,500 modification to their operational support contract at the NASA Johnson Space Center here. The contract supplemental agreement calls for WDL to develop an Earth Resources Production Processing System at the Center.

Standardized processing of time histories, film images, tabulations, plots and sensor data on computer-compatible tapes will be provided by the system to Earth resources principal investigators.

The cost-plus-award-fee supplemental agreement to the Philco-Ford contract will bring the total contract value to $54,534,500. The company for several years has had a contract for systems engineering maintenance, operation and operational support of the Mission Control Center at JSC.

NASA-JSC

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NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
Johnson Space Center
Houston, Texas 77058

FOR RELEASE:
February 19, 1974

Terry White
713/483-5111

RELEASE NO: 74-53

SINGER SIMCOM CONTRACT RENEWED

HOUSTON, Texas----The Singer Company Simulation Products Division of Binghamton, New York has received a follow-on contract from NASA Johnson Space Center here for maintenance and modification of the Center's Simulator Complex (SIMCOM). SIMCOM is used for training flight crews and ground technicians for future manned spaceflight missions.

The cost-plus-award-fee contract was awarded to Singer on a noncompetitive basis and has a total value of $2,268,500. Singer, contractor for SIMCOM work since September 1964, will perform tasks under the new contract in JSC training facilities and in their own off-site facilities. The new contract runs from January 1, 1974 through June 30, 1974.

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NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
Johnson Space Center
Houston, Texas 77058

Terry White
713/483-5111

FOR RELEASE:
February 19, 1974

RELEASE NO: 74-54

NORTHROP CONTRACT RENEWED

Northrop Services, Inc. of Anaheim, California has received a one-year extension to a contract for operations and maintenance of laboratories and test facilities at the NASA Johnson Space Center. The contract has a negotiated value of $9,587,601 and will run from February 1, 1974 to January 31, 1975.

Northrop support at JSC will include maintenance and operations of training, life sciences and engineering laboratories and the Lunar Curatorial Laboratory for returned Apollo lunar samples.

The contract, in its second year, calls for four one-year extension options.

-end-

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
Johnson Space Center
Houston, Texas 77058

FOR RELEASE:
February 25, 1974

Terry White
713/483-5111

RELEASE NO: 74-55

PAN-AM AWARDED SUPPORT CONTRACT

HOUSTON, Texas -- Pan American World Airways, Inc., Aerospace Services Division, Cocoa Beach, Florida has been awarded a contract for plant maintenance and operations support services at the Johnson Space Center.

Pan American will be responsible for the operation of all utility systems and maintenance of utilities, buildings, roads, ditches, and special equipment at JSC.

The contract will be a cost-plus-fixed-fee/award fee type contract and is awarded for a one-year period beginning February 13, 1974, and ending February 12, 1975. The contractor will employ approximately 300 persons and the estimated amount of the contract is $5,600,000.

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NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
Johnson Space Center
Houston, Texas 77058

Charles Redmond
713/483-5111

FOR RELEASE:
March 7, 1974

RELEASE NO: 74-56

THE FIFTH ANNUAL LUNAR SCIENCE CONFERENCE

The Fifth Annual Lunar Science Conference will be held at the Johnson Space Center March 18 through 22, and will be attended by more than 500 lunar and planetary scientists and principal investigators of Apollo lunar samples.

Opening ceremonies will be on Monday with Dr. Christopher C. Kraft, Jr., JSC Director and Anthony J. Calio, Director of Science and Applications. More than 190 individual papers will be presented during the conference at three concurrent sessions. More than 380 papers were submitted. Abstracts of these papers will be available at the conference.

This year's conference will be dedicated to the late Dr. Paul W. Gast, one of the nations leading experts in the field of lunar geochemistry, who died in May 1973.

Dr. Gast was chief of the NASA Johnson Space Center Planetary and Earth Sciences Division and was well known in the field of mass spectrometry and rare earth analysis on terrestrial and extraterrestrial samples. He was responsible for supervising the analysis of lunar samples returned from the Moon in the Apollo missions, as well as taking part in planning the lunar landing missions. He died of cancer in a Houston hospital and is survived by his wife, two sons and a daughter.

The Fifth Annual Lunar Science Conference will direct itself to six main topics, covering all papers. The topics are: constraints on structure and composition of the lunar interior; characteristics and movement of materials in the lunar regolith;

- more -

characterization and evolution of the mare basins; characterization and evolution of the lunar crust; nature of impact processes and their effects on lunar materials; and the exchange of material and energy between the moon and its environment.

Concurrent sessions will be held in the Building 1 Auditorium and at the Gilruth Recreation Center, JSC. Sessions begin at 8:30 a.m. on each of the session days. At 2:00 p.m. Thursday, a general session will be held in the auditorium. The general session will address itself to a number of papers broadly detailing the recent advances in a number of fields. On Thursday evening, a special Skylab review program will be presented in the auditorium and will feature Dr. Owen Garriott, science pilot for the second Skylab mission and Dr. William Lenoir, scientist astronaut. Dr. Garriott will give a Skylab overview with emphasis on solar observations and medical research, and Dr. Lenoir will give a briefing on earth resources in visual observations from Skylab.

On Friday, summary sessions will be held for each of the six topic areas. One scientist per topic will be responsible for following his area throughout the entire week and presenting an overview at Friday's session.

The program committee for this year's lunar conference consists of Dr. Larry Haskin, co-chairman and Chief of the Planetary and Earth Sciences Division at JSC; Dr. J. W. Head, co-chairman and acting head of the Lunar Science Institute; Dr. D. S. Burnett, Division of Geology and Planetary Sciences, California Institute of Technology; W. Gose, staff scientist at the Lunar Science Institute; Dr. William C. Phinney, Chief of the Geology Branch of the Planetary and Earth Sciences Division, JSC; J. Pomeroy of NASA Headquarters and Dr. D. Strangway, University of Toronto.

- end -

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
Johnson Space Center
Houston, Texas 77058

Dennis Williams
Charles Redmond
713/483-4341

FOR RELEASE:
March 12, 1974

RELEASE NO: 74-57

NASA REMOTE SENSING TO ASSIST IN ERADICATING SCREWWORM

Officials from NASA's Johnson Space Center and representatives of the Mexican National Commission for Outer Space (Comision Nacional del Espacio Exterior) have completed plans for a remote sensing test project to assist in eradicating the screwworm from Mexico.

The eradication program itself is being conducted by The Mexican American Commission for the eradication of the screwworm, established last year by the Secretaries of Agriculture in the two countries.

The screwworm is a grub or larva which destroys cattle, poultry, and wildlife in the warm regions of the Americas. It develops from screwworm fly eggs laid in open sores and in the navels of newborn animals.

The grub grows to a length of about a half-inch by eating living flesh, frequently crippling or killing large numbers of domestic animals. Actual loss to the livestock industry has frequently exceeded $200 million annually.

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At one time, screwworms infested the United States from Florida to California and as far north as Nebraska. During the past two decades, they have been kept in check in the U.S. by dropping billions of sterile flies to mate with females in the infested areas.

An active program by the U.S. Department of Agriculture succeeded in pushing the screwwormfly out of the United States; for several years, a 300-mile-deep buffer zone has been established along the northern border of Mexico from the Pacific Ocean to the Gulf of Mexico.

Due to mild winter conditions, the sterile fly managed to reinfest parts of Texas in 1972, causing an estimated $100 million in damage to livestock.

Beginning in 1975, a joint effort by the American and Mexican governments will attempt to eradicate the insect throughout Mexico, maintaining a new buffer zone across the narrow Isthmus of Tehuantepec. This new corridor will reduce the cost of maintaining the cleared zone to a fraction of present levels.

To bring about the eradication of screwwormflies in

Mexico, agriculturists must have accurate reports on environmental conditions that affect the breeding habits of the flies. In the United States, information was communicated quickly through an extensive network of weather stations.

In Mexico, an estimated 260 additional weather communications links would have to be constructed to provide similar data. However, scientists in the Life Sciences Directorate's Health Applications Office of NASA's Johnson Space Center believe that sensor data provided by the Earth Resources Technology Satellite (ERTS), the ITOS experimental weather satellite and similar space vehicles can be combined with information returned by a Mexican remote sensing aircraft to provide detailed reports on soil temperature, moisture, and vegetative cover--all of which affect the breeding patterns of the screwwormfly.

If satellite data can accurately pinpoint potentially favorable conditions for screwworm infestation, this will aid flight planners immensely in selecting areas for distribution of the sterile flies.

The test site selected for the project by a joint team from Mexico and the United States is an area 50 miles wide

by 100 miles long, with its center at Cordoba, a city midway between Mexico City and the Gulf Coast port of Veracruz.

At the remote sensing test site, measurements from equipment on the ground will be collected to be compared with the results of analyzed data provided by the Mexican aircraft and the twice-daily overflights of the weather satellites. The region around Cordoba contains both lowland and highland plains, major breeding areas for the screwwormfly.

Although screwworms do not pose a serious threat to human health, Dr. Charles M. Barnes, Manager of the Health Applications Office at JSC, says that remote sensing techniques tested in Mexico may play an important role in understanding insect ecology.

Barnes points particularly to the possibility that remote sensing technology may help extend the sterile fly eradication technique to other insects, including the disease-carrying tsetse fly. The tsetse fly is so great a danger to the health of humans and animals that thousands of square miles of Africa are made virtually unfit for habitation.

The experimental phase of the remote sensing project in Mexico is expected to begin in late February and continue

for approximately a year. If the techniques being developed are successful, they may be integrated into the operational screwworm eradication program being conducted by the two nations.

-end-

Photographs to accompany this release may be obtained from this office. Two views are available: NASA AS11-36-5308 (Apollo 11 view of the Mexican—American area depicted in the schematic map); and NASA S-71-13085-S (Illustration of the Screwworm Fly).

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
Johnson Space Center
Houston, Texas 77058

Janet Wrather
713/483-5111

FOR RELEASE:
March 11, 1974

RELEASE NO: 74-58

JSC VISITOR PROGRAM HAS NEW ATTRACTIONS

Several new attractions have been included in the Lyndon B. Johnson Space Center Visitor Program.

One new addition to the collection of spacecraft, flight articles and exhibits in the Visitor Orientation Center, Building 1, is "America"--the spacecraft that carried the Apollo 17 crew to the Moon. Apollo 17 was the last planned manned lunar landing for the U.S.

Another new attraction is the Lunar Landing Training Vehicle, one of only two left in the world. Often called the "flying bedsted," this strange looking craft was used by all the Apollo crews to train for landing on the Moon.

The public may visit the Apollo Lunar Surface Experiment Package receiving station and observe live signals being received from the Moon. Samples of data sent from the Moon will be given to visitors upon request.

The LTA-8 (Lunar Module Test Article) is still available

-more-

for viewing. This spacecraft is identicle to the LM used to land the first men on the Moon.

One of NASA's newest and largest development facilities, and a focal point for this Nation's manned space flight program, JSC is open to visitors for self-guided walking tours 7 days a week from 9:00 a.m. to 4:00 p.m. except on Christmas Day. There is no admission charge and no need for advance reservations.

Guided tours through JSC facilities not included on walking tours are available Monday through Friday at 9:15 a.m., 11:00 a.m., 1:00 p.m. and 2:30 p.m.

Recently added to the guided tour schedule is a close-up look at the 1-g Skylab trainers and duplicates of the massive equipment that composes the Skylab space station currently in Earth orbit. This 100-ton spacecraft was inhabited by all the astronauts in the recently completed Skylab Program.

JSC also sponsors a special space-science program for elementary, junior and senior high school groups.

Lecture-demonstrations are given each Wednesday throughout the school year to acquaint students with space-science concepts, applications, major accomplishments, and future objectives of the agency. The program begins at 10:15 a.m. and lasts for about two hours.

Advance reservations are required for the lecture-demonstrations and the guided tours. Small groups and schools should call 483-4321; large organized groups should call 483-4241.

Reservations also may be made by writing to the Special Events Office, AP5, NASA Johnson Space Center, Houston, Texas 77058.

JSC's Visitor Program began in 1964 when the Center opened to the public for a weekend. After that, the JSC Open House Program emerged and lasted until 1969 when the Center opened to the public on week days also.

Since 1970, JSC has attracted approximately one million visitors annually.

-end-

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
Johnson Space Center
Houston, Texas 77058

Terry White
713/483-5111

FOR RELEASE:
March 15, 1974

RELEASE NO: 74-59

EARTH RESOURCES LAB SUPPORT CONTRACT NEGOTIATED

The NASA Johnson Space Center has selected Lockheed Electronics Company's Aerospace Systems Division of Houston for negotiation and award of a cost-plus-award-fee contract for technical and scientific support services at the NASA Earth Resources Laboratory, Bay St. Louis, Mississippi.

The total estimated cost for a two-year period of performance is approximately $2.8 million. Ocean Data Systems, Inc. of Rockville, Maryland also submitted a proposal for the contract.

-end-

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
Johnson Space Center
Houston, Texas 77058

Terry White
713/483-5111

FOR RELEASE:
March 20, 1974

RELEASE NO: 74-60

PRESIDENT NIXON VISITS JSC

President Richard Nixon today will visit the NASA Johnson Space Center for the third time. He visited the Center in 1968 as a presidential candidate and again on April 18, 1970, when he presented the Presidential Medal of Freedom to the JSC Mission Operations Team for its role in successfully bringing the crippled Apollo 13 spacecraft back to earth.

NASA Administrator Dr. James C. Fletcher will greet the President upon his arrival at JSC, and together with JSC Director Dr. Christopher C. Kraft, Jr., will brief him on current space projects underway at the Center.

The President will be briefed on the Apollo-Soyuz Test Project (ASTP) by the ASTP Technical Director for the United States Dr. Glynn S. Lunney and by the U.S. crewmen, Brig. Gen. Thomas P. Stafford, Donald K. "Deke" Slayton and Vance D. Brand. A full-scale Apollo command module and docking module, a Soyuz orbital module, and a 1/20th-scale engineering model of the complete Apollo-Soyuz combination will be used in the briefing. The joint United States-Soviet Union space mission is currently scheduled to be launched in July 1975.

JSC Space Shuttle Program Manager Robert F. Thompson, using a 1/40th-scale model of the Space Shuttle, will brief the President on the status of the nation's next generation manned spacecraft. The Space Shuttle is a reusable spacecraft that will be launched vertically on a booster, but which can land like an airplane on a landing strip.

- more -

First manned flights will be in the late 1970s. When operational, the Space Shuttle will be used to carry scientific payloads into orbit, retrieve for repair orbiting satellites, and lift manned scientific space stations into orbit.

Before leaving the Center, the President will speak to JSC employees outside the Exhibit Hall and will present the NASA Distinguished Service Medal, the agency's highest award, to Skylab 4 crewmen Gerald P. Carr, Edward G. Gibson and William R. Pogue. The Skylab 4 crew returned to earth February 8, after spending 84 days aboard the Skylab space station.

- end -

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
Johnson Space Center
Houston, Texas 77058

Terry White
713/483-5111

FOR RELEASE:
March 20, 1974
2:00 p.m.

RELEASE NO: 74-61

GRUMMAN CONTRACT SUPPLEMENTED

The NASA Johnson Space Center has signed a supplemental agreement with Grumman Aerospace Corporation, Bethpage, New York, to cover changes in the Apollo Lunar Module (LM) contract. Changes to the LM included modifications to the spacecraft communications equipment, additional flight and test batteries for the LM and Command Service Modules, and various other changes. The Apollo program ended in December 1972.

The supplemental agreement for the changes is for $3.7 million, bringing the estimated value of the cost-plus-incentive-fee Grumman contract to $1,976,607,841. Grumman performed most of the LM contract work at Bethpage with support from field offices at Johnson Space Center and Kennedy Space Center, Florida.

-end-

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
Johnson Space Center
Houston, Texas 77058

Terry White
713/483-5111

FOR RELEASE:
April 3, 1974

RELEASE NO: 74-62

DRAPER LAB TO DEVELOP ASTP/SHUTTLE AVIONICS SOFTWARE

The NASA Johnson Space Center has signed a $6,598,000 contract with the Charles Stark Draper Laboratory, Inc. of Cambridge, Massachusetts for Apollo-Soyuz Test Project (ASTP) and Space Shuttle Orbiter software development. The cost-plus-fixed-fee contract was awarded on a noncompetive basis.

Covered under the contract will be the development of avionic software for the Shuttle Orbiter guidance, navigation and control system, and software support for the command module computer in the Apollo-Soyuz Test Project, a joint manned orbital mission with the Soviet Union scheduled for launch in July 1975.

Included in the Shuttle Orbiter work will be software design, design verification, simulation, requirements definition and avionics analysis. The ASTP portion of the contract covers mission testing and maintenance of the flight software, data and eraseable memory generation and other technical support before and during the 12-day ASTP mission.

-end-

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
Johnson Space Center
Houston, Texas 77058

Robert V. Gordon
713/483-5111

FOR RELEASE:
April 8, 1974
2 P.M.

ALSO RELEASED AT NASA HEADQUARTERS

RELEASE NO: 74-63

MC DONNELL DOUGLAS SELECTED FOR SPACE SHUTTLE SUPPORT

The National Aeronautics and Space Administration has selected McDonnell Douglas Corporation, Houston, Texas for negotiation leading to an award of a contract for Space Shuttle Engineering and Operation Support to the Space Shuttle Program Office at the Johnson Space Center, Houston, Texas.

The contractor's proposed cost for the two year cost-plus-award fee contract is approximately $13.2 million. It is contemplated that there will be two extensions of approximately two years each.

The McDonnell Douglas Corporation will provide analytical support to the Space Shuttle Program in areas of technical and engineering systems analysis; avionics systems engineering support; mission planning, mission analysis, and software formulation; computer systems and software integration systems engineering support; and crew procedures and flight planning.

Other firms submitting proposals for the work included: The Boeing Company, Houston, Texas; Martin Marietta Corporation, Denver, Colorado; Grumman Houston Corporation, Houston, Texas; and TRW, Inc., Houston, Texas.

The contract will be under the technical direction of the NASA Johnson Space Center, Houston, Texas.

- end -

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
Johnson Space Center
Houston, Texas 77058

Jack Riley
713/483-5111

FOR RELEASE:
April 10, 1974

RELEASE NO: 74-64

ASTP WORKING GROUPS TO MEET AT JSC

Approximately 75 Soviet aerospace specialists, including four cosmonauts, are scheduled to be at the Johnson Space Center this month to participate in Apollo-Soyuz Test Project activities.

The majority will arrive Monday, April 15. That group will include the U.S.S.R. project technical director, Prof. Konstantin D. Bushuyev, and Cosmonauts Aleksey A. Leonov, Valeriy N. Kubasov, Aleksey S. Yeliseyev and Valeriy F. Bykovskiy. Leonov and Kubasov are prime Soyuz crewmen for the July 1975 international space mission; Yeliseyev is the Soviet flight director; and Bykovskiy is training officer for the Soviet ASTP flight crews.

Eight members of the communications and tracking working group arrived April 8, to join nine Soviet engineers and technicians who have been here since January 11, taking part in compatibility testing of radio and cable communications systems. Technical meetings also will cover mission planning, experiments, control and guidance, mechanical design, life support and crew transfer.

About 30 members of the delegation, including the cosmonauts, will return to Moscow April 26. The remainder will leave JSC on May 3.

No specific joint crew training is scheduled during this visit; however, the cosmonauts are expected to spend some time in flight simulators and trainers. They will take part in discussions on the flight plan and on crew training periods planned in the Soviet Union in July and here in September.

- more -

The meetings this month are part of a continuing exchange of working groups between the U.S. and the U.S.S.R. in preparation for a joint manned earth-orbital mission in July, 1975 to test compatible rendezvous and docking systems and techniques.

The U.S. technical director, Dr. Glynn S. Lunney, and several of the U.S. working groups met in Moscow last October. The last meeting here which Professor Bushuyev and Soviet flight crews attended was in July, 1973.

- end -

April 9, 1974

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
Johnson Space Center
Houston, Texas 77058

Terry White
713/483-5111

FOR RELEASE:
April 18, 1974

RELEASE NO: 74-65

SKYLAB AWARDS MADE AT JSC

A group of NASA and aerospace industry employees today will receive the agency's top awards for their part in the recently-completed Skylab program at ceremonies at the Johnson Space Center here.

Presenting the awards will be NASA Administrator Dr. James C. Fletcher and Deputy Administrator George M. Low. The awards will be made to 26 individuals, six employees of aerospace firms and four groups who took part in the world's first operational manned space station. Three Skylab missions established space duration records of 28, 59 and 84 days respectively, and yielded new data on the sun, the earth, behavior of materials in space and the effects of spaceflight upon the human biological system.

The award ceremony will start at 3 p.m. CDT in the Center's Auditorium.

Receiving the NASA Distinguished Service Medal is Space Shuttle Program Manager Robert F. Thompson, who served as the first manager of the Skylab program at its inception when it was called Apollo Applications.

Flight Control Division Chief M. P. "Pete" Frank III will receive the NASA Outstanding Leadership Medal for his efforts in coordinating flight control operations in Mission Control Center during the three Skylab missions.

The NASA Exceptional Service Medal will go to the following JSC employees: Deputy Director of Life Sciences Dr. Lawrence F. Dietlein; Dr. Jerry R. Hordinsky, William H. Bush, Jr., Dr. Malcolm C. Smith, Jr., John C. Stonesifer and William J. Huffstetler, Jr., all of Life Sciences Directorate; Jay F. Honeycutt, Vance D. Brand,

- more -

William B. Lenoir, Elmer L. Taylor, Don L. Lind, Carl B. Shelley, Bruce McCandless II, Melvin L. Richmond and F. Story Musgrave, all of the Flight Operations Directorate.

Also: Jackson D. Harris, Gary W. Johnson and Harold J. McMann, Jr., of the Engineering and Development Directorate; Richard P. Parten and Samuel D. Sanborn of the Data Systems and Analysis Directorate; Allen J. Louviere of the Earth Resources Program Office; John E. McLeaish of the Public Affairs Office; Bobbie J. Miller of the Safety, Reliability and Quality Assurance Directorate, and Charles K. Williams of the Space Shuttle Orbiter Project Office.

NASA Group Achievement Awards will go to the Johnson Space Center as a unit, the Skylab Medical Team, the Earth Resources Experiment Team and the U.S. Navy Recovery Task Force Team that recovered Skylab crews and spacecraft at splashdown.

The NASA Public Service Awards will be presented to the following aerospace industry employees: James C. Edwards of Air Lock Corporation, George B. Merrick of Rockwell International, Robert J. Molloy of Martin Marietta Corporation, George R. Mulcahy of Serv-Air, Inc., Richard C. Nelson of AiResearch and Homer D. Reihm of ILC Industries.

- end -

April 17, 1974

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
Johnson Space Center
Houston, Texas 77058

Milton E. Reim
713/483-5111

RELEASE NO: 74-66

FOR RELEASE:
April 19, 1974
2 P.M.

AIRCRAFT MAINTENANCE AND MODIFICATION CONTRACT

The National Aeronautics and Space Administration has executed Supplemental Agreement No. 12 to Contract NAS 9-13383, with Serv-Air Division of E-Systems, Inc. This Supplemental Agreement provides for continuation of maintenance and modification of aircraft assigned to the Johnson Space Center, Houston, Texas.

These aircraft are used for earth observation and astronaut proficiency training. The work to be performed includes maintenance, modification, and related ground support of the JSC assigned aircraft; maintenance and ground support of transient aircraft; engineering, design, fabrication, and installation of electronic and mechanical systems, sub-systems, components, and equipment; and related logistic functions.

This Supplemental Agreement No. 12 provides for the first year extension and second year of contract performance beginning April 1, 1974. Contract NAS 9-13383 is a Cost-Plus-Award-Fee Contract. The second year of performance is valued at approximately $3.15 million and brings the total estimated value of Contract NAS 9-13383 to approximately $5.92 million.

- end -

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
Johnson Space Center
Houston, Texas 77058

Robert V. Gordon
713/483-5111

FOR RELEASE:
July 23, 1974

RELEASE NO: 74-67

NASA SIGNS MAJOR SUPPLEMENTAL AGREEMENT TO SPACE SHUTTLE CONTRACT WITH ROCKWELL INTERNATIONAL CORPORATION

A supplemental contract agreement has been signed between the National Aeronautics and Space Administration and the Space Division of Rockwell International Corporation, Downey, California, for additional work on and extension of 11 months for the development of the Space Shuttle Orbiter and integration of all elements of the Space Shuttle System.

As prime contractor, Rockwell is responsible for the design, development and production of the Orbiter vehicle and for the integration of all elements of the Space Shuttle System.

The contract with Rockwell is on a cost reimbursement basis plus fixed and award fees. It is funded incrementally and with the addition of this Supplemental Agreement (No. 22) has an estimated value including fee of $943,248,000. The contract will now continue through June 1975.

A second increment of work; i.e., the balance of Design, Development, Test & Evaluation plus delivery of two Orbiter vehicles is included as an option to the contract and is scheduled to begin July 1, 1975.

Rockwell is to subcontract more than 50 percent of the dollar value of the contract. Potential program subcontractors and suppliers have been identified in almost every state in the union.

In addition to the Orbiter, major elements of the Space Shuttle system include the Space Shuttle Main Engine, a 470,000-pound-thrust hydrogen-oxygen tank, and twin solid rocket boosters.

- more -

The External Tank (ET) and Solid Rocket Boosters (SRB) are procured independently of the prime contractor. The planned site for the assembly of the tanks is the government-owned facility at Michoud, Louisiana, where the Saturn rockets used for the Apollo program were assembled.

Overall program management for the Shuttle within NASA has been assigned by the Office of Manned Spaceflight to the Johnson Space Center, Houston, Texas.

In addition to the project office established at JSC, NASA has assigned the development of the Orbiter main engine, the External Tank and the Solid Rocket Boosters to the Marshall Space Flight Center, Huntsville, Alabama.

Responsibility for launch, landing and turn-around operations has been assigned to Kennedy Space Center, Florida.

The Space Shuttle will be developed over the next several years. The complete system is to be operational in the 1980's.

The Space Shuttle will be the first reusable space vehicle. The Orbiter stage will be a delta-winged airplane-like vehicle with a large cargo compartment capable of landing on conventional runways.

The Orbiter will be boosted into space through the simultaneous operation of the solid-propellant booster rockets and the Orbiter stage high-pressure liquid oxygen-liquid hydrogen main engines. The booster rockets will detach at an altitude of about 40 kilometers (25 miles) and descend into the ocean to be recovered and reused.

The Space Shuttle will be able to place satellites in orbit, return satellites from orbit, permit in-orbit repair and servicing of satellites, deliver propulsive stages and satellites to low Earth orbit, and conduct short-duration science and applications missions with self-contained experiments in low Earth orbit.

The Space Shuttle will be employed as an operational system by both NASA and the Department of Defense. Primary operational sites for the Space Shuttle will be the Kennedy Space Center in Florida and Vandenberg Air Force Base in California.

- end -

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
Johnson Space Center
Houston, Texas 77058

Milton E. Reim
713/483-5111

RELEASE NO: 74-68

FOR RELEASE:
April 24, 1974
2 P.M.

PHILCO-FORD/MCC SUPPLEMENTAL AGREEMENT

The National Aeronautics and Space Administration has signed a supplemental agreement with Philco-Ford Corporation for continued work at the Mission Control Center, Johnson Space Center, Houston, Texas.

Supplemental Agreement No. 155 signed with the Philco-Ford Corporation Western Development Laboratories, 3939 Fabian Way, Palo Alto, California, is under Contract NAS 9-1261 and is a Cost-Plus-Award-Fee contract.

Philco-Ford will perform the majority of the work at their Houston, Texas, location with support from their offices at Palo Alto and Newport Beach, California, and Philadelphia, Pennsylvania.

The work to be performed consists of Mission Preparation, Operation, Engineering and Operational Support of the Mission Control Center through the Apollo-Soyuz Test Program.

The Supplemental Agreement valued at about $18,934,000, brings the estimated value of Contract NAS 9-1261 to approximately $255,189,000.

- end -

NEWS

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
Johnson Space Center
Houston, Texas 77058

Terry White
713/483-5111

FOR RELEASE:
April 24, 1974

RELEASE NO: 74-69a

Special to the Milton, PA Evening Standard

WOODLING RECEIVES AIAA AWARD

Milton native Carroll H. Woodling, Chief of the Flight Simulation Division at the NASA Johnson Space Center, Houston, Texas, recently received the American Institute of Aeronautics and Astronautics deFlorez Training Award for 1973.

Woodling received the AIAA award "for his outstanding contributions to advancing the development of simulators to train flight crew members for diverse manned space flight missions and for conducting continuing training programs for these flight crews." Named for the late Admiral Luis deFlorez, the award is presented annually by the AIAA to an individual responsible for an outstanding improvement in aerospace training.

Born in Milton, Pennsylvania, Woodling earned a BS degree in physics from the College of William and Mary in Williamsburg, Virginia in 1950. He joined the NASA Langley Research Center as a research scientist the following year, and transferred to the NASA Johnson Space Center in 1962 where he entered the field of space flight simulation and crew training.

Woodling is married to the former Mildred Johnson of Petersburg, Virginia. The Woodlings have three children and live in Friendswood, Texas, near the Johnson Space Center.

- end -

NEWS

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
Johnson Space Center
Houston, Texas 77058

Terry White
713/483-5111

FOR RELEASE:
April 24, 1974

RELEASE NO: 74-69a

Special to the College of William and Mary Flat Hat, Williamsburg, VA

WOODLING RECEIVES AIAA AWARD

William and Mary alumnus Carroll H. Woodling, Chief of the Flight Simulation Division at the NASA Johnson Space Center, Houston, Texas, recently received the American Institute of Aeronautics and Astronautics deFlorez Training Award for 1973.

Woodling received the AIAA award "for his outstanding contributions to advancing the development of simulators to train flight crew members for diverse manned space flight missions and for conducting continuing training programs for these flight crews." Named for the late Admiral Luis deFlorez, the award is presented annually by the AIAA to an individual responsible for an outstanding improvement in aerospace training.

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Woodling is married to the former Mildred Johnson of Petersburg, Virginia. The Woodlings have three children and live in Friendswood, Texas, near the Johnson Space Center.

- end -

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
Johnson Space Center
Houston, Texas 77058

Terry White
713/483-5111

FOR RELEASE:
April 25, 1974

RELEASE NO: 74-69

UNIVAC CONTRACT EXTENDED

The NASA Johnson Space Center has signed a supplemental agreement with Univac Computer Systems Division of Sperry Rand Corporation of St. Paul, Minn. for continued work at the Mission Control Center. The cost-plus-fixed-fee contract supplement covers programming, engineering, maintenance and operations of the Communications, Command and Terminal System (CCATS) processors in Mission Control through the Apollo-Soyuz Test Program (ASTP).

ASTP is a joint rendezvous mission in earth orbit between a United States Apollo spacecraft and a Soviet Union Soyuz spacecraft scheduled for July 1975.

The supplement is valued at about $3,893,000, bringing the total estimated value of the Univac contract to approximately $24,276,000.

-end-

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
Johnson Space Center
Houston, Texas 77058

Milton Reim
713/483-5111

FOR RELEASE:
April 25, 1974

RELEASE NO: 74-70

MCC/RTCC CONTRACT CONTINUED WITH IBM

The National Aeronautics and Space Administration has awarded International Business Machines Corporation the contract for continued work in support of the Real Time Computer Complex (RTCC) of the Mission Control Center (MCC) at the Johnson Space Center. (JSC).

Work to be performed consists of design, development, implementation and maintenance of the RTCC of the MCC through September 30, 1975.

IBM of 18100 Frederick Pike, Gaithersburg, Virginia will perform the work at their facility in Houston, and at JSC.

The Contract No. NAS 9-13861 is a Cost-Plus-Award-Fee Contract and was awarded noncompetitively. The total amount of the contract is $10,518,103.

-End-

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
Johnson Space Center
Houston, Texas 77058

Terry White
713/483-5111

FOR RELEASE:
April 30, 1974

RELEASE NO: 74-71

YOUNG TO HEAD ASTRONAUT OFFICE

John W. Young, veteran of four manned space flights, has been named acting chief of the astronaut office of the Johnson Space Center Flight Operations Directorate. Former astronaut office chief Alan B. Shepard, Jr. will serve as senior advisor to Young.

Young was in the second group of astronauts selected by NASA in September 1962. He was pilot on the first manned Gemini mission in 1965 and command pilot of Gemini 10 in July 1966. In a lunar-orbit test mission of the Apollo lunar module in May 1969, Young served as command module pilot. Most recently, he was commander of the Apollo 16 lunar landing mission at the Descartes landing site. Young spent more than 20 hours on the lunar surface in three periods of exploration.

Young, a captain in the U.S. Navy, graduated from Georgia Institute of Technology in 1952 with a bachelor of science degree in aeronautical engineering. He has been awarded two NASA

-more-

Distinguished Service Medals, two NASA Exceptional Service Medals, the Navy Astronaut Wings, two Navy Distinguished Service Medals, three Navy Distinguished Flying Crosses and the 1972 Iven C. Kincheloe Award of the Society of Experimental Test Pilots.

-end-

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
Johnson Space Center
Houston, Texas 77058

Jack Riley
713/483-5111

FOR RELEASE:
April 30, 1974

RELEASE NO: 74-72

ALSO RELEASED AT NASA HEADQUARTERS

ASTRONAUT SCHWEICKART MOVES TO NASA HEADQUARTERS

Astronaut Russell L. Schweickart, lunar module pilot for Apollo 9, will join the staff of NASA's Office of Applications in Washington, D.C., effective May 1.

Currently assigned to the Office of the Associate Administrator for Applications, he will become Director of User Affairs when Albert T. Christensen, who now holds that position, returns to private industry in August upon completion of his tour of duty with NASA under the President's Executive Interchange Program.

The User Affairs Division in the Office of Applications maintains a close tie with users and potential users of the results of NASA's Applications programs -- Earth Observations, Communications, Earth and Ocean Physics, and others -- to insure that a flow of information back and forth is taking place and that these programs are highly responsive to user needs.

Mr. Schweickart -- usually called "Rusty" -- was one of 14

-more-

astronauts named by NASA in 1963. As lunar module pilot for Apollo 9, the third manned flight in the Apollo series in March 1969, he completed a successful 10-day mission in Earth orbit that first tested the lunar module in flight. He and James McDivitt, as spacecraft commander, separated the lunar module more than 100 miles from the command/service module, piloted by David R. Scott, then carried out a critical lunar-orbit rendezvous simulation and subsequent docking.

During a 46-minute EVA, the first in the Apollo program, Schweickart evaluated external transfer capability, took photographs, and retrieved thermal samples from the lunar module exterior.

Last year he served as backup commander for the first Skylab mission and, in addition, was responsible for monitoring design and development of the space station's solar telescope and planning Skylab extravehicular activities. He also had a major role in developing the hardware and procedures for erecting the emergency solar shade and deploying the jammed solar array wing.

Before joining NASA, Schweickart served as a pilot in the U.S. Air Force and Air National Guard from 1956 to 1963. He was

born in Neptune, New Jersey, and received a bachelor of science degree in aeronautical engineering and a master of science degree in aeronautics and astronautics from Massachusetts Institute of Technology.

He is a fellow of the American Astronautical Society, an associate fellow of the American Institute of Aeronautics and Astronautics, and a member of the Society of Experimental Test Pilots, the Explorers Club, and Sigma Xi. He was awarded the NASA Distinguished Service Medal in 1969, the NASA Exceptional Service Medal in 1973, the Federation Aeronautique Internationale De La Vaulx Medal in 1970, and the National Academy of Television Arts and Sciences Special Trustees Award for 1969.

He and his wife, the former Clare G. Whitfield of Atlanta, have three daughters and two sons.

-end-

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
Johnson Space Center
Houston, Texas 77058

Terry White
713/483-5111

FOR RELEASE:
MAY 8 1974

RELEASE NO: 74-73

HORDINSKY RECEIVES NASA EXCEPTIONAL SERVICE MEDAL

Dr. Jerry R. Hordinsky, formerly of Drake, North Dakota, recently received the NASA Exceptional Service Medal for his participation in the Skylab program in ceremonies here at the Johnson Space Center. He is the son of Dr. and Mrs. Bohdan Z. Hordinsky of Drake. Hordinsky was Skylab IV Flight Crew Surgeon.

His citation reads: "In recognition of his outstanding service in support of the Skylab Program which successfully culminated in the world's first operational space station missions and opened up a new era in the uses of space for the study of the sun, the earth, and man himself, and for many other scientific and practical purposes. As a key member of the Skylab team, he contributed significantly to the successful accomplishment of the goals of the Skylab Program."

NASA Exceptional Service medals went to 26 Johnson Space Center employees for their part in the world's first operational space station. Three Skylab missions established space duration records of 28, 59 and 84 days respectively, and yielded new data on the sun, the earth, behavior of materials in space and in the effects of spaceflight upon the human biological system.

- end -

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
Johnson Space Center
Houston, Texas 77058

Terry White
713/483-5111

FOR RELEASE:

MAY 8 1974

RELEASE NO: 74-74

MC MANN RECEIVES NASA EXCEPTIONAL SERVICE MEDAL

Harold J. McMann, Jr., formerly of Oklahoma City, Oklahoma, recently received the NASA Exceptional Service Medal for his participation in the Skylab program in ceremonies at the Johnson Space Center here. He is the son of Mrs. Georgia McMann of Oklahoma City. Mr. McMann is Head of the EVA Support Systems Section at JSC.

His citation reads: "In recognition of his outstanding technical contributions to the Skylab Program which successfully culminated in the world's first operational space station missions and opened up a new era in the uses of space for the study of the sun, the earth, and man himself, and for many other scientific and practical purposes. As a key member of the Skylab team, he contributed significantly to the successful accomplishment of the goals of the Skylab Program."

NASA Exceptional Service medals went to 26 Johnson Space Center employees for their part in the world's first operational space station. Three Skylab missions established space duration records of 28, 59 and 84 days respectively, and yielded new data on the sun, the earth, behavior of materials in space and in the effects of space-flight upon the human biological system.

- end -

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
Johnson Space Center
Houston, Texas 77058

Terry White
713/483-5111

FOR RELEASE:
MAY 8 1974

RELEASE NO: 74-75

STONESIFER RECEIVES NASA EXCEPTIONAL SERVICE MEDAL

John C. Stonesifer, formerly of Hanover, Pennsylvania, recently received the NASA Exceptional Service Medal for his participation in the Skylab Program, in ceremonies at the Johnson Space Center here. He is the son of Mrs. Robert W. Stonesifer of Hanover. Stonesifer is Chief, Bioengineering Systems Division at JSC.

His citation reads: "In recognition of his outstanding technical contributions to the Skylab Program which successfully culminated in the world's first operational space station missions and opened up a new era in the uses of space for the study of the sun, the earth, and man himself, and for many other scientific and practical purposes. As a key member of the Skylab team, he contributed significantly to the successful accomplishment of the goals of the Skylab Program."

NASA Exceptional Service medals went to 26 Johnson Space Center employees for their part in the world's first operational space station. Three Skylab missions established space duration records of 28, 59 and 84 days respecticaly, and yielded new data on the sun, the earth, behavior of materials in space and in the effects of spaceflight upon the human biological system.

- end -

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
Johnson Space Center
Houston, Texas 77058

Terry White
713/483-5111

FOR RELEASE:
MAY 8 1974

RELEASE NO: 74-76

SMITH RECEIVES NASA EXCEPTIONAL SERVICE MEDAL

Dr. Malcolm C. Smith, formerly of Kingsville, Texas, recently received the NASA Exceptional Service Medal for his participation in the Skylab program, in ceremonies at the Johnson Space Center here. He is the son of Mr. and Mrs. M. C. Smith, Sr. of Kingsville. Smith is Chief, Food and Nutrition Branch at JSC.

His citation reads: "In recognition of his outstanding service in support of the Skylab Program which successfully culminated in the world's first operational space station missions and opened up a new era in the uses of space for the study of the sun, the earth, and man himself, and for many other scientific and practical purposes. As a key member of the Skylab team, he contributed significantly to the successful accomplishment of the goals of the Skylab Program."

NASA Exceptional Service medals went to 26 Johnson Space Center employees for their part in the world's first operational space station. Three Skylab missions established space duration records of 28, 59 and 84 days respectively, and yielded new data on the sun, the earth, behavior of materials in space and in the effects of spaceflight upon the human biological system.

- end -

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
Johnson Space Center
Houston, Texas 77058

Terry White
713/483-5111

FOR RELEASE:
MAY 8 1974

RELEASE NO: 74-77

THOMPSON RECEIVES NASA DISTINGUISHED SERVICE MEDAL

Robert F. Thompson, formerly of Bluefield, Virginia, recently received the NASA Distinguished Service Medal, NASA's highest award, for his participation in the Skylab Program, in ceremonies at the Johnson Space Center here. He is the son of Mr. and Mrs. F. J. Thompson of Bluefield, Virginia. Thompson is Manager of the Space Shuttle Program at JSC.

His citation reads: "In recognition of his outstanding achievements while directing the Skylab Program during its formative years. His management leadership and technical skill contributed directly to the mission capability of the flight hardware and to the subsequent successes achieved during the operational phase of the Skylab Program."

NASA Exceptional Service Medals went to 26 Johnson Space Center employees for their part in the world's first operational space station. Three Skylab missions established space duration records of 28, 59 and 84 days respectively, and yielded new data on the sun, the earth, behavior of materials in space and in the effects of spaceflight upon the human biological system.

- end -

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
Johnson Space Center
Houston, Texas 77058

Terry White
713/483-5111

FOR RELEASE:

MAY 8 1974

RELEASE NO: 74-78

SHELLEY RECEIVES NASA EXCEPTIONAL SERVICE MEDAL

Mr. Carl B. Shelley, formerly of Headland, Alabama, recently received the NASA Exceptional Service Medal for his participation in the Skylab program, in ceremonies at the Johnson Space Center here. He is the son of Mr. and Mrs. Adie Shelley of Headland. Shelley is Deputy Chief, Crew Training and Procedures Division at JSC.

His citation reads: "In recognition of his outstanding service in the flight operations of the Skylab Program which successfully culminated in the world's first operational space station missions and opened up a new era in the uses of space for the study of the sun, the earth, and man himself, and for many other scientific and practical purposes. As a key member of the Skylab team, he contributed significantly to the successful accomplishment of the goals of the Skylab Program."

NASA Exceptional Service medals went to 26 Johnson Space Center employees for their part in the world's first operational space station. Three Skylab missions established space duration records of 28, 59, and 84 days respectively, and yielded new data on the sun, the earth, behavior of materials in space and in the effects of spaceflight upon the human biological system.

- end -

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
Johnson Space Center
Houston, Texas 77058

Terry White
713/483-5111

FOR RELEASE:
MAY 8 1974

RELEASE NO: 74-79

FRANK RECEIVES NASA EXCEPTIONAL SERVICE MEDAL

Mr. M. P. Frank, formerly of Denton, Texas, recently received the NASA Exceptional Service Medal for his participation in the Skylab Program, in ceremonies at the Johnson Space Center here. He is the son of Mrs. Janie Sheppard Frank of Denton. Frank is Acting Chief, Flight Control Division at JSC.

His citation reads: "In recognition of his outstanding leadership in managing flight control activities at the Johnson Space Center. Under his direction, the flight control teams capably responded to the contingencies that arose and made major contributions to the achievement of the goals of the Skylab Program."

NASA Exceptional Service medals went to 26 Johnson Space Center employees for their part in the world's first operational space station. Three Skylab missions established space duration records of 28, 59 and 84 days respectively, and yielded new data on the sun, the earth, behavior of materials in space and in the effects of spaceflight upon the human biological system.

- end -

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
Johnson Space Center
Houston, Texas 77058

Terry White
713/483-5111

FOR RELEASE:
MAY 8 1974

RELEASE NO: 74-80

LOUVIERE RECEIVES NASA EXCEPTIONAL SERVICE MEDAL

Mr. Allen J. Louviere, formerly of Beaumont, Texas, recently received the NASA Exceptional Service Medal for his participation in the Skylab Program, in ceremonies at the Johnson Space Center here. He is the son of Mrs. Markel M. Louviere of Beaumont. Louviere is Technical Assistant, Earth Resources Program at JSC.

His citation reads: "In recognition of his outstanding technical contributions to the Skylab Program which successfully culminated in the world's first operational space station missions and opened up a new era in the uses of space for the study of the sun, the earth, and man himself, and for many other scientific and practical purposes. As a key member of the Skylab team, he contributed significantly to the successful accomplishment of the goals of the Skylab Program."

NASA Exceptional Service medals went to 26 Johnson Space Center employees for their part in the world's first operational space station. Three Skylab missions established space duration records of 28, 59 and 84 days respectively, and yielded new data on the sun, the earth, behavior of materials in space and in the effects of spaceflight upon the human biological system.

- end -

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
Johnson Space Center
Houston, Texas 77058

Terry White
713/483-5111

FOR RELEASE:
MAY 8 1974

RELEASE NO: 74-81

MC LEAISH RECEIVES NASA EXCEPTIONAL SERVICE MEDAL

John E. McLeaish, former resident of Weslaco, Texas, recently received the NASA Exceptional Service Medal for his participation in the Skylab program, in ceremonies at the Johnson Space Center here. McLeaish is Chief, Public Information Office at JSC.

His citation reads: "In recognition of his outstanding service in support of the Skylab Program which successfully culminated in the world's first operational space station missions and opened up a new era in the uses of space for the study of the sun, the earth, and man himself, and for many other scientific and practical purposes. As a key member of the Skylab team, he contributed significantly to the successful accomplishment of the goals of the Skylab Program."

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- end -

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Johnson Space Center
Houston, Texas 77058

Terry White
713/483-5111

FOR RELEASE:
MAY 8 1974

RELEASE NO: 74-82

PARTEN RECEIVES NASA EXCEPTIONAL SERVICE MEDAL

Richard C. Parten, formerly of Gainesville, Texas, recently received the NASA Exceptional Service Medal for his participation in the Skylab program, in ceremonies at the Johnson Space Center here. He is the son of Mrs. Mary E. Parten of Gainesville. Parten is Chief, Spacecraft Software Division at JSC.

His citation reads: "In recognition of his outstanding service in support of the Skylab Program which successfully culminated in the world's first operational space station missions and opened up a new era in the uses of space for the study of the sun, the earth, and man himself, and for many other scientific and practical purposes. As a key member of the Skylab team, he contributed significantly to the successful accomplishment of the goals of the Skylab Program."

NASA Exceptional Service medals went to 26 Johnson Space Center employees for their part in the world's first operational space system. Three Skylab missions established space duration records of 28, 59 and 84 days respectively, and yielded new data on the sun, the earth, behavior of materials in space and in the effects of spaceflight upon the human biological system.

- end -

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Johnson Space Center
Houston, Texas 77058

Terry White
713/483-5111

FOR RELEASE:
MAY 8 1974

RELEASE NO: 74-83

TAYLOR RECEIVES NASA EXCEPTIONAL SERVICE MEDAL

Mr. Elmer L. "Cooter" Taylor, formerly of Jonesville, Louisiana, recently received the NASA Exceptional Service Medal for his participation in the Skylab Program, in ceremonies at the Johnson Space Center here. Taylor is assigned to the Crew Support Section of Flight Operations at JSC.

His citation reads: "In recognition of his outstanding service in the flight operations of the Skylab Program which successfully culminated in the world's first operational space station missions and opened up a new era in the uses of space for the study of the sun, the earth, and man himself, and for many other scientific and practical purposes. As a key member of the Skylab team, he contributed significantly to the successful accomplishment of the goals of the Skylab Program."

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NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
Johnson Space Center
Houston, Texas 77058

Terry White
713/483-5111

FOR RELEASE:
MAY 8 1974

RELEASE NO: 74-84

RICHMOND RECEIVES NASA EXCEPTIONAL SERVICE MEDAL

Mr. Melvin L. Richmond, formerly of Westgrove, Pennsylvania, recently received the NASA Exceptional Service Medal for his participation in the Skylab Program, in ceremonies at the Johnson Space Center here. He is the son of Mrs. Audra Waltman of Westgrove. Richmond is assigned to the Operations Support Section at JSC.

His citation reads: "In recognition of his outstanding service in the flight operations of the Skylab program which successfully culminated in the world's first operational space station missions and opened up a new era in the uses of space for the study of the sun, the earth, and man himself, and for many other scientific and practical purposes. As a key member of the Skylab team, he contributed significantly to the successful accomplishment of the goals of the Skylab Program."

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NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
Johnson Space Center
Houston, Texas 77058

Terry White
713/483-5111

FOR RELEASE:
MAY 8 1974

RELEASE NO: 74-85

HARRIS RECEIVES EXCEPTIONAL SERVICE MEDAL

Mr. Jackson D. Harris, formerly of Providence, Kentucky, recently received the NASA Exceptional Service Medal for his participation in the Skylab Program, in ceremonies at the Johnson Space Center here. He is the son of Mrs. Ovella Clayton of Providence. Harris is Manager of the Apollo-Soyuz Test Project's Experiments System Division at JSC.

His citation reads: "In recognition of his outstanding technical contributions to the Skylab Program which successfully culminated in the world's first operational space station missions and opened up a new era in the uses of space for the study of the sun, the earth, and man himself, and for many other scientific and practical purposes. As a key member of the Skylab team, he contributed significantly to the successful accomplishment of the goals of the Skylab Program."

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NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
Johnson Space Center
Houston, Texas 77058

Terry White
713/483-5111

FOR RELEASE:
MAY 8 1974

RELEASE NO: 74-86

HUFFSTETLER RECEIVES EXCEPTIONAL SERVICE MEDAL

Mr. William J. Huffstetler, Jr., formerly of Maryville, Tennessee, recently received the NASA Exceptional Service Medal for his participation in the Skylab Program, in ceremonies at the Johnson Space Center here. He is the son of Mrs. Katherine Huffstetler of Maryville. Huffstetler is Chief, Project Engineering Branch at JSC.

His citation reads: "In recognition of his outstanding technical contributions to the Skylab Program which successfully culminated in the world's first operational space station missions and opened up a new era in the uses of space for the study of the sun, the earth, and man himself, and for many other scientific and practical purposes. As a key member of the Skylab team, he contributed significantly to the successful accomplishment of the goals of the Skylab Program."

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NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
Johnson Space Center
Houston, Texas 77058

Terry White
713/483-5111

FOR RELEASE:
MAY 8 1974

RELEASE NO: 74-87

MILLER RECEIVES EXCEPTIONAL SERVICE MEDAL

Mr. Bobby J. Miller, formerly of Campo, Colorado, recently received the NASA Exceptional Service Medal for his participation in the Skylab Program, in ceremonies at the Johnson Space Center here. He is the son of Mrs. John M. Miller of Campo. Miller is assigned to the Flight Systems Safety Office at JSC.

His citation reads: "In recognition of his outstanding service in support of the Skylab Program which successfully culminated in the world's first operational space station missions and opened up a new era in the uses of space for the study of the sun, the earth, and man himself, and for many other scientific and practical purposes. As a key member of the Skylab team, he contributed significantly to the successful accomplishment of the goals of the Skylab Program."

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NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
Johnson Space Center
Houston, Texas 77058

Terry White
713/483-5111

FOR RELEASE:
MAY 8 1974

RELEASE NO: 74-88

WILLIAMS RECEIVES EXCEPTIONAL SERVICE MEDAL

Mr. Charles K. Williams, formerly of West Frankfort, Illinois, recently received the NASA Exceptional Service Medal for his participation in the Skylab Program, in ceremonies at the Johnson Space Center here. He is the son of Mrs. Lena E. Williams of West Frankfort. Williams is Deputy Manager, Manufacturing and Test Office, Orbiter Project, here at JSC.

His citation reads: "In recognition of his outstanding technical contributions to the Skylab Program which successfully culminated in the world's first operational space station missions and opened up a new era in the uses of space for the study of the sun, the earth, and man himself, and for many other scientific and practical purposes. As a key member of the Skylab team, he contributed significantly to the successful accomplishment of the goals of the Skylab Program."

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Johnson Space Center
Houston, Texas 77058

Terry White
713/483-5111

FOR RELEASE:

MAY 8 1974

RELEASE NO: 74-89

HONEYCUTT RECEIVES EXCEPTIONAL SERVICE MEDAL

Mr. Jay F. Honeycutt, formerly of Pineville, Louisiana, recently received the NASA Exceptional Service Medal for his participation in the Skylab Program, in ceremonies at the Johnson Space Center here. He is the son of Mr. and Mrs. Earl Honeycutt of Pineville. Honeycutt is Chief, Simulations Branch at JSC.

His citation reads: "In recognition of his outstanding service in the flight operations of the Skylab Program which successfully culminated in the world's first operational space station missions and opened up a new era in the uses of space for the study of the sun, the earth, and man himself, and for many other scientific and practical purposes. As a key member of the Skylab team, he contributed significantly to the successful accomplishment of the goals of the Skylab Program."

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Johnson Space Center
Houston, Texas 77058

Terry White
713/483-5111

FOR RELEASE:

MAY 8 1974

RELEASE NO: 74-90

JOHNSON RECEIVES EXCEPTIONAL SERVICE MEDAL

Mr. Gary W. Johnson, formerly of Covington, Oklahoma, recently received the NASA Exceptional Service Medal for his participation in the Skylab Program, in ceremonies at the Johnson Space Center here. He is the son of Mr. John D. Johnson of Covington. Johnson is Head, Equipment and Installation Section at JSC.

His citation reads: "In recognition of his outstanding technical contributions to the Skylab Program which successfully culminated in the world's first operational space station missions and opened up a new era in the uses of space for the study of the sun, the earth, and man himself, and for many other scientific and practical purposes. As a key member of the Skylab team, he contributed significantly to the successful accomplishment of the goals of the Skylab Program."

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Johnson Space Center
Houston, Texas 77058

Terry White
713/483-5111

FOR RELEASE:
MAY 8 1974

RELEASE NO: 74-91

BUSH RECEIVES EXCEPTIONAL SERVICE MEDAL

Mr. William H. Bush, Jr., formerly of Elizabethton, Tennessee, recently received the NASA Exceptional Service Medal for his participation in the Skylab Program, in ceremonies at the Johnson Space Center here. He is the son of Mr. William H. Bush, Sr., of Elizabethton. Bush is Chief, Operational Systems and Planning Branch at JSC.

His citation reads: "In recognition of his outstanding technical contributions to the Skylab Program which successfully culminated in the world's first operational space station missions and opened up a new era in the uses of space for the study of the sun, the earth, and man himself, and for many other scientific and practical purposes. As a key member of the Skylab team, he contributed significantly to the successful accomplishment of the goals of the Skylab Program."

NASA Exceptional Service medals went to 26 Johnson Space Center employees for their part in the world's first operational space station. Three Skylab missions established space duration records of 28, 59 and 84 days respectively, and yielded new data on the sun, the earth, behavior of materials in space and in the effects of spaceflight upon the human biological system.

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Johnson Space Center
Houston, Texas 77058

Terry White
713/483-5111

FOR RELEASE:
MAY 8 1974

RELEASE NO: 74-92

SANBORN RECEIVES NASA EXCEPTIONAL SERVICE MEDAL

Mr. Samuel D. Sanborn, formerly of Midwest City, Oklahoma, recently received the NASA Exceptional Service Medal for his participation in the Skylab Program, in ceremonies at the Johnson Space Center here. He is the son of Mrs. Margaret K. Sanborn of Midwest City. Sanborn is Head, Requirements Section at JSC.

His citation reads: "In recognition of his outstanding service in the flight operations of the Skylab Program which successfully culminated in the world's first operational space station missions and opened up a new era in the uses of space for the study of the sun, the earth, and man himself, and for many other scientific and practical purposes. As a key member of the Skylab team, he contributed significantly to the successful accomplishment of the goals of the Skylab Program."

NASA Exceptional Service Medals went to 26 Johnson Space Center employees for their part in the world's first operational space station. Three Skylab missions established space duration records of 28, 59 and 84 days respectively, and yielded new data on the sun, the earth, behavior of materials in space and in the effects of spaceflight upon the human biological system.

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NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
Johnson Space Center
Houston, Texas 77058

Terry White
713/483-3438

FOR RELEASE:
MAY 8 1974

RELEASE NO: 74-93

DIETLEIN RECEIVES NASA EXCEPTIONAL SERVICE MEDAL

Dr. Lawrence F. Dietlein, formerly of New Iberia, Louisiana, recently received the NASA Exceptional Service Medal for his participation in the Skylab Program, in ceremonies at the Johnson Space Center here. He is the son of Mrs. L. F. Dietlein, Sr., of New Iberia. Dietlein is Deputy Director of Life Sciences at JSC.

His citation reads: "In recognition of his outstanding service in the management of the Skylab Program which successfully culminated in the world's first operational space station missions and opened up a new era in the uses of space for the study of the sun, the earth, and man himself, and for many other scientific and practical purposes. As a key member of the Skylab team, he contributed significantly to the successful accomplishment of the goals of the Skylab Program."

NASA Exceptional Service Medals went to 26 Johnson Space Center employees for their part in the world's first operational space station. Three Skylab missions established space duration records of 28, 59 and 84 days respectively, and yielded new data on the sun, the earth, behavior of materials in space and in the effects of spaceflight upon the human biological system.

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NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
Johnson Space Center
Houston, Texas 77058

Terry White
713/483-5111

FOR RELEASE:
MAY 8 1974

RELEASE NO: 74-94

ARMITAGE RECEIVES NASA GROUP ACHIEVEMENT AWARD

Mr. Peter J. Armitage, formerly of South Hampton, England, recently received the NASA Group Achievement Award in recognition of his outstanding accomplishments in the design, development, operation, and support of the Skylab Earth Resources Experiments. Through his exceptional efforts, experimental information has been obtained on the Skylab missions that is of significant and practical value in promoting new methods for the discovery, management, and conservation of the earth's natural resources. Armitage is Assistant Director for Science and Applications at JSC. He is the son of Mr. and Mrs. Edgar J. Armitage of South Hampton.

NASA Exceptional Service Medals went to 26 Johnson Space Center employees for their part in the world's first operational space station. Three Skylab missions established space duration records of 28, 59 and 84 days respectively, and yielded new data on the sun, the earth, behavior of materials in space and in the effects of spaceflight upon the human biological system.

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NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
Johnson Space Center
Houston, Texas 77058

Terry White
713/483-5111

FOR RELEASE:
MAY 8 1974

RELEASE NO: 74-95

HAWKINS RECEIVES NASA GROUP ACHIEVEMENT AWARD

Dr. Willard R. Hawkins, formerly of Fort Worth, Texas, recently received the NASA Group Achievement Award "in recognition of his outstanding achievements in providing medical research, operations, and bioengineering support to the Skylab Program. Through well conceived experiments and exceptional medical support, he proved conclusively that man can perform effectively for extensive periods of time in weightless environment of space." He is the son of Mrs. Alice Hawkins of Houston. Hawkins is Deputy Director for Medical Operations at JSC.

NASA Exceptional Service Medals went to 26 Johnson Space Center employees for their part in the world's first operational space station. Three Skylab missions established space duration records of 28, 59 and 84 days respectively, and yielded new data on the sun, the earth, behavior of materials in space and in the effects of spaceflight upon the human biological system.

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NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
Johnson Space Center
Houston, Texas 77058

Milt Reim
713/483-5111

FOR RELEASE:
May 8, 1974
1:00 P.M.

RELEASE NO: 74-96

ALSO RELEASED AT NASA HEADQUARTERS

JOHN F. YARDLEY NAMED NEW HEAD OF NASA MANNED SPACE FLIGHT

Mr. John Finley Yardley has been named Associate Administrator for Manned Space Flight succeeding Mr. Dale Myers who recently returned to private industry. In this position, Mr. Yardley will direct NASA's manned flight programs, including Space Shuttle and the US-USSR Apollo-Soyuz Test Project and the United States' responsibilities in Spacelab. Mr. Yardley has been Vice President and General Manager, Eastern Division, Astronautics for the McDonnell Douglas Corporation since 1972. He will report to his new NASA Headquarters post May 20.

Born in St. Louis in 1925, Mr. Yardley received a B.S. degree in Aeronautical Engineering from Iowa State College and an M.S. degree from Washington University. After three years in the Navy during World War II, he joined McDonnell Douglas in 1946 as a Structural Engineer and from 1958 to 1960 he served as Project Engineer for Mercury Spacecraft Design.

-more-

Mr. Yardley was Launch Operations Manager for the Mercury and Gemini Spacecraft from 1960 to 1964, and then served as Gemini Technical Director from 1964 to 1967. He was also Vice President and Corporate-wide General Manager for the Skylab project before being named Vice President and Deputy General Manager, Eastern Division Astronautics in 1968.

Mr. Yardley received NASA's Public Service Award for Mercury in 1963 and for Gemini in 1966. He was also awarded the Spirit of St. Louis Medal by the American Society of Mechanical Engineers. He is a Fellow of the American Institute for Aeronautics and Astronautics. Mr. and Mrs. Yardley have five children.

-end-

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
Johnson Space Center
Houston, Texas 77058

Charles Redmond
713/483-4341

FOR RELEASE:
May 9, 1974

RELEASE NO: 74-97

CLIFF CHARLESWORTH HONORED

Clifford E. Charlesworth, Manager of the Earth Resources Program at the Johnson Space Center, was recently honored as one of 14 outstanding Mississippians in ceremonies at Jackson, Mississippi.

The award was presented on April 25 by the Mississippi Economic Council. The MEC is the state chamber of commerce and represents more than 3,300 business and professional associations within Mississippi.

The Council had compiled a list of several hundred former Mississippians who had distinguished themselves in their work. Of that number, 14 were selected for special recognition during the occasion of the Council's 25th Anniversary.

Among those honored with Mr. Charlesworth were the president of Coca-Cola Company, USA, Archie Manning, quarterback for the New Orleans Saints, and the chairman of the board for National Gypsum Company.

Charlesworth, one-time resident of Jackson, Mississippi,

-more-

has been Manager of the Earth Resources Program since April, 1972. He is responsible for managing the planning and direction of all earth resources functions delegated to the Johnson Space Center by NASA Headquarters. JSC is the lead center in the development of earth resources planning and applications.

Prior to his current position, Charlesworth was Deputy Manager of the Skylab Program. He also served as a Flight Director during the Gemini and Apollo programs.

Among his many honors, Charlesworth has received the NASA Exceptional Service Medal twice and the NASA Group Achievement Award for his work on Apollo 11.

He is a member of the American Institute of Aeronautics and Astronautics and received his Bachelor of Science degree in physics from Mississippi College, Clinton.

-end-

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
Johnson Space Center
Houston, Texas 77058

Milt Reim
713/483-5111

FOR RELEASE:
May 13, 1974
2:00 P.M.

RELEASE NO: 74-98

CONTRACT AWARDED FOR ENGINEERING SUPPORT SERVICES AT JSC

A contract has been awarded to Kentron Hawaii, Ltd, Continental Operations, 2345 West Mockingbird Lane, Dallas, Texas for the continuation of Engineering Support Services at the Lyndon B. Johnson Space Center, Houston.

The contract period runs from May 1, 1974, through April 30, 1975. The amount is approximately $1.2 million and is a cost-plus-fixed-fee/award fee type contract.

-end-

COMMUNIQUE ON RESULTS OF APOLLO-SOYUZ TEST PROJECT MEETINGS

April 8 - May 3, 1974

A meeting of Apollo-Soyuz Test Project specialists of the U.S.S.R. and the National Aeronautics and Space Administration was held at the Lyndon B. Johnson Space Center, Houston, Texas, U.S.A., April 8 - May 3, 1974.

The purpose of the meeting was to continue technical discussions and planning for the joint flight of Apollo and Soyuz spacecraft to test compatible systems for rendezvous and docking of manned spacecraft and stations of the future.

The project technical directors, the prime flight crews, and all five of the working groups took part in the discussions. Working groups are assigned to the areas of mission planning, control and guidance, mechanical design, communications and tracking, life support and crew transfer.

The technical directors, Prof. Konstatin D. Bushuyev for the U.S.S.R. and Dr. Glynn S. Lunney for the U.S., have scheduled the next major meeting in September 1974, in Moscow.

Joint flight crew training will be conducted in the U.S.S.R. June 23 - July 15, 1974, and in the U.S.A. September 9 - 30, 1974.

An agreement was reached on the dates for visiting the respective launch sites by specialists and members of the flight crews for familiarization with the flight spacecraft and to conduct the tests of compatible equipment. The visit to the U.S. launch site will take place in February, 1975 and the visit to the U.S.S.R. launch site will take place in May, 1975.

Results of the Apollo docking module and Soyuz life support systems tests conducted earlier in 1974 were reviewed. A joint document which confirms the compatibility of the two systems will be prepared.

Safety assessment reports on control systems and on spacecraft manufacturing rest and checkout were reviewed and approved.

The schedules for each of the five joint experiments were approved. The experiments are: Ultraviolet Absorption, Biological Interaction, Microbial Exchange, Multipurpose Furnace, and Artificial Solar Eclipse.

The two sides reached agreement on the basic approach and content of the Joint Flight Readiness Review which will be held in May 1975.

Discussion of long term requirements for compatible rendezvous

and docking systems will be resumed at the meeting in September.

During the current meeting, the heads of the delegations visited the U.S. communication system compatibility test laboratory, the life support system breadboard test facility and the thermal vacuum test facility.

The technical directors reported that good progress is being made, and the project is on schedule for the July, 1975 launch.

- end -

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
Johnson Space Center
Houston, Texas 77058

Terry White
713/483-5111

FOR RELEASE:
June 12, 1974

RELEASE NO: 74-100

MUSGRAVE RECEIVES NASA EXCEPTIONAL SERVICE MEDAL

Dr. Story Musgrave, formerly of Lexington, Kentucky, recently received the NASA Exceptional Service Medal for his participation in the Skylab program, in ceremonies at the Johnson Space Center here. He is the son of Mrs. Marguerite Swann Musgrave of Upper Saddle River, New Jersey. Musgrave is a NASA Astronaut.

His citation reads: "In recognition of his outstanding service in the flight operations of the Skylab Program which suc cessfully culminated in the world's first operational space station missions and opened up a new era in the uses of space for the study of the sun, the earth, and man himself, and for many other scientific and practical purposes. As a key member of the Skylab team, he contributed significantly to the successful accomplishment of the goals of the Skylab Program."

NASA Exceptional Service medals went to 26 Johnson Space Center employees for their part in the world's first operational space station. Three Skylab missions established space duration records of 28, 59 and 84 days respectively, and yielded new data on the sun, the earth, behavior of materials in space and in the effects of spaceflight upon the human biological system.

- end -

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
Johnson Space Center
Houston, Texas 77058

Jack Riley
713/483-5111

RELEASE NO: 74-101

FOR RELEASE:
May 13, 1974
2:00 p.m.

WESTINGHOUSE GETS TV CONTRACT

The Johnson Space Center has awarded a cost-plus-fixed-fee contract in the amount of $2,104,900, to the Westinghouse Electric Corporation, Baltimore, Maryland, for color television cameras to be used in the Apollo-Soyuz Test Project (ASTP).

Under the contract, Westinghouse will refurbish and modify 10 cameras used in the Skylab Program and provide two new cameras. The contract also covers associated equipment, such as synchronization modules, mounting brackets and zoom lenses. End date of the contract is March 31, 1975.

ASTP is a joint U.S.-U.S.S.R. program to develop compatible rendezvous and docking systems and techniques. A cooperative manned earth-orbital mission is planned in July 1975, to test the systems and techniques.

- end -

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
Johnson Space Center
Houston, Texas 77058

Jack Riley
713/483-5111

FOR RELEASE:
May 13, 1974

RELEASE NO: 74-102

ALSO RELEASED AT NASA HEADQUARTERS

ASTRONAUT SCHMITT HEADS NEW NASA ENERGY OFFICE

Astronaut Harrison H. Schmitt has been named NASA's Assistant Administrator for Energy Programs. Dr. James C. Fletcher, NASA Administrator, announced the appointment today.

"This new office will allow NASA to support the Federal agencies responsible for energy research and development more effectively, which in turn will insure the application of NASA developed technology to the critical energy problems facing our nation today," Fletcher said.

Dr. Schmitt, lunar module pilot on Apollo 17, will head a newly formed Office of Energy Programs at NASA headquarters. The new post is a consolidation of energy related functions previously performed by several other NASA headquarters offices, notably the Office of Applications and the Office of Aeronautics and Space Technology.

-more-

The new office will be responsible for coordinating NASA support of other Federal agencies conducting energy research and development. It will also manage existing NASA programs applying aeronautics and space technology to the generation, transmission, storage, conservation, utilization and management of energy in non-aerospace applications.

A geologist, Schmitt is currently Chief of the Astronaut Office, Science and Applications Directorate, at NASA's Johnson Space Center, Houston, Texas. For the past three months he has been on temporary assignment at NASA Headquarters as Special Assistant to the Administrator for Energy Research and Development. In addition to his duties as Assistant Administrator, he will continue to serve as Astronaut Chief of the Science and Applications Directorate in Houston until his responsibilities there are completed and a replacement is named.

Schmitt was one of the first group of scientist-astronauts selected by NASA in 1965. He was born in Santa Rita, New Mexico, in 1935 and graduated from high school in Silver City, New Mexico. He received a B.S. degree from California Institute of Technology in 1957, was a Fulbright fellow at the University of Oslo, Norway,

in 1957-58 and received his Ph.D in geology from Harvard University in 1964.

Before joining NASA, Schmitt was a teaching fellow at Harvard, worked for the Norwegian Geological Survey and was with the U.S. Geological Survey, Astrogeology Center, Flagstaff, Arizona. In the latter post he participated in mapping the Moon and instructed NASA astronauts during geological field training trips.

Schmitt is a member of the Geological Society of America, American Geophysical Union, American Association for the Advancement of Science, American Association of Petroleum Geoligists, American Institute of Aeronautics and Astronautics and Sigma Xi.

-end-

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
Johnson Space Center
Houston, Texas 77058

Terry White
713/483-5111

FOR RELEASE:
June 12, 1974

RELEASE NO: 74-103

MC CANDLESS RECEIVES NASA EXCEPTIONAL SERVICE MEDAL

Commander Bruce McCandless II, formerly of Boston, Massachusetts, recently received the NASA Exceptional Service medal for his participation in the Skylab Program, in ceremonies at the Johnson Space Center here. McCandless is a NASA Astronaut.

His citation reads: "In recognition of his outstanding service in the flight operations of the Skylab Program which successfully culminated in the world's first operational space station missions and opened up a new era in the uses of space for the study of the sun, the earth, and man himself, and for many other scientific and practical purposes. As a key member of the Skylab team, he contributed significantly to the successful accomplishment of the goals of the Skylab Program."

NASA Exceptional Service medals went to 26 Johnson Space Center employees for their part in the world's first operational space station. Three Skylab missions established space duration records of 28, 59 and 84 days respectively, and yielded new data on the sun, the earth, behavior of materials in space and in the effects of spaceflight upon the human biological system.

- end -

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
Johnson Space Center
Houston, Texas 77058

Terry White
713/483-5111

FOR RELEASE:
May 17, 1974

RELEASE NO: 74-104

ALSO RELEASED AT NASA HEADQUARTERS

IBM NAMED FOR SPACE SHUTTLE SOFTWARE NEGOTIATIONS

International Business Machines Corporation, Federal Systems Division, Bethesda, Maryland, has been selected by NASA for negotiations leading to the award of a contract for Space Shuttle software. The agreement will embrace ground based computing and data processing system software design, development and implementation in support of Space Shuttle and other space programs.

The contractor's proposed cost for the two year cost-plus-award fee contract is approximately $11 million. One extension of approximately 42 months is contemplated.

IBM will provide ground based applications software design, implementation and associated support for the large general purpose computers supporting Space Shuttle. The contractor will also perform analysis and formulation work

-more-

in support of Earth Resources Data Systems. The work will be accomplished for the Mission Control Center located at NASA's Johnson Space Center, Houston, Texas.

Other firms submitting proposals for the work included The Control Data Corporation, Houston, Texas; Univac Division of Sperry Rand Corporation, Houston, Texas; TRW Systems Group, Houston, Texas; and Computer Sciences Corporation, Falls Church, VA.

The contract will be under the technical direction of NASA's Johnson Space Center, Houston.

-end-

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
Johnson Space Center
Houston, Texas 77058

Milton E. Reim
713/483-5111

FOR RELEASE:
May 24, 1974

RELEASE NO: 84-105

PROPOSALS REQUESTED FOR ORBITER SIMULATOR

The NASA Johnson Space Center in Houston has asked for proposals from twenty-one firms for producing a basic simulator to support the training of crew members for piloting the orbiter vehicle during the Orbiter 1 development flights of the Space Shuttle Program.

Tasks include development, design, fabrication, installation, checkout, and six-months (12 man-months) support of one Orbiter Aeroflight Simulator (OAS). Proposals must be received no later than 5 p.m. CDT, July 10, 1974.

The OAS shall be a moving base simulator capable of representing the basic operation of the orbiter during the Orbiter 1 development flights and providing the crew members the rudimental functions of the orbiter vehicle.

The successful contractor will be required to furnish on-site technical and engineering support of the OAS for six-months after acceptance.

-end-

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
Johnson Space Center
Houston, Texas 77058

Milton E. Reim
713/483-5111

FOR RELEASE:
May 31, 1974
2:00 P.M.

RELEASE NO: 74-106

KENTRON SUPPORT SERVICES CONTRACT EXTENDED

The NASA Johnson Space Center has awarded Kentron Hawaii, Ltd., Houston, Texas, the contract to continue technical information and Public Affairs support at the Houston Center.

The cost-plus-fixed-fee/award fee contract is for an estimated cost (including fee) of approximately $2.7 million, and is for services from May 1, 1974 through April 30, 1975.

- end -

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
Johnson Space Center
Houston, Texas 77058

Charles Redmond
713/483-4341

FOR RELEASE:
June 6, 1974

RELEASE NO: 74-107

TEXAS ERTS MOSAIC

Texas Governor Dolph Briscoe was recently presented a copy of this Earth Resources Technology mosaic map of Texas by Johnson Space Center Director, Christopher C. Kraft.

In a letter to the Governor, Dr. Kraft stated, this was the first time a single mosaic covering the entire state of Texas has been prepared from space photos.

The satellite which provided the information for the mosaic, ERTS-1, has been in orbit almost 2 years. It repeats its ground coverage every 18 days and provides information in four wavebands covering the red, yellow, green and blue bands.

A copy of the map was also presented to Houston Mayor Fred Hofheinz.

-end-

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
Johnson Space Center
Houston, Texas 77058

Terry White
713/483-5111

FOR RELEASE:
June 12, 1974

RELEASE NO: 74-108

LIND RECEIVES NASA EXCEPTIONAL SERVICE MEDAL

Dr. Don L. Lind, formerly of Midvale, Utah, recently received the NASA Exceptional Service Medal for his participation in the Skylab Program, in ceremonies at the Johnson Space Center here. He is the son of Mr. and Mrs. Leslie A. Lind of Midvale, Utah. Lind is a NASA Astronaut.

His citation reads: "In recognition of his outstanding service in the flight operations of the Skylab Program which successfully culminated in the world's first operational space station missions and opened up a new era in the uses of space for the study of the sun, the earth, and man himself, and for many other scientific and practical purposes. As a key member of the Skylab team, he contributed significantly to the successful accomplishment of the goals of the Skylab Program."

NASA Exceptional Service medals went to 26 Johnson Space Center employees for their part in the world's first operational space station. Three Skylab missions established space duration records of 28, 59 and 84 days respectively, and yielded new data on the sun, the earth, behavior of materials in space and in the effects of spaceflight upon the human biological system.

- end -

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
Johnson Space Center
Houston, Texas 77058

Terry White
713/483-5111

FOR RELEASE:
June 12, 1974

RELEASE NO: 74-109

LENOIR RECEIVES NASA EXCEPTIONAL SERVICE MEDAL

Dr. William B. Lenoir, formerly of Miami, Florida, recently received the NASA Exceptional Service Medal for his participation in the Skylab Program, in ceremonies at the Johnson Space Center here. He is the son of Mr. and Mrs. Samuel S. Lenoir of Miami, Florida. Lenoir is a NASA Astronaut.

His citation reads: "In recognition of his outstanding service in the flight operations of the Skylab Program which successfully culminated in the world's first operational space station missions and opened up a new era in the uses of space for the study of the sun, the earth, and man himself, and for many other scientific and practical purposes. As a key member of the Skylab team, he contributed significantly to the successful accomplishment of the goals of the Skylab Program."

NASA Exceptional Service medals went to 26 Johnson Space Center employees for their part in the world's first operational space station. Three Skylab missions established space duration records of 28, 59 and 84 days respectively, and yielded new data on the sun, the earth, behavior of materials in space and in the effects of spaceflight upon the human biological system.

- end -

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
Johnson Space Center
Houston, Texas 77058

Jack Riley
713/483-5111

FOR RELEASE:
June 12, 1974

RELEASE NO: 74-110

LUNNEY RECEIVES FLEMMING AWARD

Glynn S. Lunney, Apollo Spacecraft Program Manager, has been selected as one of the ten outstanding young men and women in the federal government.

He will receive the Arthur S. Flemming Award in a ceremony June 13, at the Mayflower Hotel, Washington, D.C. The award is sponsored by the Downtown Jaycees of Washington, D.C., and is named in honor of Dr. Arthur S. Flemming, a former U.S. Civil Service Commissioner and Secretary of Health, Education and Welfare from 1958-61. Dr. Flemming presently is Chairman of the U.S. Commissions on Civil Rights and Aging.

Dr. Lunney's selection is based on his work as Technical Director of the Apollo Soyuz Test Project, which will culminate in a joint U.S.-U.S.S.R. manned orbital spaceflight scheduled for July 1975. His leadership and technical ability are cited as important elements in the outstanding cooperation and progress achieved on the project by the two countries.

The Arthur S. Flemming Award is presented annually to five government employees under 40 years of age in each of two categories, administrative and scientific. Dr. Lunney will receive one of the scientific awards.

The award was established 26 years ago to recognize those who have performed outstanding and meritorious work for the federal government; to attract outstanding persons to federal service; to encourage high standards of performance in federal service; and to enhance appreciation of our form of government and the opportunities and responsibilities that it presents.

- more -

RELEASE NO: 74-110

Previous Arthur S. Flemming Award winners from the Johnson Space Center are: Maxime A. Faget, George M. Low, Christopher C. Kraft, Wesley L. Hjornevik, Joseph F. Shea, John D. Hodge, Neil A. Armstrong, Eugene F. Kranz, Lynwood C. Dunseith, and Harrison H. Schmitt.

Dr. Lunney, 37, joined NASA in 1959. He is married, has four children and lives in Friendswood, Texas.

- end -

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
Johnson Space Center
Houston, Texas 77058

Terry White
713/483-5111

FOR RELEASE:
June 12, 1974

RELEASE NO: 74-111

BRAND RECEIVES NASA EXCEPTIONAL SERVICE MEDAL

Mr. Vance D. Brand, formerly of Longmont, Colorado, recently received the NASA Exceptional Service Medal for his participation in the Skylab Program, in ceremonies at the Johnson Space Center here. He is the son of Dr. and Mrs. Rudolph W. Brand of Longmont, Colorado. Brand is a NASA Astronaut.

His citation reads: "In recognition of his outstanding service in the flight operations of the Skylab Program which successfully culminated in the world's first operational space station missions and opened up a new era in the uses of space for the study of the sun, the earth, and man himself, and for many other scientific and practical purposes. As a key member of the Skylab team, he contributed significantly to the successful accomplishment of the goals of the Skylab Program."

NASA Exceptional Service medals went to 26 Johnson Space Center employees for their part in the world's first operational space station. Three Skylab missions established space duration records of 28, 59 and 84 days respectively, and yielded new data on the sun, the earth, behavior of materials in space and in the effects of spaceflight upon the human biological system.

- end -

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
Johnson Space Center
Houston, Texas 77058

Milton Reim
713/483-5111

FOR RELEASE:
June 13, 1974

RELEASE NO: 74-112

RFP GOES OUT FOR SHUTTLE SIMULATOR COMPUTER COMPLEX

The NASA Johnson Space Center has asked thirty-one firms for proposals for a computer complex for the Shuttle Mission Simulator (SMS) to be located in the Building Five training facility. Request for proposals for a Shuttle ~~Mission~~ ORBITER Simulator had gone out earlier.

Equipment for the complex will consist of a digital computer processing system, local peripheral units, two remote batch stations, interactive display terminals, data channels for interfacing with the simulation equipment, and the related system software package.

The computer complex will be an integral part of the SMS and will be used for the training of crewmen and ground personnel for operating the Space Shuttle systems.

The simulator will include, but not necessarily be limited to, simulation of the Orbiter vehicle, main engines, solid rocket motors, external tanks, support equipment, and activities required to fulfill the Space Shuttle objectives.

Contractor for the Shuttle Mission Simulator Computer Complex (SMSCC) will be required to design, fabricate, deliver, install, and checkout the computer system and the associated system software package. The SMSCC will then be turned over to the contractor selected to manufacture the SMS.

Awarding of the contract is scheduled for October 15, 1974 calling for acceptance of the computer complex January 15, 1976.

-end-

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
Johnson Space Center
Houston, Texas 77058

Terry White
713/483-5111

FOR RELEASE:
June 14, 1974

RELEASE NO: 74-113

PILAND, ALDRICH GET NEW JSC ASSIGNMENTS

Robert O. Piland has been appointed acting assistant director for advanced planning and design to NASA Johnson Space Center Director of Engineering and Development, Maxime A. Faget. The appointment will be effective July 1, 1974.

Since September 1970, Piland has been director of the NASA Earth Resources Laboratory at the Mississippi Test Facility, Bay St. Louis, Mississippi.

Piland previously was deputy manager of the Apollo Spacecraft Program Office, deputy director of Science and Applications and technical assistant to the JSC director. He received the NASA Outstanding Leadership Medal in October 1973 for his contributions to Earth remote sensing technology. Piland joined NASA's predecessor, the National Advisory Committee for Aeronautics (NACA) in 1947 after graduating from William and Mary College.

Piland's replacement as Earth Resources Laboratory director is D. Wayne Mooneyhan who has served as Laboratory assistant director since February 1973.

In another JSC assignment change, Arnold D. Aldrich has been appointed manager of the Skylab Program in addition to his duties as deputy manger of the Apollo Spacecraft Program. Aldrich will administer close-out of the Skylab contracts and equipment disposition, and oversee preparation of Skylab data reports and documentation.

-end-

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
Johnson Space Center
Houston, Texas 77058

Nancy Thornton
713/483-5111

FOR RELEASE:
June 17, 1974

RELEASE NO: 74-114

NASA ENGINEERS TO MOSCOW FOR ASTP LIGHTING TESTS

A nine man delegation from NASA will be participating in a joint test project with Soviet representatives in Moscow, U.S.S.R. The two-week tests, beginning June 17, deal with TV and photo coverage of the up-coming Apollo Soyuz Test Project.

Armistead Dennett from the Johnson Space Center will head the delegation. Olin L. Graham, L. Kenneth Land, C. Ragan Edmiston and James H. Ragan are also from JSC. Robert J. Shafer will represent NASA's headquarters in Washington, D.C. Two subcontractor employees will also attend; from Westinghouse, Larkin Niemyer, and Rockwell's Alex Sementovsky will act as interpreter.

Dennett said the purpose of the visit is to evaluate lighting and facilities available for television and photography in the Soyuz spacecraft. Tests will be conducted in a mockup of the Soyuz which closely resembles the actual spacecraft. During the tests the functions of astronauts and cosmonauts will be performed by technicians wearing flight clothing to simulate as nearly as possible, actual conditions of the mission. Combinations of lights, lens openings, and filters can then be tested for optimal reproduction as well as establishing the advantageous vantage points, electrical power availability and the positioning of equipment installation brackets within the spacecraft, Dennett said.

The Apollo Soyuz Test Project (ASTP), a test docking mission between the United States' Apollo spacecraft and the Soviet Union's Soyuz, is scheduled to take place in July 1975 and will include television coverage from both spacecraft transmitted to both countries simultaneously.

-end-

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
Johnson Space Center
Houston, Texas 77058

Nancy Thornton
713/483-5111

FOR RELEASE:
June 18, 1974

RELEASE NO: 74-115

FORMER RESIDENT GRAHAM TO MOSCOW FOR ASTP LIGHTING TESTS

Olin L. Graham, formerly of Childress, Texas, now employed at NASA's Johnson Space Center in Houston, will participate in a joint test project with Soviet representatives in Moscow, U.S.S.R. The two-week tests, beginning June 17, deal with TV and photo coverage of the upcoming Apollo Soyuz Test Project.

The purpose of the visit is to evaluate lighting and facilities available for television and photography in the Soyuz spacecraft. Tests will be conducted in a mockup of the Soyuz which closely resembles the actual spacecraft. During the tests the functions of the astronauts and cosmonauts will be performed by technicians wearing flight clothing to simulate as nearly as possible, actual conditions of the mission. Combinations of lights, lens openings and filters can then be tested for optimal reproduction as well as establishing the advantageous vantage points, electrical power availability and the positioning of equipment installation brackets within the spacecraft.

The Apollo Soyuz Test Project (ASTP), a test docking mission between the United States' Apollo spacecraft and the Soviet Union's Soyuz, is scheduled to take place in July 1975 and will include television coverage from both spacecraft transmitted to both countries simultaneously.

Mr. Graham, a graduate of the University of Houston with a B.S. degree in Electrical Engineering, now makes his home in Houston.

-end-

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
Johnson Space Center
Houston, Texas 77058

Nancy Thornton
713/483-5111

FOR RELEASE:
June 18, 1974

RELEASE NO: 74-116

FORMER RESIDENT LAND TO MOSCOW FOR ASTP LIGHTING TESTS

L. Kenneth Land, formerly of San Angelo, Texas, now employed at NASA's Johnson Space Center in Houston, will participate in a joint test project with Soviet representatives in Moscow, U.S.S.R. The two-week tests, beginning June 17, deal with TV and photo coverage of the upcoming Apollo Soyuz Test Project.

The purpose of the visit is to evaluate lighting and facilities available for television and photography in the Soyuz spacecraft. Tests will be conducted in a mockup of the Soyuz which closely resembles the actual spacecraft. During the tests the functions of the astronauts and cosmonauts will be performed by technicians wearing flight clothing to simulate as nearly as possible, actual conditions of the mission. Combinations of lights, lens openings and filters can then be tested for optimal reproduction as well as establishing the advantageous vantage points, electrical power availability and the positioning of equipment installation brackets within the spacecraft.

The Apollo Soyuz Test Project (ASTP), a test docking mission between the United States' Apollo spacecraft and the Soviet Union's Soyuz, is scheduled to take place in July 1975 and will include television coverage from both spacecraft transmitted to both countries simultaneously.

Mr. Land, a graduate of the University of Houston with a B.S. degree in Electrical Engineering, now makes his home in Houston.

-end-

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
Johnson Space Center
Houston, Texas 77058

Nancy Thornton
713/483-5111

FOR RELEASE:
June 18, 1974

RELEASE NO: 74-117

FORMER RESIDENT EDMISTON TO MOSCOW FOR ASTP LIGHTING TESTS

C. Ragan Edmiston, formerly of Ruston and Arcadia Louisiana, now employed at NASA's Johnson Space Center in Houston, will participate in a joint test project with Soviet representatives in Moscow, U.S.S.R. The two-week tests, beginning June 17, deal with TV and photo coverage of the upcoming Apollo Soyuz Test Project.

The purpose of the visit is to evaluate lighting and facilities available for television and photography in the Soyuz spacecraft. Tests will be conducted in a mockup of the Soyuz which closely resembles the actual spacecraft. During the tests the functions of the astronauts and cosmonauts will be performed by technicians wearing flight clothing to simulate as nearly as possible, actual conditions of the mission. Combinations of lights, lens openings and filters can then be tested for optimal reproduction as well as establishing the advantageous vantage points, electrical power availability and the positioning of equipment installation brackets within the spacecraft.

The Apollo Soyuz Test Project (ASTP), a test docking mission between the United States' Apollo spacecraft and the Soviet Union's Soyuz, is scheduled to take place in July 1975 and will include television coverage from both spacecraft transmitted to both countries simultaneously.

Mr. Edmiston, a graduate of the Louisiana Polytechnic Institute with a B.S. degree in Electronic Engineering, now makes his home in Houston.

-end-

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
Johnson Space Center
Houston, Texas 77058

Nancy Thornton
713/483-5111

FOR RELEASE:
June 18, 1974

RELEASE NO: 74-118

FORMER RESIDENT RAGAN TO MOSCOW FOR ASTP LIGHTING TESTS

James H. Ragan, formerly of Kingsville, Texas, now employed at NASA's Johnson Space Center in Houston, will participate in a joint test project with Soviet representatives in Moscow, U.S.S.R. The two-week tests, beginning June 17, deal with TV and photo coverage of the upcoming Apollo Soyuz Test Project.

The purpose of the visit is to evaluate lighting and facilities available for television and photography in the Soyuz spacecraft. Tests will be conducted in a mockup of the Soyuz which closely resembles the actual spacecraft. During the tests the functions of the astronauts and cosmonauts will be performed by technicians wearing flight clothing to simulate as nearly as possible, actual conditions of the mission. Combinations of lights, lens openings and filters can then be tested for optimal reproduction as well as establishing the advantageous vantage points, electrical power availability and the positioning of equipment installation brackets within the spacecraft.

The Apollo Soyuz Test Project (ASTP), a test docking mission between the United States' Apollo spacecraft and the Soviet Union's Soyuz, is scheduled to take place in July 1975 and will include television coverage from both spacecraft transmitted to both countries simultaneously.

Mr. Ragan, a graduate of the Texas College of Arts and Industries with a B.S. degree in Physics, now makes his home in Houston.

-end-

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
Johnson Space Center
Houston, Texas 77058

Nancy Thornton
713/483-5111

FOR RELEASE:
June 18, 1974

RELEASE NO: 74-119

FORMER RESIDENT DENNETT TO MOSCOW FOR ASTP LIGHTING TESTS

Armistead Dennett, formerly of Kittery, Maine, now employed at NASA's Johnson Space Center in Houston, will participate in a joint test project with Soviet representatives in Moscow, U.S.S.R. The two-week tests, beginning June 17, deal with TV and photo coverage of the upcoming Apollo Soyuz Test Project.

The purpose of the visit is to evaluate lighting and facilities available for television and photography in the Soyuz spacecraft. Tests will be conducted in a mockup of the Soyuz which closely resembles the actual spacecraft. During the tests the functions of the astronauts and cosmonauts will be performed by technicians wearing flight clothing to simulate as nearly as possible, actual conditions of the mission. Combinations of lights, lens openings and filters can then be tested for optimal reproduction as well as establishing the advantageous vantage points, electrical power availability and the positioning of equipment installation brackets within the spacecraft.

The Apollo Soyuz Test Project (ASTP), a test docking mission between the United States' Apollo spacecraft and the Soviet Union's Soyuz, is scheduled to take place in July 1975 and will include television coverage from both spacecraft transmitted to both countries simultaneously.

Mr. Dennett, a graduate of the U.S. Naval Academy with a B.S. degree in Engineering and from Purdue University with a M.S. degree in Industrial Engineering, now makes his home in Seabrook, Texas, a suburb of Houston.

-end-

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
Johnson Space Center
Houston, Texas 77058

Robert Gordon
713/483-5111

FOR RELEASE:
June 17, 1974

RELEASE NO: 74-120

747 SELECTED FOR SPACE SHUTTLE ORBITER FERRY FLIGHTS

The National Aeronautics and Space Administration plans to use a Boeing 747 to transport the Space Shuttle Orbiter and related Shuttle hardware cross country. The 747 also will be used in the planned approach and landing tests of the reusable Orbiter.

This new concept replaces earlier plans to install six airbreathing engines on the delta-winged Orbiter for flight testing and for ferry flights from the west coast to the Kennedy Space Center, Florida, launch site.

A used 747-100 type aircraft will be acquired from American Airlines. Cost of the aircraft is estimated at $16 million.

The 747 will be modified and equipped with permanent fittings permitting quick installation of an Orbiter or other Shuttle hardware atop the aircraft. Studies have also determined the feasibility of ferrying the 153-foot long liquid propellant external tank atop the 747 aircraft.

Flight profile tests will start immediately on the 747 and contine through November 1974 after which modifications will begin. Ground and flight tests of the modified 747 will commence in late 1976.

Takeoff weight complete with Orbiter and added fittings is estimated to be 775,000 pounds.

The 747 will have an estimated range of 2,320 nautical miles, sufficient for cross country transport flights carrying either the Orbiter vehicle or other Shuttle hardware.

Becoming operational in 1980, the Space Shuttle Orbiter will be launched vertically from Kennedy Space Center, Florida, on a large

-more-

expendable liquid propellant tank and two recoverable and reusable solid propellant rocket boosters. The 123-foot long Orbiter will remain in Earth orbit for designated mission durations of a week or more, reenter the atmosphere and land on a runway much like a conventional aircraft.

The initial Shuttle launch and landing site will be at the Kennedy Space Center, Florida. Later, an additional site at Vandenberg, AFB, California, will be added.

-end-

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
Johnson Space Center
Houston, Texas 77058

Jack Riley
713/483-5111

FOR RELEASE:
June 19, 1974

RELEASE NO: 74-121

ASTP CREW TO TRAIN IN U.S.S.R.

Eight astronauts will begin three weeks of training in the Soviet Union Monday, June 24, in connection with the Apollo Soyuz Test Project mission scheduled for July, 1975.

They include the prime crew, Astronauts Thomas P. Stafford, Vance D. Brand and Donald K. Slayton; the backup crew, Astronauts Alan L. Bean, Ronald E. Evans and Jack R. Lousma; and two support crewmen, Astronauts Robert F. Overmyer and Karol K. Bobko.

A ninth astronaut, Eugene A. Cernan, will take part in the first two weeks of the activities, representing the Apollo Spacecraft Program Office.

The training will be conducted at Star City, the cosmonaut training center near Moscow. It will end July 12.

In addition to continuing their studies of Soyuz spacecraft systems, the astronauts are scheduled to train in simulators and mockups with the Soviet flight crews. They also will continue planning procedures and checklists for joint operations.

U.S.S.R. cosmonauts will start a 3-week training period at the Johnson Space Center on September 9. Joint crew training is planned in each country next spring, also.

Target date for launching the earth-orbital mission is July 15, 1975. Apollo will rendezvous and dock with Soyuz and the crews will exchange visits and conduct joint experiments for up to two days. The mission is designed to test compatible rendezvous and docking systems and techniques which were developed jointly.

-end-

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
Johnson Space Center
Houston, Texas 77058

RELEASED BY NASA HEADQUARTERS & MSFC

FOR THE RECORD

FOR RELEASE:
June 27, 1974

NASA TO AWARD SRM CONTRACT TO THIOKOL

James C. Fletcher, Administrator of the National Aeronautics and Space Administration, announced today his decision to award to Thiokol Chemical Corporation a contract covering the Space Shuttle solid rocket motor development. Lockheed had protested to the General Accounting Office the making of the award to Thiokol.

In its decision of June 24, 1974, the General Accounting Office recommended that the Administrator determine whether or not reconsideration of the selection of Thiokol should be made. The GAO generally validated NASA's procedures and methodologies in conducting the evaluation of proposals.

The GAO did state, however, that the cost analysis contained an over-statement of the cost differential favoring Thiokol's proposal over that of the Lockheed Propulsion Company. This resulted from the manner in which the supply of ammonium perchlorate was evaluated. The GAO found NASA's evaluation of the Lockheed proposal otherwise to have been performed reasonably.

The NASA Administrator has advised the Comptroller General, pursuant to his request, that his decision is to proceed with Thiokol and is based on the conclusion that the initial rationale for the selection of Thiokol remains valid, even assuming, but without conceeding, the correctness of the position taken by the GAO respecting ammonium perchlorate costs.

- more -

Because further delay in the development of the solid rocket motor would cause substantial increases in the cost of the Space Shuttle program, and therefore not be in the public interest, the Administrator has directed that a contract be awarded promptly to the Thiokol Chemical Corporation.

- end -

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
Johnson Space Center
Houston, Texas 77058

RELEASED BY NASA HEADQUARTERS

FOR THE RECORD

FOR RELEASE:

June 28, 1974

LOCKHEED NAMED FOR NASA WHITE SANDS TEST FACILITY SUPPORT

Lockheed Electronics Company, Inc. (Engineering Services Division) Tuscon, Arizona has been selected by NASA for negotiations leading to the award of a contract for maintenance and operation of the White Sands Test Facility located near Las Cruces, New Mexico.

The Test Facility performs spacecraft propulsion and power systems development and certification testing; and development and certification of materials, components, and subsystems which involve hazardous or other special environments.

Proposed cost for the first year cost-plus-award-fee contract is approximately $4 million, with a firm priced option for the second year. Three additional extensions of one year each are contemplated.

Services to be performed under the contract will cover test preparation, test conduct, fabrication, instrumentation, data acquisition, data reduction, maintenance and operation of all facilities, and administrative and logistic support. All of the work will be done at the White Sands Test Facility.

Other firms submitting proposals for the work include Aeroject Electro-systems Co., Bell Aerospace Co., Bendix Corp., Boeing Aerospace Co., Collins International Services Co., Dynalectron Corp., Management and Technical Services Co., Kentron Hawaii Limited and Northrup Services, Inc.

The contract will be under the technical direction of the White Sands Test Facility, a subsidiary of Johnson Space Center, Houston, Texas.

-end-

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
Johnson Space Center
Houston, Texas 77058

Terry White
713/483-5111

FOR RELEASE:
July 8, 1974

RELEASE NO: 74-122

DELCO GETS ASTP GUIDANCE CONTRACT

The NASA Johnson Space Center has awarded Delco Electronic Division of General Motors Corporation, Goleta, California a $4,945,000 contract for primary navigation, guidance and control system support for the Apollo-Soyuz Test Project command modules.

The cost-plus-fixed-fee contract covers work to be done by Delco at their Goleta plant, at the Rockwell International Space Division plant in Downey, California, at Johnson Space Center and at Kennedy Space Center, Florida.

The Apollo-Soyuz Test Project is a joint United States-Soviet Union rendezvous and docking mission scheduled for July 1975 which uses a US Apollo command/service module and a Soviet Soyuz spacecraft.

-end-

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
Johnson Space Center
Houston, Texas 77058

Terry White
713/483-5111

FOR RELEASE:
July 9, 1974

RELEASE NO: 74-123

GE SUPPORT CONTRACT MODIFIED

The NASA Johnson Space Center has signed a supplemental agreement to the contract with General Electric Company's Space Division of Houston for extension of acceptance checkout equipment (ACE) support for the Apollo-Soyuz Test Project. The contract modification also covers other ASTP engineering support and some equipment testing for the Space Shuttle Program.

Valued at $5,793,660, the cost-plus-fixed-fee contract modification brings the total estimated value of the GE contract to $90,837,197. GE, which provided the ACE and engineering support for the Apollo and Skylab programs, will perform most of the work under the contract at their Houston facility or at Johnson Space Center.

-end-

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
Johnson Space Center
Houston, Texas 77058

Bob Gordon
713/483-5111

FOR RELEASE:
July 12, 1974

RELEASE NO: 74-124

ALSO RELEASED AT NASA HEADQUARTERS

ROCKWELL AWARDED SUPPLEMENTAL SPACE SHUTTLE CONTRACT

A supplemental agreement totaling approximately $483 million has been signed between NASA and the Space Division of Rockwell International Corporation, Downey, California for additional work and a contract extension of eleven months for the development of the Space Shuttle Orbiter and integration of all elements of the Space Shuttle system.

As prime contractor, Rockwell is responsible for the design, development and production of the Orbiter vehicle and for the integration of all elements of the Space Shuttle system.

The supplemental contract is written on a cost reimbursement basis, plus fixed and award fees. It is funded incrementally and, with the addition of the new supplemental agreement, has an estimated value, including fixed fee, of $943,248,000. The contract will now continue through June 30, 1975.

A second increment of work, the balance of design, development, test and evaluation plus delivery of two Orbiter vehicles, is included as an option to the contract and is scheduled to begin July 1, 1975.

Rockwell is to subcontract more than 50 per cent of the dollar value of the contract.

In addition to the Orbiter, major elements of the Space Shuttle include the 470,000 pound-thrust hydrogen-oxygen main engine external tank, and twin solid rocket boosters.

The Space Shuttle main engines, and the External Tank (ET) and Solid Rocket Boosters (SRB) have been procured independently of the prime contractor. The planned site for the assembly of the tanks is the government-owned Michoud Assembly Facility at New Orleans, La., where the Saturn rockets used for the

-more-

Apollo program were assembled.

Overall program management for the Shuttle within NASA has been assigned by the Office of Manned Spaceflight to the Johnson Space Center, Houston, Texas.

In addition to the project office established at JSC, NASA has assigned the development of the Space Shuttle main engine, the External Tank and the Solid Rocket Boosters to the Marshall Space Flight Center, Huntsville, Alabama.

Responsibility for launch, landing and turn-around operations has been assigned to Kennedy Space Center, Florida.

The Space Shuttle will be developed over the next several years. The complete system is to be operational in the 1980's.

Primary operational sites for the Space Shuttle will be the Kennedy Space Center in Florida and Vandenberg Air Force Base in California.

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NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
Johnson Space Center
Houston, Texas 77058

Nancy Thornton
713/483-5111

FOR RELEASE:
July 15, 1974

RELEASE NO: 74-125

FORMER RESIDENT MADISON INTERNS AT NASA

Jack Madison, formerly of Big Spring, employed at NASA's Johnson Space Center, Houston, Texas, is working in the personnel management of the Center's some 3500 Civil Service employees.

As an Aerospace Summer Intern, Madison is assigned to the Personnel Office. He was selected for the Program based on his work toward a Master of Public Administration degree from Texas Tech University.

NASA's Aerospace Summer Intern Program offers students nationwide the opportunity to work at the Space Center for ten weeks during the summer to broaden their backgrounds through a combination of academically-related work experiences and specially designed lecture/seminar series with Center personnel.

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Johnson Space Center
Houston, Texas 77058

Nancy Thornton
713/483-5111

FOR RELEASE:
July 15, 1974

RELEASE NO: 74-126

RESIDENT BOTHE INTERNS AT NASA

Davis Bothe of 1301 South Third, Watertown, employed at NASA's Johnson Space Center, Houston, Texas, is writing and running computer programs designed to test photographic hardware for future spaceflight programs.

As an Aerospace Summer Intern, Bothe is assigned to the Center's Optic Data Office. He was selected for the Program based on his work toward a Master of Science degree in Applied Mathematics from the University of Wisconsin.

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NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
Johnson Space Center
Houston, Texas 77058

Nancy Thornton
713/483-5111

FOR RELEASE:
July 15, 1974

RELEASE NO: 74-127

RESIDENT GIBSON INTERNS AT NASA

Peggy Gibson of 722 Holly Street, Biloxi, employed at NASA's Johnson Space Center, Houston, Texas, is currently making cost analysis studies of the Lunar Module Program. The Lunar Module, part of the Apollo spacecraft system, carried the astronauts to the moon's surface during Apollo missions.

As an Aerospace Summer Intern, Ms. Gibson is assigned to the Program Support Division. She was selected for the Program based on her completion of a Bachelor of Science degree in Mathematics from Xavier University.

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NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
Johnson Space Center
Houston, Texas 77058

Nancy Thornton
713/483-5111

FOR RELEASE:
July 15, 1974

RELEASE NO: 74-128

RESIDENT SIMMONS INTERNS AT NASA

Darrell Simmons of Palestine, Texas, employed at NASA's Johnson Space Center, Houston, Texas, is currently studying financial relationships between NASA and the contractors which support the space program.

As an Aerospace Summer Intern, Simmons is assigned to the Program Support Division. He was selected for this Program based on his completion of a Bachelor in Business Administration degree from Prairie View A&M University. He will begin his studies toward a Master of Public Administration degree from the University of Texas this fall.

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NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
Johnson Space Center
Houston, Texas 77058

Nancy Thornton
713-483-5111

FOR RELEASE:
July 15, 1974

RELEASE NO: 74-129

RESIDENT GREEN INTERNS AT NASA

Barbara Green of 57 Diamond Street, Norco, employed at NASA's Johnson Space Center, Houston, Texas, is currently writing a report and making recommendations about the closing of contracts with different NASA contractors.

As an Aerospace Summer Intern, Ms. Green is assigned to the Center's Program Procurement Division. She was selected for the Program based on her completion of a Bachelor's degree in Accounting from Xavier University.

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NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
Johnson Space Center
Houston, Texas 77058

Nancy Thornton
713/483-5111

FOR RELEASE:
July 8, 1974

RELEASE NO: 74-130

RESIDENT LEMIEUX INTERNS AT NASA

Adam Lemieux of Bacherie, Louisiana, employed at NASA's Johnson Space Center, Houston, Texas, is using management analysis techniques in working with various procurement projects for the Space Center.

Lemieux, an Aerospace Summer Intern, is assigned to the Center's Staff of the Director of Procurement. He was selected for the Program based on his work toward a Bachelor of Science degree in Mathematics from Xavier University.

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NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
Johnson Space Center
Houston, Texas 77058

Nancy Thornton
713/483-5111

FOR RELEASE:
July 15, 1974

RELEASE NO: 74-131

RESIDENT JOHNSON INTERNS AT NASA

David Johnson, of 1610 Santa Cecelia Street, Kingsville, employed at NASA's Johnson Space Center, Houston is currently working as an Assistant Procurement Analyst.

As an Aerospace Summer Intern, Johnson was selected for the Program based on his completion of a Bachelor of Science degree in Mathematics from the Texas College of Arts and Industries. He will begin his studies for a Master's degree at Texas A&I this fall.

NASA's Aerospace Summer Intern Program offers students nationwide the opportunity to work at the Space Center for ten weeks during the summer to broaden their backgrounds through a combination of academically-related work experiences and specially designed lecture/seminar series with Space Center personnel.

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NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
Johnson Space Center
Houston, Texas 77058

Nancy Thornton
713/483-5111

FOR RELEASE:
July 15, 1974

RELEASE NO: 74-132

RESIDENT MINOR INTERNS AT NASA

Willie Minor of Anderson, employed at NASA's Johnson Space Center, Houston, is administering the Space Center's Aerospace Summer Intern Program for some 26 interns from all over the United States.

An Intern himself, Minor is assigned to the Personnel Office. He was selected for the Program based on his academic performance. He will begin studies toward a Doctor of Business Education degree at Arizona State University this fall.

NASA's Aerospace Summer Intern Program offers students nationwide the opportunity to work at the Space Center for ten weeks during the summer to broaden their backgrounds through a combination of academically-related work experiences and specially designed lecture/seminar series with Space Center personnel.

-end-

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
Johnson Space Center
Houston, Texas 77058

Nancy Thornton
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FOR RELEASE:
July 15, 1974

RELEASE NO: 74-133

RESIDENT JOHNSON INTERNS AT NASA

Edcar E. Johnson, Jr., of 4408 St. Goar Street, Dickinson, employed at NASA's Johnson Space Center, is working with the Center's Co-Op Student Program. This Program is designed to enable University students to spend three years alternately working a semester in a job related to their academic interest, then to spend a semester on campus with course work. At graduation they have earned not only a college degree but considerable work experience and improved employment opportunities.

As an Aerospace Summer Intern, Johnson is assigned to the Personnel Office. He was selected for the Program based on his work toward a Master's degree in Personnel Administration from Texas A&M University.

NASA's Aerospace Summer Intern Program offers students nationwide the opportunity to work at the Space Center for ten weeks during the summer to broaden their backgrounds through a combination of academically-related work experiences and specially designed lecture/seminar series with Center personnel.

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NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
Johnson Space Center
Houston, Texas 77058

Nancy Thornton
713/483-5111

FOR RELEASE:
July 15, 1974

RELEASE NO: 74-134

FORMER RESIDENT MUELLER INTERNS AT NASA

Alan Mueller, formerly of Lubbock, employed at NASA's Johnson Space Center, Houston, is working with orbital mechanics for future manned spacecraft flights.

As an Aerospace Summer Intern, Mueller is assigned to the Center's Advanced Mission Design Branch. He was selected for the Program based on his work on a Bachelor of Aerospace Engineering at the University of Texas.

NASA's Aerospace Summer Intern Program offers students nationwide the opportunity to work at the Space Center for ten weeks during the summer to broaden their backgrounds through a combination of academically-related work experiences and specially designed lecture/seminar series with Space Center personnel.

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NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
Johnson Space Center
Houston, Texas 77058

Nancy Thornton
713/483-5111

FOR RELEASE:
July 15, 1974

RELEASE NO: 74-135

THREE AREA RESIDENTS INTERN AT NASA

Barbara Davis, 3225 Cherry; Gwendolyn Tate, 619 South Miro, and Byron Wing, 8510 Spruce, are employed as Aerospace Summer Interns at NASA's Johnson Space Center, Houston, Texas.

Miss Davis works with the Institutional Management Accounting System for the Space Center. She was selected for the Program based on her work toward a Bachelor's degree in Accounting from Dillard University.

Miss Tate is a Technical Editor for the Center's various publications. She recently completed a Bachelor of Arts degree in English and Education from Xavier University.

Wing assists in the initiation and close-out of contracts made by NASA with their contractors. He graduated from Xavier University with a Bachelor of Science degree in Physics.

NASA's Aerospace Summer Intern Program offers students nationwide the opportunity to work at the Space Center for ten weeks during the summer to broaden their backgrounds through a combination of academically-related work experiences and specially designed lecture/seminar series with Center personnel.

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NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
Johnson Space Center
Houston, Texas 77058

Charles Redmond
713/483-5111

FOR RELEASE:
July 15, 1974

RELEASE NO: 74-136

RESIDENT THORNTON INTERNS AT NASA

Nancy W. Thornton of 818 Marine Street, Boulder, employed at NASA's Johnson Space Center, Houston, Texas, is working in the Center's Public Information Section.

As an Aerospace Summer Intern, Ms. Thornton is assigned to the Public Affairs Office. She was selected for the Program based on her work toward a Master of Public Administration degree from the University of Colorado.

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NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
Johnson Space Center
Houston, Texas 77058

Nancy Thornton
713/483-5111

FOR RELEASE:
July 15, 1974

RELEASE NO: 74-137

RESIDENT PERKO INTERNS AT NASA

Jon Perko of 2192 Edgerton Road, University Heights, employed at NASA's Johnson Space Center, Houston, Texas, is working on an experimental project involving a balloon-borne astronomic telescope.

As an Aerospace Summer Intern, Perko is assigned to the Space Center's Earth and Planetary Sciences Division. He was selected for this Program based on his work toward a Master's degree in Atmospheric Science from Ohio State University.

NASA's Aerospace Summer Intern Program offers students nationwide the opportunity to work at the Space Center for ten weeks during the summer to broaden their backgrounds through a combination of academically-related work experiences and specially designed lecture/seminar series with Center personnel.

-end-

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Johnson Space Center
Houston, Texas 77058

Nancy Thornton
713-5111

FOR RELEASE:
July 15, 1974

RELEASE NO: 74-138

THREE AREA RESIDENTS INTERN AT NASA

Hays Jenkins, 7500 Plum Creek; Attis L. Baker, 2111 Holly Hall, and Mark Richards, 6439 Burgoyne, are employed as Aerospace Summer Interns at NASA's Johnson Space Center.

Jenkins, working on legal research of court cases involving inventions and patents of NASA employees, was selected for the Program based on his work toward a Doctor of Jurisprudence degree from Texas Southern University.

Ms Baker is reviewing and updating statistical information for the Space Center's Equal Employment Opportunity Office. She is a recent graduate of Prairie View A&M University with a Bachelor of Arts degree in Business Administration.

Richards currently is observing the Center's Quality Assurance operations. One area of Quality Assurance is maintaining the required standards for space flight hardware. He just completed a Bachelor of Electrical Engineering degree from Georgia Institute of Technology.

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NASA's Aerospace Summer Intern Program offers students nationwide the opportunity to work at the Space Center for ten weeks during the summer to broaden their backgrounds through a combination of academically-related work experiences and specially designed lecture/seminar series with Space Center personnel.

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NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
Johnson Space Center
Houston, Texas 77058

Nancy Thornton
713-483-5111

FOR RELEASE:
July 15, 1974

RELEASE NO: 74-139

TWO AREA RESIDENTS INTERN AT NASA

Hays Jenkins of 7500 Plum Creek Drive and Attis L. Baker, of 2111 Holly Hall are employed as Aerospace Summer Interns at NASA's Johnson Space Center.

Jenkins is working on legal research of court cases involving inventions and patents of NASA employees. He was selected for the Program based on his work toward a Doctor of Jurisprudence degree from Texas Southern University.

Ms. Baker is reviewing and updating statistical information for the Space Center's Equal Employment Opportunity Office. She is a recent graduate of Prairie View A&M University with a Bachelor of Arts degree in Business Administration.

NASA's Aerospace Summer Intern Program offers students nationwide the opportunity to work at the Space Center for ten weeks during the summer to broaden their backgrounds through a combination of academically-related work experiences and specially designed lecture/seminar series with Space Center personnel.

-end-

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Johnson Space Center
Houston, Texas 77058

Nancy Thornton
713/483-5111

FOR RELEASE:
July 15, 1974

RELEASE NO: 74-140

RESIDENT SPEAKE INTERNS AT NASA

Theresa Speake of 11555 Grove Street, Seminole, employed at NASA's Johnson Space Center, Houston, Texas, is adapting a computer program which will test under laboratory conditions components of the Space Shuttle, NASA's new and reuseable space vehicle for Earth orbital flight.

As an Aerospace Summer Intern, Ms. Speake is assigned to the Center's Avionic's Systems Engineering Division. She was selected for the Program based on her work toward a Master of Science degree in Electrical Engineering from Stanford University.

NASA's Aerospace Summer Intern Program offers students nationwide the opportunity to work at the Space Center for ten weeks during the summer to broaden their backgrounds through a combination of academically-related work experiences and specially designed lecture/seminar series with Space Center personnel.

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Johnson Space Center
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Nancy Thornton
713/483-5111

FOR RELEASE:
July 15, 1974

RELEASE NO: 74-141

FORMER RESIDENT COLLINS INTERNS AT NASA

George C. Collins, son of Mr. and Mrs. H. W. Collins of 3120 Rosedale Drive, Port Arthur, is employed at NASA's Johnson Space Center, Houston, where he is working on an experimental space communications project.

As an Aerospace Summer Intern, Collins is assigned to the Space Center's Communications, Power and Data Systems Branch. He was selected for the Program based on his work toward a Doctorate degree in Electrical Engineering from Rice University.

NASA's Aerospace Summer Intern Program offers students nationwide the opportunity to work at the Space Center for ten weeks during the summer to broaden their backgrounds through a combination of academically-related work experiences and specially designed lecture/seminar series with Space Center personnel.

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NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
Johnson Space Center
Houston, Texas 77058

Nancy Thornton
713/483-5111

FOR RELEASE:
July 15, 1974

RELEASE NO: 74-142

RESIDENT YEARY INTERNS AT NASA

David Yeary of 1500 Fort Sumter Court, Lexington, employed at NASA's Johnson Space Center, Houston, Texas, is making land subsidence studies of the Space Center complex. The sinking of the Center as well as the East Texas' Gulf coast area may cause serious flooding problems in this hurricane-prone portion of the country.

As an Aerospace Summer Intern, Yeary is assigned to the Center's Facilities Planning Branch. He was selected for the Program based on his work toward a Master of Public Administration degree from the University of Colorado and a Bachelor of Science degree in Mechanical Engineering from the University of Kentucky.

NASA's Aerospace Summer Intern Program offers students nationwide the opportunity to work at the Space Center for ten weeks during the summer to broaden their backgrounds through a combination of academically-related work experiences and specially designed lecture/seminar series with Space Center personnel.

-end-

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
Johnson Space Center
Houston, Texas 77058

Nancy Thornton
713/483-5111

FOR RELEASE:
July 15, 1974

RELEASE NO: 74-143

RESIDENT GOODMAN INTERNS AT NASA

Bruce D. Goodman of 3412 Oak Ridge Road, Minnetonka, Minnesota, employed at NASA's Johnson Space Center, Houston, Texas, is working on Inventory Management, the purchase, storage and distribution of the Center's required supplies.

As an Aerospace Summer Intern, Goodman is assigned to the Logistics Division. He was selected for the Program based on his work toward a Master of Public Administration from the University of Colorado.

NASA's Aerospace Summer Intern Program offers students nationwide the opportunity to work at the Space Center for ten weeks during the summer to broaden their backgrounds through a combination of academically-related work experiences and specially designed lecture/seminar series with Center Personnel.

-end-

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
Johnson Space Center
Houston, Texas 77058

Nancy Thornton
713/483-5111

FOR RELEASE:
July 15, 1974

RELEASE NO: 74-144

RESIDENT LEAKE INTERNS AT NASA

Robert Leake of 2384 S. Yarrow Way, Lakewood, Colorado, employed at NASA's Johnson Space Center, Houston, Texas, is working on computer systems analysis for the Space Shuttle, NASA's new and reuseable space vehicle for Earth orbital flight.

As an Aerospace Summer Intern, Leake is assigned to the Center's Space Shuttle's Schedules Integration Office. Leake was selected for this Program based on his work toward a Master of Public Administration degree from the University of Colorado.

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NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
Johnson Space Center
Houston, Texas 77058

Nancy Thornton
713/483-5111

FOR RELEASE:
July 15, 1974

RELEASE NO: 74-145

RESIDENT KENT INTERNS AT NASA

Thomas A. Kent of Jasper, employed at NASA's Johnson Space Center, Houston, Texas, is studying quantitative aspects of space photography taken on Skylab manned missions and from the Earth Resources Technology Satellite (ERTS).

As an Aerospace Summer Intern, Kent is assigned to the Center's Photographic Sciences Office. He was selected for the Program based on his completion of a Bachelor of Science degree in Physics from the University of Houston. He will begin a Master's program in Physics at Pennsylvania State University this fall.

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NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
Johnson Space Center
Houston, Texas 77058

Terry White
713/483-5111

FOR RELEASE:
July 12, 1974

RELEASE NO: 74-146

JSC OBSERVES FIFTH ANNIVERSARY OF FIRST LUNAR LANDING

A week-long special open house program will mark Johnson Space Center's observance of the fifth anniversary of the first manned lunar landing. July 20 is the anniversary of the day Neil Armstrong and Edwin "Buzz" Aldrin landed the lunar module Eagle at Tranquility Base on the moon to become the first humans to set foot on another celestial body.

The Center's regular open house program will be augmented by a re-creation of sights and sounds in Mission Control Center of the Apollo 11 first lunar landing---from President John F. Kennedy's speech setting a manned lunar landing as the goal of the decade, to on-board film from Eagle's descent and touchdown at Tranquility Base accompanied by replay of air-to-ground radio transmissions.

Starting Monday, July 15, the Apollo 11 Mission Control Center program will be repeated each half hour between 9 am and 4 pm through Saturday, July 20--the fifth anniversary of the first landing. Visitors may pick up free tickets to the Control Center program at the visitor reception area in the Auditorium-Exhibit Hall.

-end-

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
Johnson Space Center
Houston, Texas 77058

Nancy Thornton
713/483-5111

FOR RELEASE:
July 15, 1974

RELEASE NO: 74-147

RESIDENT DOUCET INTERNS AT NASA

Robert Doucet of 13 Leany Street, Gardner, employed at NASA's Johnson Space Center, Houston, Texas, is working on guidance systems for the Space Shuttle, NASA's new and reuseable space vehicle for Earth orbital flight.

As an Aerospace Summer Intern, Doucet is assigned to the Space Center's Guidance Dynamics Branch. He was selected for this Program based on his work toward a Doctorate degree in Aerospace Engineering from the University of Texas.

NASA's Aerospace Summer Intern Program offers students nationwide the opportunity to work at the Space Center for ten weeks during the summer to broaden their backgrounds through a combination of academically-related work experiences and specially designed lecture/seminar series with Center personnel.

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NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
Johnson Space Center
Houston, Texas 77058

Charles Redmond
713/483-5111

FOR RELEASE:
September 9, 1974

RELEASE NO: 74-148

ALSO RELEASED AT NASA HEADQUARTERS

APOLLO/SOYUZ CREWS TO OBSERVE, PHOTOGRAPH EARTH FEATURES

Earth observations will be a major part of the work of the American astronauts on the joint United States-Soviet Union space mission scheduled for July, 1975.

The Apollo Soyuz Test Project (ASTP) is a joint endeavor by the two countries as part of the agreement on cooperation in space signed in Moscow in May 1972.

As on the Apollo and Skylab missions, the American astronauts will take pictures and record their comments about the Earth as they observe features ranging from weather phenomena to volcanoes during the 10-day ASTP mission.

They will use Hasselblad 70mm cameras and voice recorders, with visual observations complementing the photographs.

The human eye's ability to distinguish dimly as well as brightly lit objects, its extreme color sensitivity and the observer's vantage point in space will permit a better understanding of physical phenomena.

Types of features being considered for study on the ASTP mission include:

Studies of major active strike-slip fault zones in both eastern and western hemispheres and identification of extensions of fault systems by studying vegetation or drainage patterns.

Studies of closed-basin water circulation and shore lines as well as snow cover studies to be used later in conjunction with photographs taken of the Himalayas and hydrological studies of photographs taken over Indian Plains and land areas inundated by rivers.

Studies of ocean upwellings and their hydrological and biological effects and of major trends of the ocean currents.

Visual observations of tropical weather problems such as frontal waves, tornadoes, storm centers and localized atmospheric circulations.

Principal investigator for the experiment is Dr. F. El-Baz of the Center for Earth and Planetary Studies at the Smithsonian Institution in Washington, D. C.

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
Johnson Space Center
Houston, Texas 77058

Charles Redmond
713/483-4341

FOR RELEASE:
July 22, 1974

RELEASE NO: 74-149

ASTP EXPERIMENT MA-083 EXTREME ULTRAVIOLET TELESCOPE

A pioneering survey of stellar extreme ultraviolet sources will be one of the scientific experiments to be flown during the joint US-USSR Apollo-Soyuz mission in July, 1975.

Many celestial X-ray sources have been discovered and much progress made toward a theoretical understanding of their behavior. However, one important portion of the high-energy spectrum has been neglected by astronomers -- the extreme UV range roughly between 50 and 500 angstroms. An early interpretation of the complex nature of the interstellar gas led to false conclusions that absorption by neutral hydrogen atoms would prevent extreme UV radiation from traveling sufficiently far through the interstellar space to be of much astronomical use.

More recent data suggest that the interstellar gas is distributed unevenly in space, so as to permit extreme UV observations to substantial distances in certain directions.

There are many kinds of stellar objects whose calculated and observed behavior suggest that they might be extreme UV sources. Among those are certain bright stars, planetary nebulae, red giants, sub-giants, dwarfs, pulsating white dwarfs, and contact binary systems.

Prior to this experiment there has been no systematic survey of such objects in the extreme UV spectrum. This will be the first attempt to perform an extensive sky survey in this wavelength region.

The telescope which will perform the survey consists of several c oncentric "grazing incidence" mirrors which direct radiation to an electronic detector. The telescope is fixed rigidly to the Apollo spacecraft structure, so pointing at targets will be done by changing the attitude of the entire spacecraft.

Principal Investigator for this experiment is Professor C. S. Bowyer of the Space Science Laboratory at the University of California at Berkeley. Co-Investigator is Dr. M. Lampton of the same laboratory.

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
Johnson Space Center
Houston, Texas 77058

Charles Redmond
713/483-4341

FOR RELEASE:

July 22, 1974

RELEASE NO: 74-150

ASTP EXPERIMENT MA-048 X-RAY OBSERVATION

One of the astronomy experiments to be performed aboard the Apollo spacecraft during the joint US-USSR Apollo-Soyuz mission in July 1975, is a celestial mapping project designed to provide high-resolution maps of sources and background radiation in the soft X-ray region of the spectrum.

During Skylab 3, X-ray sources in the 1-10 Kev range were mapped using proportional counting equipment. The object of this ASTP experiment is to map X-ray sources in the .1 to 10 Kev range. Kev represents one-thousand electron volts and is a unit of energy.

The first astronomical X-rays were discovered in 1962, using Geiger counters and later the more efficient proportional counters. To date, about 160 sources have been observed in the 2-20 Kev energy range. This energy range corresponds to a wavelength range of about 6 to .5 angstroms, extremely short wavelengths.

In 1967 several scientists began making observations in a lower energy band below 2 Kev. Several important results were produced from these soft X-ray observations. First, a diffuse glow of X-ray was observed to be present in all directions of the galaxy. The flux appears to be maximum toward the poles of the Milky Way galaxy. The second result was the detection of X-ray sources which emit only at energies below 2 Kev. There are currently about 10 of these sources known. Most appear to be associated with old supernova remnants and probably indicate the presence of hot gas plasmas produced by the shock waves from the original exploding stars.

X-rays have also been observed in the Earth's auroral regions.

The ASTP experiment aims at mapping the soft X-ray sources using a high angular resolution proportional counter. Thus, this experiment will complement the observations of the Uhuru satellite in a different energy range and will provide high resolution observations for sources which emit only in the low energy X-ray range.

Principal Investigator for the experiment is Dr. Herbert Friedman of the Naval Research Laboratory in Washington, D.C. Co-Investigator is Dr. Seth Shulman, also of the NRL.

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
Johnson Space Center
Houston, Texas 77058

Charles Redmond
713/483-4341

FOR RELEASE:

July 22, 1974

RELEASE NO: 74-151

ASTP EXPERIMENT MA-106 LIGHT FLASH

The Light Flash experiment slated for the July 1975, joint US-USSR Apollo-Soyuz mission should furnish scientists with additional information concerning the energy and number of ionized particles that may be experienced on long-term space flights.

It was originally thought that the radiation dose from interaction of cosmic particles with space travelers was of little importance because the dose over the entire body from protons and heavier particles is only a fraction of a rad for anticipated space expeditions. Recent studies, however, indicate that the energy deposited from a single particle passing through or near a cell nucleus might be sufficient to kill the cell.

The discrete star-like flashes and streaks, observed in some cases as often as two per minute by Apollo and Skylab astronauts, may be due to ionized particles from galactic cosmic rays interacting with the retina of the eye.

Experiments using cyclotron and Bevatron high energy accelerators at the University of California at Berkeley have produced similar phenomena in human subjects.

It has been proposed that high energy ionizing particles may offer a potential hazard for long-term space flight as emphasized by the estimate that on a 3-year flight, as much as 10 percent of the body cells may be affected by atomic nuclei of carbon, nitrogen, oxygen and heavier elements.

The light flash experiment will use a light-tight mask to eliminate direct stimulation of the subject's retina. Subjects will spend a 110 minute dark period wearing the masks, the first 20 minutes being for dark

adaption and the remainder for observing the light flashes. In conjunction with the visual detection of flashes, particle detectors will be used to measure the actual flux of heavy particles near the astronaut's eyes. In this way the likelihood of interaction of heavy particles with body cells can be measured.

The experiment will also measure the frequency and character of flashes during orbital passes through the South Atlantic Anomaly where the concentration of charged particles is at a maximum in the orbital path. This is an area where the earth's radiation belts dip lower than usual towards the surface of the planet.

Principal Investigator for this experiment is Dr. Thomas Budinger of the Lawrence Radiation Laboratory at the University of California.

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
Johnson Space Center
Houston, Texas 77058

Charles Redmond
713/483-4341

FOR RELEASE:

July 22, 1974

RELEASE NO: 74-152

ASTP EXPERIMENT MA-147 ZONE FORMING FUNGI

The effect of space environment on fungus is one of the Life Sciences experiments to be performed during the joint US-USSR Apollo-Soyuz mission in July, 1975. This is one of several joint US-USSR experiments to be performed on the ASTP mission.

The ASTP flight offers an opportunity to study the effect of special space-flight factors on this type of life-form. The experiment will provide information on the circadian rhythm changes of the fungi due to space flight and will also obtain data on the effects of local radiation factors on the fungi.

The fungus to be used is the Puschino strain of a group of fungi called Globisporus. By using the correct nutritional medium and the proper period of light-dark conditions, any desired zone forming rhythm may be imposed on the fungus. These conditions will be used to control the growth and zone-forming characteristics of the fungus and the space environment and circadian rhythms will then be the uncontrolled characteristics.

Each spacecraft will be launched with Petri dishes containing the fungus. On each vehicle there will be two of these dishes and during the first exchange between the crews one dish from the Soyuz and Apollo will be traded.

The circadian rhythms of the Apollo and Soyuz specimens will have been synchronized on Earth to correspond to a one-half day phase shift for each of the specimens. By this method circadian rhythm changes can be later observed as each investigator, the Soviets and the Americans, will then have one Petri dish which was launched from his country and one which was launched from halfway

around the world.

In addition to comparing the space flown specimens with ground-based, control specimens, selected spores from the returned space-flown fungi will be grown. The zone-forming characteristics of the second generation fungi will then be compared to a second generation of the control specimens.

Principal Investigator for this experiment is Dr. Gerry Taylor of the Johnson Space Center, Houston, Texas. Co-Investigator is Dr. R. G. Akoyev of the Soviet Union.

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
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FOR RELEASE:

July 22, 1974

RELEASE NO: 74-153

ASTP EXPERIMENT MA-088 Helium Glow Detector

Among the three astronomy experiments to be flown aboard the Apollo spacecraft during the joint US-USSR Apollo-Soyuz mission in July, 1975, is the helium glow experiment designed to investigate the interstellar medium in the vicinity of the solar system.

Interstellar gas, which includes helium, is the medium from which celestial objects form and into which many of them dissipate their constituent elements when they expire. It is also the medium through which the radiations from which we study these objects, travel. Because this gas is tenuous and because it is sometimes difficult to distinguish radiations emitted by the gas from radiations emitted from other celestial objects, it has been difficult to establish the basic physical parameters of the interstellar medium.

The helium glow experiment will attempt to establish these basic parameters. Sunlight which is reflected back toward the Earth from the interstellar helium can be used to measure the temperature, density and velocity of the helium. The situation is similar to looking at dense fog by the light scattered by a car's headlights.

The resonant wavelength of neutral helium is 584 angstroms and that of singly-ionized helium is 304 angstroms. These wavelengths of ultraviolet light from the Sun will be scattered by these two states of helium whenever they are present. The helium glow detector will then observe this scattered sunlight from as many directions in the sky as possible.

A neutral helium filter placed in front of the detector will eliminate confusion between interstellar helium and helium present in the Earth's upper atmosphere.

Principal Investigator for the experiment is Professor C. S. Bowyer of the Space Science Laboratory at the University of California At Berkeley. Prof. Bowyer is also the P-I on a related experiment which uses an extreme UV (ultraviolet) telescope and which will survey the sky looking for extreme UV stellar sources.

Co-Investigator for the experiment is Dr. F. Paresce of the same laboratory.

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FOR RELEASE:

July 22, 1974

RELEASE NO: 74-154

ASTP EXPERIMENT MA - 148 ARTIFICIAL SOLAR ECLIPSE

The atmosphere of the Sun is much fainter than the surface of the Sun. In order to see or photograph this atmosphere (the solar corona), one must find some means of preventing the light from the surface of the Sun from coming into view. One of the joint experiments to be performed during the US-USSR Apollo-Soyuz Test Project in July, 1975, involves the use of the Apollo spacecraft as an occulting device to produce an artificial eclipse of the solar surface as seen from the Soyuz spacecraft.

Space photography of the extended solar corona may then be performed from the Soyuz. In addition to corona photography, the experiment will also allow pictures to be taken of the spacecraft-associated environment around the Apollo vehicle, which may develop from outgassing of sealed compartments, degassing and sublimation of outer structural materials of the spacecraft, and firings of the attitude control thrusters.

The experiment will operate as follows: The Apollo will align the Soyuz toward the Sun. Shortly after spacecraft sunrise, the Apollo will undock from the Soyuz and back away, toward the Sun. As the distance between the two spacecraft increases, the apparent size of the Apollo as seen from the Soviet ship will decrease, thus exposing more of the solar corona to the field of view of the Soyuz-mounted motion picture camera. During the separation this camera will automatically take sequences of photographs with varying exposures. An attempt will be made to correlate the observed coronal structure with sun's surface activity, which will be observed simultaneously with ground-based instruments.

This experiment provides an opportunity to investigate the Sun's corona in 1975, about one year following the last detailed look outside the Earth's atmosphere -- which occured on Skylab.

Principal Investigator for this experiment is Dr. G.M. Nikolsky of the USSR. The American Co-Investigator is Dr. R.T. Giuli of the Johnson Space Center, Houston, Texas. Dr. Giuli is also the Program Scientist for the other experiments to be performed jointly with the USSR or unilaterally by the United States.

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FOR RELEASE:
July 22, 1974

RELEASE NO: 74-155

ASTP EXPERIMENT AR-002 MICROBIAL EXCHANGE

Significant postflight microbial alterations have been observed in samples obtained from astronauts and command modules following previous flights. Supporting ground studies have indicated that such alterations may result in potentially harmful microbial imbalances in the crew members.

In addition to American studies, Soviet studies have also indicated microbial changes in cosmonauts which appear to have been influenced by space flight parameters. Soviet space dogs have demonstrated intestinal bacilli in their oral cavities after only two days in space. This was interpreted by the Soviet experts as a result of spaceflight decrease in the dogs' immune mechanism.

Microbial samples were also taken on the three Skylab missions; however, results from these experiments have yet to be determined.

One of the Life Sciences experiments slated for the joint US-USSR Apollo-Soyuz missionin July, 1975, is the Microbial Exchange experiment. This is one of several joint experiments planned for the ASTP mission. The Apollo-Soyuz combination offers a unique opportunity to conduct microbiological studies with 5 crewmen and 2 spacecraft from different geographical locations.

This medical experiment is designed to qualitatively and quantitatively measure the microbe activity of the crew members in both spacecraft. The experiment will involve taking microbe samples from the bodies of the crewmembers and from 15 different areas in each spacecraft. Samples from the neck and head regions and hands of the cosmonauts and astronauts will be taken using swabs. The samples will be kept in sealed containers until return to earth on Soyuz.

In addition to samples taken during the flight, samples will also be taken from each individual during the 60-day pre-launch period and for 30 days following landing.

Principal Investigator for this experiment is Dr. Gerry Taylor of the Johnson Space Center, Houston, Texas. Co-Investigator is Dr. S. N. Zaloguyev of the Soviet Union.

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FOR RELEASE:

July 22, 1974

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ASTP EXPERIMENT MA-107 BIOSTACK

One of the Life Sciences experiments to be flown on the July, 1975, joint US-USSR Apollo-Soyuz mission has possible implications for the health of future space travelers. The experiment, the Biostack, will investigate the biological effects of cosmic radiation on selected biologically alive materials.

The Biostack containers, some with biological matter and a passive dosimeter, and others with the same biological matter and active radiation counters, will be placed in an area of the Apollo Command Module where there is minimum shielding from cosmic rays.

The flux of very heavy particles and high energy heavy particles in space is quite small. Nevertheless, during long space missions the total number of these particles to which a traveller may be exposed can become large. The response of a biological system to an incident particle depends on the function the hit (damaged) region has for the integrity of the biological system. In some situations a single particle can produce significant damage to a biological system, if, say, a cell nucleus is hit.

The test materials in the biostacks will be examined and evaluated for response changes and compared to the tracks of heavy nuclei particles as detected by the dosimeters. Additional information concerning the biological effects of high energy heavy ions and very heavy ions, not observable with detectors here on Earth, will also be evaluated.

Combined effects to the biostack of space travel, including weightlessness, will be compared to results obtained on balloon experiments and on earth-based experiments using accelerators on similar biostacks.

Principal Investigator for this experiment is Dr. Horst Bucker of the University of Frankfurt, Germany.

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FOR RELEASE:

July 22, 1974

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ASTP EXPERIMENT MA-028 CRYSTAL GROWTH IN ZERO GRAVITY

On Earth it is often difficult to grow large, defect-free crystals of sufficient size for industrial application. Such crystals play an important part in our semiconductor electronics technology but here on Earth their production has limited success and requires time consuming and expensive processes. Since most crystals are usually only slightly soluble in water or other convenient solvents, they cannot be grown from solutions by ordinary low-temperature methods. High temperature melting, solution or vapor growth methods are complicated by a number of undersirable effects, including phase transformations in the crystals themselves, volatility of one or more of the component elements, thermally and mechanically induced strain on the crystal, and the increased severity of contamination problems. These complications result in dislocations, grain boundaries and symmetry problems in the crystals grown by these methods.

Superior crystals have been grown at low temperatures in normal gravity by using gelatin methods. However, these crystals have, for the most part, been too small for commercial applications.

In the gelatin methods, it is believed that the principal function of the gel is the suppression of mixing and support of the growing crystal. In zero gravity it is hypothesized that the gel can be replaced with a region of pure water and still result in growth of superior crystals of certain compounds. Pure water as a growth medium would allow more rapid diffusion and completely eliminate any mechanical constraint of the growing crystal.

One of the materials processing experiments slated for the joint US-USSR Apollo-Soyuz mission in July, 1975, is a crystal growth experiment designed to determine if large-size crystals can be grown in zero gravity environment by

the diffusion of reactants through pure water. The use of a zero-g environment for this growth is one of the significant early results of the recently completed Skylab missions.

The proposed zero-g method, like the Earth-bound gelatin methods, is a low temperature method and therefore minimizes problems inherrent in the higher temperature processes.

The experiment consists of six transparent reactors, each of which contains three compartments. The outer two compartments will contain different salt solutions which, when mixed, form an insoluble compound -- the compound which will grow into a crystal. The center compartment contains pure water and, depending on the crystal to be grown, possibly a small seed crystal. During the experiment, the outer compartments will be opened to allow the salt solutions to diffuse toward each other and mix in the center compartment.

Compounds to be grown include the following: PbS, $CaCO_3$, $CaC_4H_4O_6$-H_2O, AgI, PbI_2, CdS and HgS. The crew of the Apollo will record their observations of the growth phase.

This experiment may demonstrate the technological and economic feasibility of commercial production of superior crystals in the zero-g environment of space.

Principal Investigator for this experiment is Dr. M.D. Lind of Rockwell International's Space Center in California.

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FOR RELEASE:
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ASTP EXPERIMENT MA-089 DOPPLER TRACKING

In recent years great interest has focused on consideration of mass density anomalies in the Earth's outermost layers. These concentrations of matter range in size from hundreds to thousands of kilometers in the horizontal direction and perhaps hundreds of kilometers in depth. Study of such anomalies is expected to contribute to the knowledge of the physics of the Earth's mantle and of plate tectonics. This study, in turn, is expected to be helpful in reconstructing important aspects of the Earth's evolution including continental drift.

The detailed structure of the Earth near the surface has been studied for many years by surface gravimetry techniques, but these have proved adequate only for studies of anomalies up to tens of kilometers in size due to difficulties in performing consistent measurements with instrumentation deployed over large areas. Anomalies larger than approximately 2,000 km have also been studied over the past several years by measurement of the perturbations in the orbits of individual satellites. This method is useful only for large-scale anomalies because the perturbations must be extracted from data intergrated over sizeable portions of the artificial satellite's orbits.

The Doppler Tracking experiment planned for the joint US-USSR Apollo-Soyuz mission in July, 1975, will be used to determine mass density anomalies ranging in size from about 200 to about 700 km. Thus, this experiment is designed to bridge the gap between the small (less than 100km) scale and the larger (greater than 1,000 km) scale.

The Doppler Tracking experiment will be performed after the joint phase of the ASTP mission has been completed. The Apollo Docking Module will be separated

from the Command/Service Module to a distance of approximately 500 km, and radio techniques will be used to measure the relative motions between them. The object is to detect the small relative motions which arise each time one of the vehicles crosses the boundary of a gravitational field anomaly caused by a mass concentration in the Earth below.

Measurement of gravitational field anomalies cannot uniquely determine the mass distribution anomalies in the Earth's uppermost layers, but measurements of this type will be useful in setting constraints on the distributions of mass which, when incorporated into global models, can present a consistent picture of the Earth's upper layers.

A useful by-product of this experiment will be the determination of vertical ionospheric profiles. These will be obtained from measurement of the refraction of the VHF radio transmission which will be used between the Docking Module and the Command/Service Modules for ranging.

The Principal Investigator for this experiment is Dr. G.C. Weiffenbach of the Smithsonian Astrophysical Observatory in Cambridge, Massachusetts. One of Dr. Weiffenbach's Co-Investigators for this experiment is Mr. P.W. Shores of the Johnson Space Center, Houston, Texas.

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FOR RELEASE:
July 22, 1974

RELEASE NO: 74-159

ASTP EXPERIMENT MA-059 ULTRAVIOLET (UV) ABSORPTION

At present the abundances of atomic oxygen and atomic nitrogen in the Earth's upper atmosphere are not accurately known. The oxygen abundance is uncertain by a factor of 5-to10, and the nitrogen abundance has never been definitively measured.

An interesting Earth atmosphere experiment to be carried out during the joint US-USSR Apollo-Soyuz mission in July, 1975, is the measurement of oxygen and nitrogen in the Earth's upper atmosphere, at the orbital altitude of the spacecraft.

The experiment, UV Absorption, will use monochromatic light beams whose wavelengths correspond to neutral atomic oxygen and nitrogen resonance lines (respectively 1304 and 1200 angstroms).

The light beams will be sent from the Apollo spacecraft to the Soyuz vehicle where they will be retroreflected to the Apollo and measured in an optical absorption spectrometer.

These measurements will be taken at various separations of the two spacecraft between 150 meters and 1 kilometer. In order to determine the actual separation distancesof the Apollo from the Soyuz, the astronauts will be taking photographs of the Soviet spacecraft during the experiment. The larger distances will be determined by VHF radio ranging between the spacecraft. Combining the known distances with the measured absorption of the light beams at those distances, scientists may determine the abundances of neutral atomic oxygen and nitrogen at the spacecraft altitude (approximately 200 km).

Principal Investigator for this experiment is Dr. T.M. Donahue of the Physics Department, University of Michigan. Dr. R. D. Hudson, of the Johnson Space Center, Houston, Texas, is a Co-Principal Investigator for this experiment.

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FOR RELEASE:
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RELEASE NO: 74-160

ASTRONAUT ALAN B. SHEPARD, JR., ANNOUNCES RETIREMENT

Rear Admiral Alan B. Shepard, Jr., America's first man in space and one of 12 men to explore the moon's surface, announced today that he will retire from NASA and the U.S. Navy on August 1.

Shepard will join the Marathon Construction Company of Houston as a partner and Chairman of the firm. Marathon is a subsidiary corporation of Coogan and Walters of Houston, the largest developer of K-Mart shopping centers in the U.S. He has been associated with Coogan and Walters as an investor for several years.

Dr. James C. Fletcher, NASA Administrator, praised Shepard's dedication and determination. "Al Shepard was the first American to make a space flight and his determination to overcome a physical ailment after his suborbital mission carried him to a highly successful manned lunar landing mission."

Johnson Space Center Director Dr. Christopher C. Kraft, Jr., noted that half of Admiral Shepard's 30-year naval career has been devoted to the United States' space program.

"He is a pioneer who contributed significantly to his country's progress," Kraft said. "Shepard is a man of great demonstrated courage and capability, and we will sorely miss his presence in our space activities. As he concludes one outstanding career to begin another, all of us in the space program wish him well."

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RELEASE NO: 74-160

Shepard called his association with the manned space program since its inception "a privilege and an honor."

"It is remarkable to review the tremendous accomplishments we have made in space and to see, every day, the contributions of space technology toward a better way of life," he said. "I am indeed proud of my duty with the U.S. Navy. I have enjoyed this long opportunity of service to my country. It has been a most rewarding experience to have been a member of this nation's dedicated armed services."

One of the original seven astronauts, Shepard has been with NASA since April, 1959. He became the nation's first man in space on May 5, 1961, when he flew the Mercury capsule "Freedom Seven" on a suborbital mission.

Shepard commanded the Apollo 14 lunar mission from January 31 to February 9, 1971. On February 5, 1971, he became the fifth man to step on the moon. He has served as Chief of the Astronaut Office at JSC for a number of years.

Shepard has been on active naval duty since his graduation from the U.S. Naval Academy in June, 1944. He has served on a destroyer and several aircraft carriers as well as on the Atlantic Fleet staff. He is a graduate of the Naval War College and the U.S. Naval Test Pilot School. He served two tours of duty as a Navy test pilot, primarily of carrier-based jet aircraft.

He was appointed by President Nixon as a delegate to the 1971 session of the United Nations General Assembly.

- end -

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FOR RELEASE:
July 22, 1974

RELEASE NO: 74-161

ESRO MEETING

U.S. and European representatives today began three days of detailed discussions at the Johnson Space Center on the new Spacelab which Europeans are developing for launch aboard the U.S. Space Shuttle.

About 45 Europeans are attending the meeting which got underway at 9 a.m. at the Gilruth Recreation Center. The European group is headed by officials of the European Space Research Organization (ESRO) and its prime Spacelab contractor ERNO, the Space Division of the VFW-Fokker Co.

Key Spacelab officials taking part in the discussions include Heinz Stoewer, Spacelab acting head, ESRO; Dr. Hans Hoffman, Spacelab Manager, ERNO; and Jack C. Heberlig, Space Shuttle payloads coordination manager, Johnson Space Center.

Topics to be discussed included Spacelab interfaces with the Shuttle environmental control and life support subsystems, thermal analysis, structures, electrical power and distribution, avionics and mission operations.

Spacelab is a cooperative venture between the United States and the nine country member European Space Research Organization. European countries represented in ESRO, the Spacelab project, are West Germany, Italy, France, United Kingdom, Switzerland, Spain, Netherlands, Belgium and Denmark.

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On June 6, ESRO awarded a $226 million contract to the ERNO group for the construction of a reuseable space laboratory which will be carried aboard the Space Shuttle Orbiter now being developed by the NASA. Spacelab will be used by European scientists in Shuttle flights scheduled to begin in 1980.

The Marshall Space Flight Center at Huntsville is responsible for the management of the U.S. portion of the Spacelab program and the Johnson Space Center has the overall management responsibility of the Space Shuttle program as well as Shuttle Orbiter.

The Europeans spent several days at Huntsville, Alabama last week reviewing overall Spacelab design with Marshall engineers.

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FOR RELEASE:
July 30, 1974

RELEASE NO: 74-162

AIRCRAFT FLAMMABILITY TEST

Johnson Space Center engineers Wednesday will deliberately set a fire in a section of an airliner fuselage as part of a continuing program of evaluating new space-age fabrics and coatings. Wednesday's test will be the fourth test in a planned series of seven tests in which inflight and crash fires are simulated for measuring the degree of increased protection for passengers and aircraft offered by the new materials.

Fabrics, coatings, foams and laminates developed in the manned space flight program and aeronautics research for their fire-resistant qualities are evaluated in a Boeing 737 fuselage at the Center. The materials are used for ceiling panels, seat upholstery and padding, curtains and sidewalls. A quart of JP4 jet fuel will be ignited under a passenger seat in a closed-off 15-foot long section of the fuselage.

JSC test engineers and representatives of the Federal Aviation Administration, Airline Pilots Association, Aerospace Industries Association and other observers will watch the test burn on closed-circuit television.

The first test burn, made in June 1972, was baseline test using the standard pre-1968 cabin interior materials installed in the aircraft at the time of ints manufacture. Aircraft materials standards were changed in 1968. The second test burn, with a section of the fuselage fitted out with new interior materials, was run in June 1973 and the third test the following month. The first two tests used JP4 jet fuel in a pan under a passenger seat, while the third test used a methanol-acetone mix for its smokeless qualities.

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The tests are aimed toward determining whether the new materials can offer increased passenger and aircraft fire protection. Some materials may be eliminated as potential improvement by reason of not having enough durability, generating too much smoke or toxic fumes, or having too-high a cost. Test results are compared with test programs run by other government and industry groups.

Three additional tests in the aircraft fuselage are planned after Wednesday's test burn, including an external jet fuel fire simulating a crash fire during takeoff or landing.

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FOR RELEASE:
August 1, 1974

RELEASE NO: 74-163

JSC PARTICIPATION IN SKYLAB CONFERENCE

More than 20 NASA Johnson Space Center employees are part of a team of aerospace engineers, scientists, flight controllers and astronauts who will make the first comprehensive report on the results of Skylab. The presentations are to be made at the 20th annual meeting of the American Astronautical Society (AAS) in Los Angeles, California, August 20-22, 1974.

The meeting to be held at the University of Southern California (USC), will feature presentations by representatives of NASA, the scientific community, and aerospace industry on the significance of Skylab and its impact on future programs. The conference is co-sponsored by AAS and USC's Institute of Safety and Systems Management (ISSM).

General chairman is C. R. Able, president of the McDonnell Douglas Astronautics Company and vice general chairman is Dr. Harold A. Sherman, executive director of ISSM.

Skylab Director William C. Schneider heads up the group of top NASA participants which include Skylab-4 science pilot Dr. Edward Gibson who spent 84-days in America's first scientific space station, and scientist astronaut Dr. Robert Parker, Skylab mission scientist. Skylab people from NASA's Marshall Space Flight Center, Huntsville, Alabama; NASA's Kennedy Space Center, Florida; and NASA's Langley Research Center, Hampton, Virginia; are among the presentators which also include representatives of major Skylab aerospace contractors.

Results of Skylab operations--a total of 171 days of manned scientific observations of the earth, the Sun, distant stars and man himself--and detailed experiment results will be reported to the AAS members by the

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77 NASA, university and contractor presentations during the three day session. Several of the sessions will be aired over the USC closed circuit television system.

Dr. Ed Gibson who spent 84 days aboard the last Skylab mission with Gerald Carr, and William Pogue, will discuss "Astronauts Flight Experience" during the opening session on August 20. Also on the opening session will be Skylab Director Schneider; Leland Belew, MSFC Skylab Program manager; Robert Hock, KSC Skylab program manager; and Arnold Aldrich, JSC Skylab program manager.

The meeting will address all facets of the program in terms of evolution, accomplishments, and applications to future NASA missions. The Program, according to the AAS, "Will be presented by the men who conceived, designed, managed, conducted and flew the skylab missions."

JSC participants will take part in the following sessions: "Skylab Operations Support", chaired by Joseph Roach; "Living and Working in Space" with astronaut capsule communicators Robert Crippen and Richard Truly, discussing "Flight Crew Observations and Spacecraft Systems"; Caldwell C. Johnson and Robert Bond presenting papers on "Crew Quarters and Crew Habitability Aspects" of Skylab; and earth resources chaired by V. R. Wilmarth which features presentations in five separate areas of earth resources studies conducted during the 171-day mission of Skylab. JSC participants are also scheduled to take part in presentations on student experiments, corollary experiments and life sciences.

Dr. Gerald Hordinsky, Skylab-4 flight surgeon, is scheduled to present a paper on Medical Results of Skylab.

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FOR RELEASE:
August 15, 1974

RELEASE NO: 74-164

WHITSETT PRESENTS SKYLAB PAPER

Major Charles E. Whitsett, Jr. formerly of Mobile, Alabama, is part of the NASA aerospace team from the Johnson Space Center, Houston, Texas, scheduled to make the first comprehensive report on the results of Skylab, the longest and most scientifically productive endeavors in the history of human exploration.

Whitsett, a 1957 graduate of Auburn University will present a paper on "Skylab Experiment M509-Astronaut Maneuvering Equipment Orbital Test Results and Future Applications" at the 20th annual meeting of the American Astronautical Society (AAS) in Los Angeles, California, August 20-22, 1974. This three day conference which is co-sponsored by the University of Southern California, Los Angeles, and the AAS, is designed to present a definitive report on Skylab and its impact on future space programs.

The conference which features presentations by 77 government, industry and university aerospace engineers and scientists will highlight all facets of the 171-day long manned Skylab program during which time three separate crews lived and worked aboard the 100-ton orbiting scientific laboratory for periods of 28 to 84 days. The last mission ended on February 8, 1974.

Whitsett who is principal investigator for the maneuvering unit experiment paper is part of the 2nd day session. His presentation details the operation of the astronaut maneuvering unit which was flown by five separate crewmen for 12 hours during two of the flights.

Skylab, the first manned orbiting laboratory, was launched from the Kennedy Space Center, Florida, on May 14, 1973. The loss of a meteoroid and thermal shield and loss of one of the vehicles solar array panels

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threatened the success of the program; however, ground crews worked out procedural repairs which were carried out by the first crew of Charles Conrad, Dr. Joseph Kerwin, and Paul Weitz. This first team spent 28 days aboard the orbiting lab and returned with a harvest of scientific evidence on man's ability to perform during prolonged periods of weightlessness, new evidence on the intricacies of Sun and near stars, and extensive data on the natural resources of the Earth.

Subsequent missions of 59 days (Alan Bean, Dr. Owen Garriott, and Jack Lousma, July 28-September 25, 1973) and 84 days (Gerald Carr, Dr. Edward Gibson and William Pogue, November 16, 1973-February 8, 1974) provided additional data on man's future role in space as well as a wealth of new information about the dynamic processes of the Sun and its effects on the Earth. The Skylab missions have also proved the value of manned observations of the Earth from space, helped define the feasibility of new products in zero gravity and has stimulated interest of international cooperation in space.

Major Whitsett has been with the NASA since 1966. Before taking over his Skylab post, he served as experiment coordinator in the manned spaceflight program.

Whitsett now resides in Houston, Texas with his wife Evelyn and three children, Edith, Steven and Benjamin.

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FOR RELEASE:
August 15, 1974

RELEASE NO: 74-165

SEVIER PRESENTS SKYLAB PAPER

John R. Sevier, formerly of Middlesboro, Kentucky, is part of the NASA aerospace team from the Johnson Space Center, Houston, Texas, scheduled to make the first comprehensive report on the results of Skylab, the longest and most scientifically productive endeavors in the history of human exploration.

Sevier, a graduate of Massachusetts Institute of Technology will present a paper on "Skylab Experiments Planning" at the 20th annual meeting of the American Astronautical Society (AAS) in Los Angeles, California, August 20-22, 1974. This three day conference which is co-sponsored by the University of Southern California, Los Angeles, and the AAS, is designed to present a definitive report on Skylab and its impact on future space programs.

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Sevier's paper is part of the first day's session. His presentation discusses how scientific experiments were planned on a day to day basis during Skylab and how this experience will apply to the Space Shuttle program.

Skylab, the first manned orbiting laboratory, was launched from the Kennedy Space Center, Florida, on May 14, 1973. The loss of a meteoroid and thermal shield and loss of one of the vehicles solar array panels threatened the success of the program; however, ground crews worked out procedural repairs which were carried out by the first crew of Charles Conrad, Dr. Joseph Kerwin, and Paul Weitz. This first team spent 28 days aboard the orbiting

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lab and returned with a harvest of scientific evidence on man's ability to perform during prolonged periods of weightlessness, new evidence on the intricacies of Sun and near stars, and extensive data on the natural resources of the Earth.

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Sevier has been with the NASA since 1951. Before taking over his Skylab post, he was assigned to various positions in the Apollo program at the Johnson Space Center.

During Skylab he served as Deputy Chief, Integration Division and shared the responsibilities of Skylab experiment planning with the program scientists.

Sevier now resides in Seabrook, Texas with his wife Sylvia. The Seviers have four children - John III, 21; James, 20; Jeremy, 16; and Sarah, 14.

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FOR RELEASE:
August 15, 1974

RELEASE NO: 74-166

ROACH PRESENTS SKYLAB PAPER

Jones "Joe" W. Roach, formerly of Richmond, Virginia, is part of the NASA aerospace team from the Johnson Space Center, Houston, Texas, scheduled to make the first comprehensive report on the results of Skylab, the longest and most scientifically productive endeavors in the history of human exploration.

Roach, a 1955 graduate of Virginia Military Institute will present a paper on "Management and Control of Skylab Mission" at the 20th annual meeting of the American Astronautical Society (AAS) in Los Angeles, California, August 20-22, 1974. This three day conference which is co-sponsored by the University of Southern California, Los Angeles, and the AAS, is designed to present a definitive report on Skylab and its impact on future space programs.

The conference which features presentations by 77 government, industry and university aerospace engineers and scientists will highlight all facets of the 171-day long manned Skylab program during which time three separate crews lived and worked aboard the 100-ton orbiting scientific laboratory for periods of 28 to 84 days. The last mission ended on February 8, 1974.

Roach's paper is part of the first day's session. His presentation details an overview of the operations and planning and implementation considerations for the operational management of the Skylab mission. His paper stresses the importance of premission planning and the mission flexibility such planning affords.

During Skylab, Roach served as one of the managers of the Flight Operations Management Room, the focal point of mission management.

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Skylab, the first manned orbiting laboratory, was launched from the Kennedy Space Center, Florida, on May 14, 1973. The loss of a meteoroid and thermal shield and loss of one of the vehicles solar array panels threatened the success of the program; however, ground crews worked out procedural repairs which were carried out by the first crew of Charles Conrad, Dr. Joseph Kerwin, and Paul Weitz. This first team spent 28 days aboard the orbiting lab and returned with a harvest of scientific evidence on man's ability to perform during prolonged periods of weightlessness, new evidence on the intricacies of Sun and near stars, and extensive data on the natural resources of the Earth.

Subsequent missions of 59 days (Alan Bean, Dr. Owen Garriott, and Jack Lousma, July 28-September 25, 1973) and 84 days (Gerald Carr, Dr. Edward Gibson and William Pogue, November 16, 1973-February 8, 1974) provided additional data on man's future role in space as well as a wealth of new information about the dynamic processes of the Sun and its effects on the Earth. The Skylab missions have also proved the value of manned observations of the Earth from space, helped define the feasibility of new products in zero gravity and has stimulated interest of international cooperation in space.

Roach has been with the NASA since 1962. Before taking over his Skylab post, he was assigned to various positions in flight operations at the Johnson Space Center.

Roach now resides in Seabrook, Texas with his wife Sherry Ann and two children, Martha Ann, 16 and Joey, 13.

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NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
Johnson Space Center
Houston, Texas 77058

Robert Gordon
713/483-5111

FOR RELEASE:
August 15, 1974

RELEASE NO: 74-167

PRIMEAUX PRESENTS SKYLAB PAPER

Gary R. Primeaux, formerly of Lafayette, Louisiana, is part of the NASA aerospace team from the Johnson Space Center, Houston, Texas, scheduled to make the first comprehensive report on the results of Skylab, the longest and most scientifically productive endeavors in the history of human explotation.

Primeaux, a 1963 graduate of the University of Southwestern Louisiana will present a paper on "Skylab Medical Operational Support" at the 20th annual meeting of the American Astronautical Society (AAS) in Los Angeles, California, August 20-22, 1974. This three day conference which is co-sponsored by the University of Southern California, Los Angeles, and the AAS, is designed to present a definitive report on Skylab and its impact on future space programs.

The conference which features presentations by 77 government, industry and university aerospace engineers and scientists will highlight all facets of the 171-day long manned Skylab program during which time three separate crews lived and worked aboard the 100-ton orbiting scientific laboratory for periods of 28 to 84 days. The last mission ended on February 8, 1974.

Primeaux's paper is part of the final day's session. His presentation details the operational support of the medical operations personnel to the mission and also discusses the Skylab mobile laboratories in which flight crews were examined and tested immediately upon their return to Earth.

Skylab, the first manned orbiting laboratory, was launched from the Kennedy Space Center, Florida, on May 14, 1973. The loss of a meteoroid and thermal shield and loss of one of the vehicles solar array panels

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threatened the success of the program; however, ground crews worked out procedural repairs which were carried out by the first crew of Charles Conrad, Dr. Joseph Kerwin, and Paul Weitz. This first team spent 28 days aboard the orbiting lab and returned with a harvest of scientific evidence on man's ability to perform during prolonged periods of weightlessness, new evidence on the intricacies of Sun and near stars, and extensive data on the natural resources of the Earth.

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Primeaux has been with the NASA since 1963. Before taking over his Skylab post, he was assigned to the Lunar and Earth Sciences Division where he was Project Engineer in Experimental Facilities and Equipment.

Primeaux now resides in Seabrook, Texas with his wife Elizabeth and daughter Lorrie.

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FOR RELEASE:
August 15, 1974

RELEASE NO: 74-168

SCHULTZ PRESENTS SKYLAB PAPER

David C. Schultz, formerly of Detroit, Michigan, is part of the NASA aerospace team from the Johnson Space Center, Houston, Texas, scheduled to make the first comprehensive report on the results of Skylab, the longest and most scientifically productive endeavors in the history of human exploration.

Schultz, a 1960 graduate of the University of Michigan will present a paper on "Skylab Extravehicular Activity" at the 20th annual meeting of the American Astronautical Society (AAS) in Los Angeles, California, August 20-22, 1974. This three day conference which is co-sponsored by the University of Southern California, Los Angeles, and the AAS, is designed to present a definitive report on Skylab and its impact on future space programs.

The conference which features presentations by 77 government, industry and university aerospace engineers and scientists will highlight all facets of the 171-day long manned Skylab program during which time three separate crews lived and worked aboard the 100-ton orbiting scientific laboratory for periods of 28 to 84 days. The last mission ended on February 8, 1974.

Schultz's paper is part of the second day's session. His presentation details the extravehicular activities performed during Skylab and how the 82 hours spent outside the workshop by the crew members were instrumental in saving the program.

Skylab, the first manned orbiting laboratory, was launched from the Kennedy Space Center, Florida, on May 14, 1973. The loss of a meteoroid and thermal shield and loss of one of the vehicles solar array panels

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threatened the success of the program; however, ground crews worked out procedural repairs which were carried out by the first crew of Charles Conrad, Dr. Joseph Kerwin, and Paul Weitz. This first team spent 28 days aboard the orbiting lab and returned with a harvest of scientific evidence on man's ability to perform during prolonged periods of weightlessness, new evidence on the intricacies of Sun and near stars, and extensive data on the natural resources of the Earth.

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Schultz has been with the NASA since 1964. Before taking over his Skylab post he served as branch chief in Crew Procedures Division which was responsible for development of crew procedures and the conduct of crew training in the area of extravehicular activity.

Schultz now resides in Seabrook, Texas, with his wife Barbara and three children, David, Sarah and Andrew.

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FOR RELEASE:
August 15, 1974

RELEASE NO: 74-169

MACLEOD PRESENTS SKYLAB PAPER

John B. MacLeod, formerly of Winnipeg, Manitoba, Canada, is part of the NASA aerospace team from the Johnson Space Center, Houston, Texas, scheduled to make the first comprehensive report on the results of Skylab, the longest and most scientifically productive endeavors in the history of human exploration.

MacLeod, a 1964 graduate of the University of Washington will present a paper on "The Skylab Student Project from a NASA Standpoint" at the 20th annual meeting of the American Astronautical Society (AAS) in Los Angeles, California, August 20-22, 1974. This three day conference which is co-sponsored by the University of Southern California, Los Angeles, and the AAS, is designed to present a definitive report on Skylab and its impact on future space programs.

The conference which features presentations by 77 government, industry and university aerospace engineers and scientists will highlight all facets of the 171-day long manned Skylab program during which time three separate crews lived and worked aboard the 100-ton orbiting scientific laboratory for periods of 28 to 84 days. The last mission ended on February 8, 1974.

MacLeod's paper is part of the third day's session. His presentation details the creation of the Skylab Student Project, the selection of the 25 experimenters, the conduct and sampling of experiment results.

Skylab, the first manned orbiting laboratory, was launched from the Kennedy Space Center, Florida, on May 14, 1973. The loss of a meteoroid and thermal shield and loss of one of the vehicles solar array panels threatened the success of the program; however, ground crews worked out procedural repairs which were carried out by the first crew of Charles

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Conrad, Dr. Joseph Kerwin, and Paul Weitz. This first team spent 28 days aboard the orbiting lab and returned with a harvest of scientific evidence on man's ability to perform during prolonged periods of weightlessness, new evidence on the intricacies of Sun and near stars, and extensive data on the natural resources of the Earth.

Subsequent missions of 59 days (Alan Bean, Dr. Owen Garriott, and Jack Lousma, July 28-September 25, 1973) and 84 days (Gerald Carr, Dr. Edward Gibson and William Pogue, November 16, 1973-February 8, 1974) provided additional data on man's future role in space as well as a wealth of new information about the dynamic processes of the Sun and its effects on the Earth. The Skylab missions have also proved the value of manned observations of the Earth from space, helped define the feasibility of new products in zero gravity and has stimulated interest of international cooperation in space.

MacLeod has been with the NASA since 1964. Before taking over his Skylab post, he has served in many engineering and project management areas at the Johnson Space Center.

During Skylab he served as representative to the Skylab Student Project.

MacLeod now resides in Houston, Texas.

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FOR RELEASE:
August 15, 1974

RELEASE NO: 74-170

HUFFSTETLER PRESENTS SKYLAB PAPER

William J. Huffstetler, Jr., formerly of Maryville, Tennessee, is part of the NASA aerospace team from the Johnson Space Center, Houston, Texas, scheduled to make the first comprehensive report on the results of Skylab, the longest and most scientifically productive endeavors in the history of human exploration.

Huffstetler, a 1959 graduate of the Tennessee Tech University will present a paper on "Skylab Biomedical Hardware Development" at the 20th annual meeting of the American Astronautical Society (AAS) in Los Angeles, California, August 20-22, 1974. This three day conference which is co-sponsored by the University of Southern California, Los Angeles, and the AAS, is designed to present a definitive report on Skylab and its impact on future space programs.

The conference which features presentations by 77 government, industry and university aerospace engineers and scientists will highlight all facets of the 171-day long manned Skylab program during which time three separate crews lived and worked aboard the 100-ton orbiting scientific laboratory for periods of 28 to 84 days. The last mission ended on Feburary 8, 1974.

Huffstetler's paper is part of the third day's session. His presentation details the design and development of the various biomedical experiments aboard Skylab. He also will discuss the major problem areas, design solutions and knowledge gained that may be used for future life science hardware.

Skylab, the first manned orbiting laboratory, was launched from the Kennedy Space Center, Florida, on May 14, 1973. The loss of a meteoroid and thermal shield and loss of one of the vehicles solar array panels

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threatened the success of the program; however, ground crews worked out procedural repairs which were carried out by the first crew of Charles Conrad, Dr. Joseph Kerwin, and Paul Weitz. This first team spent 28 days aboard the orbiting lab and returned with a harvest of scientific evidence on man's ability to perform during prolonged periods of weightlessness, new evidence on the intricacies of Sun and near stars, and extensive data on the natural resources of the Earth.

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Huffstetler has been with the NASA since 1962 and has worked in crew Systems Division where he managed development of crew survival and extra-vehicular equipment used by Gemini and Apollo astronauts. He is presently Chief of the Project Engineering Branch of the Life Sciences Directorate.

He now resides in Seabrook, Texas, with his wife Nancy and three children, Jack, Mark and Andrew.

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FOR RELEASE:
August 15, 1974

RELEASE NO: 74-171

STONESIFER PRESENTS SKYLAB PAPER

John C. Stonesifer, formerly of Hanover, Pennsylvania, is part of the NASA aerospace team from the Johnson Space Center, Houston, Texas, scheduled to make the first comprehensive report on the results of Skylab, the longest and most scientifically productive endeavors in the history of human exploration.

Stonesifer, a 1957 graduate of the University of Miami will present a paper on "Skylab Medical Technology Utilization" at the 20th annual meeting of the American Astronautical Society (AAS) in Los Angeles, California, August 20-22, 1974. This three day conference which is co-sponsored by the University of Southern California, Los Angeles, and the AAS, is designed to present a definitive report on Skylab and its impact on future space programs.

The conference which features presentations by 77 government, industry and university aerospace engineers and scientists will highlight all facets of the 171-day long manned Skylab program during which time three separate crews lived and worked aboard the 100-ton orbiting scientific laboratory for periods of 28 to 84 days. The last mission ended on February 8, 1974.

Stonesifer's paper is part of the third day's session. His presentation details some of the new equipment, methods, techniques, and data being transferred for use and application in the medical and public sectors.

In addition to presenting this paper, Stonesifer is chairman of the Life Sciences session at the AAS conference.

Skylab, the first manned orbiting laboratory, was launched from the Kennedy Space Center, Florida, on May 14, 1973. The loss of a meteoroid and thermal shield and loss of one of the vehicles solar array panels

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threatened the success of the program; however, ground crews worked out procedural repairs which were carried out by the first crew of Charles Conrad, Dr. Joseph Kerwin, and Paul Weitz. This first team spent 28 days aboard the orbiting lab and returned with a harvest of scientific evidence on man's ability to perform during prolonged periods of weightlessness, new evidence on the intricacies of Sun and near stars, and extensive data on the natural resources of the Earth.

Subsequent missions of 59 days (Alan Bean, Dr. Owen Garriott, and Jack Lousma, July 28-September 25, 1973) and 84 days (Gerald Carr, Dr. Edward Gibson and William Pogue, November 16, 1973-February 8, 1974) provided additional data on man's future role in space as well as a wealth of new information about the dynamic processes of the Sun and its effects on the Earth. The Skylab missions have also proved the value of manned observations of the Earth from space, helped define the feasibility of new products in zero gravity and has stimulated interest of international cooperation in space.

Stonesifer has been with the NASA since 1957. He is currently chief of the Bioengineering Systems Division where he is responsible for the management and implementation of biomedical systems for manned spaceflight.

He now resides in Friendswood, Texas, with his wife Marguerite and four children, Kurt, Marlene, Greg and Jill.

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FOR RELEASE:
August 15, 1974

RELEASE NO: 74-172

BUSH PRESENTS SKYLAB PAPER

William H. Bush, formerly of Johnson City, Tennessee, is part of the NASA aerospace team from the Johnson Space Center, Houston, Texas, scheduled to make the first comprehensive report on the results of Skylab, the longest and most scientifically productive endeavors in the history of human exploration.

Bush, a 1959 graduate of Tennessee Technological University will present a paper on "Skylab Food System" at the 20th annual meeting of the American Astronautical Society (AAS) in Los Angeles, California, August 20-22, 1974. This three day conference which is co-sponsored by the University of Southern California, Los Angeles, and the AAS, is designed to present a definitive report on Skylab and its impact on future space programs.

The conference which features presentations by 77 government, industry and university aerospace engineers and scientist will highlight all facets of the 171-day long manned Skylab program during which time three separate crews lived and worked aboard the 100-ton orbiting scientific laboratory for periods of 28 to 84 days. The last mission ended on February 8, 1974.

Bush's paper is part of the third day's session. His presentation details the development and management of the Skylab food system which provided nutritional and tasty meals for the astronauts who lived and worked aboard the 100-ton laboratory. More than 17,000 individual food packages and support items, weighing more than one and a quarter tons were launched in Skylab.

Skylab, the first manned orbiting laboratory, was launched from the Kennedy Space Center, Florida, on May 14, 1973. The loss of a meteroid and thermal shield and loss of one of the vehicles solar array panels threatened the success

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of the program; however, ground crews worked out procedural repairs which were carried out by the first crew of Charles Conrad, Dr. Joseph Kerwin, and Paul Weitz. This first team spent 28 days aboard the orbiting lab and returned with a harvest of scientific evidence on man's ability to perform during prolonged periods of weightlessness, new evidence on the intricacies of Sun and near stars, and extensive data on the natural resources of the Earth.

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Bush has been with the NASA since 1959 and has worked in various positions in Crew Systems Division.

He is presently subsystem manager for the Shuttle Orbiter food system as well as food program manager for the Apollo Soyuz Test Project.

Bush now resides in Seabrook, Texas, with his wife Jacquilyne and son Mark.

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FOR RELEASE:

August 15, 1974

RELEASE NO: 74-173

HENIZE PRESENTS SKYLAB PAPER

Scientist Astronaut Karl G. Henize, formerly of Cincinnati, Ohio, is part of the NASA aerospace team from the Johnson Space Center, Houston, Texas, scheduled to make the first comprehensive report on the results of Skylab, the longest and most scientifically productive endeavors in the history of human exploration.

Dr. Henize, a 1954 graduate of the University of Michigan will present a paper on "Ultraviolet Stellar Spectra Obtained With Skylab Experiment S019" at the 20th annual meeting of the American Astronautical Society (AAS) in Los Angeles, California, August 20-22, 1974. This three day conference which is co-sponsored by the University of Southern California, Los Angeles, and the AAS, is designed to present a definitive report on Skylab and its impact on future space programs.

The conference which features presentations by 77 government, industry and university aerospace engineers and scientists will highlight all facets of the 171-day long manned Skylab program during which time three separate crews lived and worked aboard the 100-ton orbiting scientific laboratory for periods of 28 to 84 days. The last mission ended on February 8, 1974.

Dr. Henize who is principal investigator for the Ultraviolet Stellar Experiment will present his paper on the third day of the session. His presentation details the results of his experiment which recorded information on stars in the Milky Way.

Skylab, the first manned orbiting laboratory, was launched from the Kennedy

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Space Center, Florida, on May 14, 1973. The loss of a meteoroid and thermal shield and loss of one of the vehicles solar array panels threatened the success of the program; however, ground crews worked out procedural repairs which were carried out by the first crew of Charles Conrad, Dr. Joseph Kerwin, and Paul Weitz. This first team spent 28 days aboard the orbiting lab and returned with a harvest of scientific evidence on man's ability to perform during prolonged periods of weightlessness, new evidence on the intricacies of Sun and near stars, and extensive data on the natural resources of the Earth.

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Dr. Henize has been a NASA Astronaut since 1967.

During Skylab he served as one of the capsule communicators with the crew of of Skylab. As communicator he was the sole contact on a day to day basis with crew and discussed with the crew each day's activities and passed up procedures prepared by members of the mission control team at the Johnson Space Center.

Dr. Henize now resides in Nassau Bay, Houston, Texas, with his wife Caroline and four children, Kurt, Marcia, Skye and Vance.

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FOR RELEASE:
August 15, 1974

RELEASE NO: 74-174

GIBSON PRESENTS SKYLAB PAPER

Skylab-4 Science Pilot, Dr. Edward Gibson, formerly of Buffalo, New York, is part of the NASA aerospace team from the Johnson Space Center, Houston, Texas, scheduled to make the first comprehensive report on the results of Skylab, the longest and most scientifically productive endeavors in the history of human exploration.

Dr. Gibson, a 1960 graduate of the California Institute of Technology will present a paper on "Pilot Flight Experience" at the 20th annual meeting of the American Astronautical Society (AAS) in Los Angeles, California, August 20-22, 1974. This three day conference which is co-sponsored by the University of Southern California, Los Angeles, and the AAS, is designed to present a definitive report on Skylab and its impact on future space programs.

The conference which features presentations by 77 government, industry and university aerospace engineers and scientists will highlight all facets of the 171-day long manned Skylab program during which time three separate crews lived and worked aboard the 100-ton orbiting scientific laboratory for periods of 28 to 84 days. The last mission ended on February 8, 1974.

Gibson and fellow crew members Gerald Carr and William Pogue spent 84 days aboard Skylab and gathered a wealth of knowledge on the Sun and its effect on the earth, man's ability to work for prolonged periods in space and new data on the natural resources of the earth. His paper which is during the opening session, details, from the astronaut's personal viewpont, the mission of Skylab.

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Skylab, the first manned orbiting laboratory, was launched from the Kennedy Space Center, Florida, on May 14, 1973. The loss of a meteoroid and thermal shield and loss of the vehicles solar array panels threatened the success of the program; however, ground crew worked out procedural repairs which were carried out by the first crew of Charles Conrad, Dr. Joseph Kerwin, and Paul Weitz. This first team spent 28 days aboard the orbiting lab and returned with a harvest of scientific evidence on man's ability to perform during prolonged periods of weightlessness, new evidence on the intricacies of Sun and near stars, and extensive data on the natural resources of the Earth.

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Dr. Gibson has been a NASA astronaut since 1967.

During Skylab he was the crewman primarily responsible for the 338 hours of operation of the solar cameras and telescopes which made extensive observations of the solar processes. The crew of Skylab 4 completed 56 experiments, 26 science demonstrations, 15 subsystem detached objectives and 13 student investigations during their 1,214 revolutions of the earth.

Dr. Gibson and wife Julia Ann reside in Nassau Bay, Houston, Texas, with their children, Jannet Lynn, John Edward, Julie Ann and Joseph Michael.

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FOR RELEASE:
August 15, 1974

RELEASE NO: 74-175

PARKER TO CHAIR AAS SESSION

Scientist Astronaut Robert A. Parker, formerly of New York City and Shrewsbury, Massachusetts, is part of the NASA aerospace team from the Johnson Space Center, Houston, Texas, scheduled to make the first comprehensive report on the results of Skylab, the longest and most scientifically productive endeavors in the history of human exploration.

Dr. Parker, a 1962 graduate of the California Institute of Technology is co-chairman of the corollary experiment session at the 20th annual meeting of the American Astronautical Society (AAS) in Los Angeles, California, August 20-22, 1974. This three day conference which is co-sponsored by the University of Southern California, Los Angeles, and the AAS, is designed to present a definitive report on Skylab and its impact on future space programs.

The conference which features presentations by 77 government, industry and university aerospace engineers and scientists will highlight all facets of the 171-day long manned Skylab program during which time three separate crews lived and worked aboard the 100-ton orbiting scientific laboratory for periods of 28 to 84 days. The last mission ended on February 8, 1974.

During Skylab, Dr. Parker served as Skylab Mission Scientist, a position which called for him to review, coordinate, plan and implement all experiment phases of each day's activities. Co-chairman for the program, Jack Waite of the NASA Marshall Space Flight Center, Huntsville, Alabama, will oversee the presentations involving a number of Skylab experiments on materials processing, stellar astronomy and Comet Kohoutek observations.

Skylab, the first manned orbiting laboratory, was launched from the Kennedy Space Center, Florida, on May 14, 1973. The loss of a meteoroid and thermal shield and loss of one of the vehicles solar array panels

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threatened the success of the program; however, ground crews worked out procedural repairs which were carried out by the first crew of Charles Conrad, Dr. Joseph Kerwin,and Paul Weitz. This first team spent 28 days aboard the orbiting lab and returned with a harvest of scientific evidence on man's ability to perform during prolonged periods of weightlessness, new evidence on the intricacies of Sun and near stars, and extensive data on the natural resources of the Earth.

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Parker has been a NASA astronaut since 1967 and a member of the support crews for Apollo 15 and 17.

Dr. Parker now resides in El Lago, Texas, with his wife Joan and 2 children, Kimberly and Brian.

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FOR RELEASE:
August 15, 1974

RELEASE NO: 74-176

WILMARTH TO CHAIR AAS SESSION

Verl R. Wilmarth, formerly of De Smet, South Dakota, is part of the NASA aerospace team from the Johnson Space Center, Houston, Texas, scheduled to make the first comprehensive report on the results of Skylab, the longest and most scientifically productive endeavors in the history of human exploration.

Wilmarth, a 1955 graduate of Princeton, is chairman of the session devoted to reporting the results of earth resource studies at the 20th annual meeting of the American Astronautical Society (AAS) in Los Angeles, California, August 20-22, 1974. This three day conference which is co-sponsored by the University of Southern California, Los Angeles, and the AAS, is designed to present a definitive report on Skylab and its impact on future space programs.

The conference which features presentations by 77 government, industry and university aerospace engineers and scientists will highlight all facets of the 171-day long manned Skylab program during which time three separate crews lived and worked aboard the 100-ton orbiting scientific laboratory for periods of 28 to 84 days. The last mission ended on February 8, 1974.

Wilmarth will chair the earth survey session on the second day where scientists from the Johnson Space Center, the U.S. Geological Survey and four universities will report on specific results from Skylab's six instruments which gathered data on the Earth's crops, oceans, rivers, geological formations and the weather.

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Wilmarth has been with the NASA since 1965. Before joining NASA, Wilmarth worked 10 years with the U. S. Geological Survey in various parts in Washington, D.C. and Nevada.

During Skylab, Wilmarth coordinated all the planning activities which went into each earth survey made by the crew of Skylab. This included work with individual principal investigators, preparing target sites at which Skylab's instruments would be aimed and assuring all this information was prepared in the proper format and relayed to the crew in adequate time.

Wilmarth now resides in Houston, Texas, with his wife Mary and family.

- end -

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
Johnson Space Center
Houston, Texas 77058

Robert Gordon
713/483-5111

FOR RELEASE:
August 15, 1974

RELEASE NO: 74-177

JOHNSON PRESENTS SKYLAB PAPER

C. C. Johnson, formerly of Hampton, Virginia, is part of the NASA aerospace team from the Johnson Space Center, Houston, Texas, scheduled to make the first comprehensive report on the results of Skylab, the longest and most scientifically productive endeavors in the history of human exploration.

Johnson, a graduate of the University of Virginia will present a paper on "Skylab Experiment M487-Habitability/Crew Quarters" at the 20th annual meeting of the American Astronautical Society (AAS) in Los Angeles, California, August 20-22, 1974. This three day conference which is co-sponsored by the University of Southern California, Los Angeles, and the AAS, is designed to present a definitive report on Skylab and its impact on future space programs.

The conference which features presentations by 77 government, industry and university aerospace engineers and scientists will highlight all facets of the 171-day long manned Skylab program during which time three separate crews lived and worked aboard the 100-ton orbiting scientific laboratory for periods of 28 to 84 days. The last mission ended on February 8, 1974.

Johnson, principal investigator for the Skylab Habitability experiment, will present his paper on the second day of the session. His presentation details some of the more interesting findings of man's adaptability to the large volume of Skylab and how their findings will influence the design of future spacecraft.

Skylab, the first manned orbiting laboratory, was launched from the Kennedy Space Center, Florida, on May 14, 1973. The loss of a meteoroid

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and thermal shield and loss of one of the vehicles solar array panels threatened the success of the program; however, ground crews worked out procedural repairs which were carried out by the first crew of Charles Conrad, Dr. Joseph Kerwin, and Paul Weitz. This first team spent 28 days aboard the orbiting lab and returned with a harvest of scientific evidence on man's ability to perform during prolonged periods of weightlessness, new evidence on the intricacies of Sun and near stars, and extensive data on the natural resources of the Earth.

Subsequent missions of 59 days (Alan Bean, Dr. Owen Garriott, and Jack Lousma, July 28-September 25, 1973) and 84 days (Gerald Carr, Dr. Edward Gibson and William Pogue, November 16, 1973-February 8, 1974) provided additional data on man's future role in space as well as a wealth of new information about the dynamic processes of the Sun and its effects on the Earth. The Skylab missions have also proved the value of manned observations of the Earth from space, helped define the feasibility of new products in zero gravity and has stimulated interest of international cooperation in space.

Johnson has been with the NASA since 1939 and since 1969 has been chief of the Spacecraft Design Office. He has also participated in technical discussions with Russian aerospace engineers in working out details of the Apollo Soyuz Test Project scheduled for 1975.

He now resides in Dickinson, Texas, with his wife Kathryn.

-end-

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
Johnson Space Center
Houston, Texas 77058

Robert Gordon
713/483-5111

FOR RELEASE:
August 15, 1974

RELEASE NO: 74-178

TRULY PRESENTS SKYLAB PAPER

Commander Richard H. Truly, formerly of Fayette, Mississippi, is part of the NASA aerospace team from the Johnson Space Center, Houston, Texas, scheduled to make the first comprehensive report on the results of Skylab, the longest and most scientifically productive endeavors in the history of human exploration.

Commander Truly, a 1959 graduate of the Georgia Institute of Technology will present a paper on "Flightcrew Observations of Spacecraft Systems" at the 20th annual meeting of the American Astronautical Society (AAS) in Los Angeles, California, August 20-22, 1974. This three day conference which is co-sponsored by the University of Southern California, Los Angeles, and the AAS, is designed to present a definitive report on Skylab and its impact on future space programs.

The conference which features presentations by 77 government, industry and university aerospace engineers and scientists will highlight all facets of the 171-day long manned Skylab program during which time three separate crews lived and worked aboard the 100-ton orbiting scientific laboratory for periods of 28 to 84 days. The last mission ended on February 8, 1974.

Commander Truly's paper is part of the second day's session. His presentation details the opinions and experiences of the three Skylab flight crews in the use of the unique systems aboard the 100-ton space station.

Skylab, the first manned orbiting laboratory, was launched from the Kennedy Space Center, Florida, on May 14, 1973. The loss of a meteoroid and thermal shield and loss of one of the vehicles solar array panels threatened the success of the program; however, ground crews worked out

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procedural repairs which were carried out by the first crew of Charles Conrad, Dr. Joseph Kerwin, and Paul Weitz. This first team spent 28 days aboard the orbiting lab and returned with a harvest of scientific evidence on man's ability to perform during prolonged periods of weightlessness, new evidence on the intricacies of Sun and near stars, and extensive data on the natural resources of the Earth.

Subsequent missions of 59 days (Alan Bean, Dr. Owen Garriott, and Jack Lousma, July 28-September 25, 1973) and 84 days (Gerald Carr, Dr. Edward Gibson and William Pogue, November 16, 1973-February 8, 1974) provided additional data on man's future role in space as well as a wealth of new information about the dynamic processes of the Sun and its effects on the Earth. The Skylab missions have also proved the value of manned observations of the Earth from space, helped define the feasibility of new products in zero gravity and has stimulated interest of international cooperation in space.

Commander Truly has been a NASA astronaut since 1969. He served as a member of the support crews of each of the three Skylab missions.

During Skylab he was one of several capsule communicators who were the sole persons who talked with the orbiting crewmen.

He now resides in Kemah, Texas, with his wife Colleen and three children, Richard Michael, Daniel Bennett, and Lee Margaret.

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Johnson Space Center
Houston, Texas 77058

Robert Gordon
713/483-5111

FOR RELEASE:
August 15, 1974

RELEASE NO: 74-179

CRIPPEN PRESENTS SKYLAB PAPER

Lieutenant Commander Robert L. Crippen, formerly of Beaumont and Porter, Texas, is part of the NASA aerospace team from the Johnson Space Center, Houston, Texas, scheduled to make the first comprehensive report on the results of Skylab, the longest and most scientifically productive endeavors in the history of human exploration.

Commander Crippen, a 1960 graduate of the University of Texas will present a paper on "Flightcrew Observations of Spacecraft Systems" at the 20th annual meeting of the American Astronautical Society (AAS) in Los Angeles, California, August 20-22, 1974. This three day conference which is co-sponsored by the University of Southern California, Los Angeles, and the AAS, is designed to present a definitive report on Skylab and its impact on future space programs.

The conference which features presentations by 77 government, industry and university aerospace engineers and scientists will highlight all facets of the 171-day long manned Skylab program during which time three separate crews lived and worked aboard the 100-ton orbiting scientific laboratory for periods of 28 to 84 days. The last mission ended on February 8, 1974.

Commander Crippen's paper is part of the second day's session. His presentation details the opinions, and experiences of the three Skylab flight crews in the use of the unique systems aboard the 100-ton space station.

Skylab, the first manned orbiting laboratory, was launched from the Kennedy Space Center, Florida, on May 14, 1973. The loss of a meteoroid and thermal shield and loss of one of the vehicles solar array panels

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threatened the success of the program; however, ground crews worked out procedural repairs which were carried out by the first crew of Charles Conrad, Dr. Joseph Kerwin, and Paul Weitz. This first team spent 28 days aboard the orbiting lab and returned with a harvest of scientific evidence on man's ability to perform during prolonged periods of weightlessness, new evidence on the intricacies of Sun and near stars, and extensive data on the natural resources of the Earth.

Subsequent missions of 59 days (Alan Bean Dr. Owen Garriott, and Jack Lousma, July 28-September 25, 1973) and 84 days (Gerald Carr, Dr. Edward Gibson and William Pogue, November 16, 1973-February 8, 1974) provided additional data on man's future role in space as well as a wealth of new information about the dynamic processes of the Sun and its effects on the Earth. The Skylab missions have also proved the value of manned observations of the Earth from space, helped define the feasibility of new products in zero gravity and has stimulated interest of international cooperation in space.

Commander Crippen has been a NASA astronaut since 1969. Before Skylab, Crippen was the commander for the 56-day chamber test during which he and two other astronauts performed various Skylab medical experiments inside a 20-foot chamber.

During Skylab he was one of several capsule communicators who were the sole persons who talked with the orbiting crewmen.

He now resides in LaPorte, Texas, with his wife Virginia and three children, Ellen Marie, Susan Lynn, and Linda Ruth.

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Johnson Space Center
Houston, Texas 77058

Robert Gordon
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FOR RELEASE:
August 15, 1974

RELEASE NO: 74-180

POTTER PRESENTS SKYLAB PAPER

Andrew E. Potter, Jr., formerly of St. Petersburg, Florida, is part of the NASA aerospace team from the Johnson Space Center, Houston, Texas, scheduled to make the first comprehensive report on the results of Skylab, the longest and most scientifically productive endeavors in the history of human exploration.

Potter, a 1948 graduate of University of Florida (Gainesville) will present a paper on "Flight Performance of the Skylab Earth Resources Experiment Package (EREP)" at the 20th annual meeting of the American Astronautical Society (AAS) in Los Angeles, California, August 20-22, 1974. This three day conference which is co-sponsored by the University of Southern California, Los Angeles, and the AAS, is designed to present a definitive report on Skylab and its impact on future space programs.

The conference which features presentations by 77 government, industry and university aerospace engineers and scientists will highlight all facets of the 171-day long manned Skylab program during which time three separate crews lived and worked aboard the 100-ton orbiting scientific laboratory for periods of 28 to 84 days. The last mission ended on February 8, 1974.

Potter's paper is part of the second day's session. His presentation details the performance of the Earth Resources experiment, a package of six instruments which gathered information on the earth's oceans, crops, geologic formations, and weather.

Skylab, the first manned orbiting laboratory, was launched from the Kennedy Space Center, on May 14, 1973. The loss of a meteoroid and thermal

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shield and loss of one of the vehicles solar array panels threatened the success of the program; however, ground crews worked out procedural repairs which were carried out by the first crew of Charles Conrad, Dr. Joseph Kerwin, and Paul Weitz. This first team spent 28 days aboard the orbiting lab and returned with a harvest of scientific information on man's ability to perform during prolonged periods of weightlessness, new evidence on the intricacies of Sun and near stars, and extensive data on the natural resources of the Earth.

Subsequent missions of 59 days (Alan Bean, Dr. Owen Garriott, and Jack Lousma, July 28-September 25, 1973) and 84 days (Gerald Carr, Dr. Edward Gibson and William Pogue, November 16, 1973-February 8, 1974) provided additional data on man's future role in space as well as a wealth of new information about the dynamic processes of the Sun and its effects on the Earth. The Skylab missions have also proved the value of manned observations of the Earth from space, helped define the feasibility of new products in zero gravity and has stimulated interest of international cooperation in space.

Potter has been with the NASA since 1953. Before taking over his Skylab post, he was staff scientist in the Space Physics Division at the Johnson Space Center.

Before joining JSC, he worked at the NASA Lewis Research Center where he worked on solar cell studies and research on combustion.

Potter now resides in Seabrook, Texas, with his wife Shirley and 3 children, Andrew, Lloyd and Thomas.

-end-

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
Johnson Space Center
Houston, Texas 77058

Robert Gordon
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FOR RELEASE:
August 15, 1974

RELEASE NO: 74-181

BOND PRESENTS SKYLAB PAPER

Robert L. Bond, formerly of Annapolis, Maryland, is part of the NASA aerospace team from the Johnson Space Center, Houston, Texas, scheduled to make the first comprehensive report on the results of Skylab, the longest and most scientifically productive endeavors in the history of human exploration.

Bond, a 1959 graduate of Louisiana State University will present a paper on "Skylab Experiment M516-Crew Activities Maintenance Study" at the 20th annual meeting of the American Astronautical Society (AAS) in Los Angeles, California, August 20-22, 1974. This three day conference which is co-sponsored by the University of Southern California, Los Angeles, and the AAS, is designed to present a defintive report on Skylab and its impact on future space programs.

The conference which features presentations by 77 government, industry and university aerospace engineers and scientists will highlight all facets of the 171-day long manned Skylab program during which time three separate crews lived and worked aboard the 100-ton orbiting scientific laboratory for periods of 28 to 84 days. The last mission ended on February 8, 1974.

Bond who was principal investigator for crew activities and maintenance experiment will present his paper on the second day of the session. His presentation details an evolution of man's ability to handle and transport items of various sizes and masses and to make equipment repairs aboard the 100-ton Skylab space station.

Skylab, the first manned orbiting laboratory, was launched from the Kennedy Space Center, Florida, on May 14, 1973. The loss of a meteoroid

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and thermal shield and loss of one of the vehicles solar array panels threatened the success of the program; however, ground crews worked out procedural repairs which were carried out by the first crew of Charles Conrad, Dr. Joseph Kerwin, and Paul Weitz. This first team spent 28 days aboard the orbiting lab and returned with a harvest of scientific evidence on man's ability to perform during prolonged periods of weightlessness, new evidence on the intricacies of Sun and near stars, and extensive data on the natural resources of the Earth.

Subsequent missions of 59 days (Alan Bean, Dr. Owen Garriott, and Jack Lousma, July 28-September 25, 1973) and 84 days (Gerald Carr, Dr. Edward Gibson and William Pogue, November 16, 1973-February 8, 1974) provided additional data on man's future role in space as well as a wealth of new information about the dynamic processes of the Sun and its effects on the Earth. The Skylab missions have also proved the value of manned observations of the Earth from space, helped define the feasibility of new products in zero gravity and has stimulated interest of international cooperation in space.

Bond has been with the NASA since December 1965. Before taking over his Skylab post, he was assigned to the advanced missions office where he served as project engineer where he coordinated manned requirements for the Lunar Rover vehicle.

Bond now resides in Nassau Bay, Houston, Texas, with his wife Nancy and son Rick.

-end-

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
Johnson Space Center
Houston, Texas 77058

Robert Gordon
713/483-5111

FOR RELEASE:
August 15, 1974

RELEASE NO: 74-182

LENOIR PRESENTS SKYLAB PAPER

Dr. William B. Lenoir, formerly of Miami, Florida, is part of the NASA aerospace team from the Johnson Space Center, Houston, Texas, scheduled to make the first comprehensive report on the results of Skylab, the longest and most scientifically productive endeavors in the history of human exploration.

Dr. Lenoir, a graduate of the Massachusetts Institute of Technology will present a paper on "Visual Observations From Space" at the 20th annual meeting of the American Astronautical Society (AAS) in Los Angeles, California, August 20-22, 1974. This three day conference which is co-sponsored by the University of Southern California, Los Angeles, and the AAS, is designed to present a definitive report on Skylab and its impact on future space programs.

The conference which features presentations by 77 government, industry and university aerospace engineers and scientists will highlight all facets of the 171-day long manned Skylab program during which time three separate crews lived and worked aboard the 100-ton orbiting scientific laboratory for periods of 28 to 84 days. The last mission ended on February 8, 1974.

Dr. Lenoir's paper is part of the second day's session. His presentation details the contribution Skylab crew members made in the earth observation program. He discusses the importance of man's ability to recognize objects and patterns, to integrate his observations and most importantly to reason and make selective observations which cannot be performed by automated machines.

Skylab, the first manned orbiting laboratory, was launched from the Kennedy Space Center, Florida, on May 14, 1973. The loss of a meteoroid and thermal shield and loss of one of the vehicles solar arry panels

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threatened the success of the program; however, ground crews worked out procedural repairs which were carried out by the first crew of Charles Conrad, Dr. Joseph Kerwin, and Paul Weitz. This first team spent 28 days aboard the orbiting lab and returned with a harvest of scientific evidence on man's ability to perform during prolonged periods of weightlessness, new evidence on the intricacies of Sun and near stars, and extensive data on the natural resources of the Earth.

Subsequent missions of 59 days (Alan Bean, Dr. Owen Garriott, and Jack Lousma, July 28-September 25, 1973) and 94 days (Gerald Carr, Dr. Edward Gibson and William Pogue, November 16, 1973-February 8, 1974) provided additional data on man's future role in space as well as a wealth of new information about the dynamic processes of the Sun and its effects on the Earth. The Skylab missions have also proved the value of manned observations of the Earth from space, helped define the feasibility of new products in zero gravity and has stimulated interest of international cooperation in space.

Dr. Lenoir has been a NASA astronaut since 1967.

During Skylab he served as backup science pilot for Skylab 3 and 4 and while the mission was in progress he served on the science team which concentrated on solar studies.

Dr. Lenoir now resides in El Lago, Texas, with his wife Elizabeth and 2 children, William Jr., and Samantha.

-end-

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
Johnson Space Center
Houston, Texas 77058

Terry White
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FOR RELEASE:
August 2, 1974

RELEASE NO: 74-183

ASTP DOCKING TEST NEAR COMPLETION

"Soyuz, ehto Apollon. Stuikovka na pyat minut..."

In Oklahoma-accented Russian, Thomas P. Stafford in mid-July of 1975 will radio the above message---or one like it---to the two Soviet cosmonauts aboard a Soyuz spacecraft as his Apollo spacecraft closes the gap separating the two craft. "Soyuz, this is Apollo. Docking in five minutes..."

The historic meeting in orbit above the earth between the United States' Apollo spacecraft and the Soviet Union's Soyuz spacecraft next year will have been preceded by exhaustive testing on the ground of the docking system that will link the two spacecraft together.

A crucial series of tests of the docking system was run in July 1974---a full year before the mission is to be flown. The tests were realistic simulations of the conditions that the docking mechanisms must undergo during the actual link-up in orbit. A computerized dynamic docking simulator in Johnson Space Center's Structures and Mechanics Laboratory duplicated the motion, forces and impact loads that are expected at the time Apollo and Soyuz dock for two days of joint operations in orbit.

One end of the Apollo-Soyuz docking module is fitted with the standard Apollo docking ring that was used for linking the lunar module to the command module in the Apollo lunar landing program. The opposite end of the docking module is fitted

- more -

with a docking mechanism that is compatible with the Soviet Soyuz spacecraft docking system. An airlock in the docking module allows the American and Soviet crews to transfer back and forth between the two spacecraft.

With Stafford aboard Apollo will be Donald K. "Deke" Slayton and Vance D. Brand. The Soyuz spacecraft will be manned by Alexei Leonov and Valeriy Kubasov.

- end -

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
Johnson Space Center
Houston, Texas 77058

Jan Wrather
713/483-5111

FOR RELEASE:
August 6, 1974

RELEASE NO: 74-184

NASA MONITORING INSTRUMENT MAY AID HYPERTENSION STUDIES

An automated blood pressure monitoring system developed for the NASA Integrated Medical and Behavioral Laboratory Measurement System Program (IMBLMS) is being evaluated for use in studies on control of high blood pressure in human beings.

The system uses the blood pressure cuff, originally developed for IMBLMS, in conjunction with an automatic blood pressure monitoring system to obtain blood pressure measurements.

The Johnson Space Center (JSC) Bioengineering Systems Division Bio-instrumentation Laboratory has modified the system and has delivered it to Dr. Ted Andrechuk, Professor of Psychology, Texas Tech University, for evaluation with hypertensive subjects.

Previous studies involving humans as experimental subjects have demonstrated that heart rate and blood pressure can be controlled through conditioning techniques.

In essence, human subjects learned to increase or decrease their blood pressure with or without corresponding changes in heart rate when biosensory data was displayed.

The NASA-funded Southwest Research Institute, (SwRI) Biomedical Applications Team, San Antonio, recognized that the pressure ramp programmer used in the IMBLMS program could be modified to provide continuous blood pressure monitoring.

IMBLMS was a highly flexible, advanced laboratory system originally designed to transmit medical information from Skylab to physicians on Earth.

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The IMBLMS concept can also be adapted to provide hospital-quality care to remote communities at a distance from established hospital facilities.

Modifications to the blood pressure system, including the incorporation of an automatic blood pressure monitor similar to the one used on Skylab, were specified by the SwRI Biomedical Applications Team and were performed by JSC's Bioinstrumentation Laboratory.

The pressure ramp programmer begins a new pressure cycle at one minute intervals with a total of 30 seconds for each cycle. Numerical display of blood pressure is provided as well as continuous pressure display on a strip chart recorder.

"If high blood pressure can be lowered permanently by biofeedback conditioning, a significant alternative would be available to current pharmacological and surgical methods of treatment which sometimes have detrimental side effects", J. L. Sigmon, a member of the SwRI Applications team, said.

He added that an area of potential application of biofeedback conditioning of the cardiovascular system is in the modification of symptoms in disorders effecting those areas of the cardiovascular system controlled by the automatic nervous system. One example is "essential hypertension" in which the major symptom is an elevation of blood pressure without an apparent cause.

Dr. Andrechuk has started a three-month evaluation program of the pressure ramp programmer at the Veterans Administration Hospital, Temple, Texas, to assess the effectiveness of biofeedback conditioning as well as other previously established hypertension control methods.

A second evaluation of the system will be conducted this fall at the Texas Tech University Medical School to determine the effect of hypertension drug treatment, placebo drugs and patient suggestibility.

A black and white photograph demonstrating the pressure ramp programmer may be obtained from the JSC photo-library, extension 4231. Please reference NASA number S-74-15579 when ordering the photo.

-end-

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
Johnson Space Center
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Charles Redmond
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FOR RELEASE:
August 5, 1974

RELEASE NO: 74-185

ANTHONY CALIO GETS SLOAN FELLOWSHIP

Anthony J. Calio, Director of Science and Applications for the Johnson Space Center, Houston, has been accepted by the Stanford Graduate School of Business as a Stanford-Sloan Fellow. During Dr. Calio's 10-month leave of absence (beginning August 12, 1974), Dr. Owen K. Garriott, Deputy Director of Science and Applications and former scientist-astronaut on Skylab 3, will be Acting Director.

The Stanford-Sloan Program, which begins September 9 in Palo Alto, California, is limited to 40 participants--upper level managers between 32 and 45 years of age. This year's class includes 18 foreigners and 24 Americans (10 in government and 14 in private industry). The Stanford-Sloan Program (and its counterpart at MIT for middle level management) trains managers to understand the sensitive elements--consumer, investment, and government expenditures--that affect the economy both domestically and internationally.

Each year the Stanford Program is changed slightly. The 1974-75 program will continue to stress decision theory, economics, finance, marketing, and behavioral management science and will include a new emphasis on business/government relationships, corporate law, taxation, multinational organizations, management of non-profit organizations, and the changing business environment. Case studies are made of the traditional challenges arising from continued progress in science and technology and the new demands arising out of the increased emphasis on human and environmental values in business. Of a fellow's academic time, 1/4 is spent in seminars, 1/4 in electives, and 1/2 in directed course work. Field trips to prominent West and East Coast corporations and interviews with top business leaders

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in both private and governmental agencies will supplement the program.

Dr. Calio, previously Assistant Director of Planetary Exploration at NASA Headquarters in Washington, came to JSC in 1968 as Deputy Director Science and Applications. Since 1969, as Director of Science and Applications, Dr. Calio has successfully defined, planned, and directed the scientific activities associated with Apollo: the selection of lunar landing sites, the development of the scientific instruments placed on the Moon, the training of the astronauts for lanar exploration, and the management of the collection of 850 pounds of lunar materials. Dr. Calio is currently the Manager of the Lunar Science Project, which involves 1,000 scientists (associated with 140 domestic and 40 foreign institutions) engaged in the analyses of lunar data.

Dr. Calio also directs elements of JSC's Earth Resources Program, which includes development of the Earth Resources Experiments Package (EREP) that flew on Skylab and development of projects demonstrating the feasibility of remotely sensed data (acquired from aircraft and spacecraft) applicable in the areas of land use, forestry, and agriculture. In addition, Dr. Calio manages research projects that will ultimately lead to Shuttle payloads that will study three areas of space sciences: cosmic ray physics, atmospheric physics, and astronomy.

During Dr. Calio's 12 years with NASA he has received three of NASA's highest commendations: the Distinguished Service Medal, the Exceptional Scientific Achievement Medal, and the Exceptional Service Medal, and he is actively involved with the Houston Chamber of Commerce's Houston Tomorrow Assembly. Dr. Calio is an associate fellow of the American Institute of Aeronautics and Astronautics, and a member of the New York Academy of Sciences, and the American Association for the Advancement of Science. A former Philadelphian, Dr. Calio has resided in Houston for the past seven years.

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NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
Johnson Space Center
Houston, Texas 77058

Charles Redmond
713/483-4341

FOR RELEASE:
August 15, 1974

RELEASE NO: 74-186

DR. ROBERT A PARKER NEW CHIEF, ASTRONAUT OFFICE, S&AD

Dr. Robert A. R. Parker, scientist-astronaut and program scientist for the Skylab missions, has been named the new Chief, Astronaut Office, Science and Applications Directorate.

Dr. Parker takes the reins from Dr. Harrison H. Schmitt who was named Assistant Administrator for Energy Programs at NASA Headquarters in May. Dr. Owen Garriott, Deputy Director, Science and Applications Directorate, was Acting Chief of the Astronaut Office, S&AD since Dr. Schmitt's departure for Washington.

Dr. Parker was named a NASA scientist-astronaut in 1967 and was a member of the support crews for the Apollo 15 and 17 missions. He holds a Doctorate in Astronomy from the California Institute of Technology.

The Astronaut Office, Science and Applications Directorate, was created in a Johnson Space Center reorganization this past February. Scientist-astronauts formerly assigned to the Flight Crew Operations Directorate were assigned to the newly created office in S&AD. The Astronaut Office, S&AD, will serve as an interface between eventual Shuttle payload users and the space agency as well as participate in the flight research program of the Shuttle.

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NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
Johnson Space Center
Houston, Texas 77058

Robert Gordon
713/483-5111

FOR RELEASE:
August 15, 1974

RELEASE NO: 74-187

HOLLOWAY PRESENTS SKYLAB PAPER

Thomas W. Holloway, formerly of Jasmine, Arkansas, is part of the NASA aerospace team from the Johnson Space Center, Houston, Texas, scheduled to make the first comprehensive report on the results of Skylab, the longest and most scientifically productive endeavors in the history of human exploration.

Holloway, a graduate of the University of Arkansas will present a paper on "Skylab Flight Plan Development" at the 20th annual meeting of the American Astronautical Society (AAS) in Los Angeles, California, August 20-22, 1974. This three day conference which is co-sponsored by the University of Southern California, Los Angeles, and the AAS, is designed to present a definitive report on Skylab and its impact on future space programs.

The conference which features presentations by 77 government, industry and university aerospace engineers and scientists will highlight all facets of the 171-day long manned Skylab program during which time three separate crews lived and worked aboard the 100-ton orbiting scientific laboratory for periods of 28 to 84 days. The last mission ended on February 8, 1974.

Holloway's paper is part of the first day's session. His presentation details the flight planning lessons learned during the mission and recommendations for future use in the planning of long duration manned missions.

Skylab, the first manned orbiting laboratory, was launched from the Kennedy Space Center, Florida, on May 14, 1973. The loss of a meteoroid and thermal shield and loss of one of the vehicles solar array panels threatened the success of the program; however, ground crews worked out

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procedural repairs which were carried out by the first crew of Charles Conrad, Dr. Joseph Kerwin, and Paul Weitz. This first team spent 28 days aboard the orbiting lab and returned with a harvest of scientific evidence on man's ability to perform during prolonged periods of weightlessness, new evidence on the intricacies of Sun and near stars, and extensive data on the natural resources of the Earth.

Subsequent missions of 59 days (Alan Bean, Dr. Owen Garriott, and Jack Lousma, July 28-September 25, 1973) and 84 days (Gerald Carr, Dr. Edward Gibson and William Pogue, November 16, 1973-February 8, 1974) provided additional data on man's future role in space as well as a wealth of new information about the dynamic processes of the Sun and its effects on the Earth. The Skylab missions have also proved the value of manned observations of the Earth from space, helped define the feasibility of new products in zero gravity and has stimulated interest of international cooperation in space.

Holloway now resides in Seabrook, Texas, with his wife Shirley and family.

-end-

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
Johnson Space Center
Houston, Texas 77058

Terry White
713/483-5111

FOR RELEASE:
August 16, 1974

RELEASE NO: 74-188

AHSAN IN NASA FACULTY PROGRAM

Dr. S. Reza Ahsan, professor of geography at Western Kentucky University and Bowling Green resident, is taking part in a 10-week summer faculty fellowship program at the NASA Johnson Space Center.

He is one of 53 university professors and instructors participating in the program at JSC which is sponsored by NASA in cooperation with the American Society for Engineering Education.

Working in the earth resources area at JSC, Dr. Ahsan said, "The earth observation section at JSC has an extraordinary facility for interpretation of space photos from Skylab and from the Earth Resources Technology Satellite. This information could be very valuable in state land-use inventory as well as in the study of urban problems.

"In the case of Kentucky," he said, "Skylab data could be used for locating strip mining areas."

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The Summer Faculty Fellowship Institutes are sponsored by NASA in cooperation with the American Society for Engineering Education in two major catagories: engineering systems design and aeronautics and space research.

NASA field centers and local universities administer the programs, with funding coming from the NASA Office of University Affairs in the form of grants to the universities. Johnson Space Center's partners in the program are the University of Houston, Rice University and Texas A&M University.

The 20 engineering and systems design fellows working for 11 weeks this summer at JSC are conducting a systems study of solid waste disposal by incineration, with an energy source as a by-product. The 33 aeronautics and space reseach fellows at JSC for 10 weeks are working in such diverse fields as planetary and earth sciences, space medicine and environmental physiology, life support systems, communications, guidance and control, spacecraft propulsion and power generation, structures and mechanics, aerodynamics, spacecraft design and flight operations.

Representing this year 39 colleges and universities in 21 states and Puerto Rico, the summer faculty fellowship program is in its tenth summer for the aeronautics and space research group, and in the seventh summer for engineering systems design.

- end -

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
Johnson Space Center
Houston, Texas 77058

Terry White
713/483-5111

FOR RELEASE:
August 16, 1974

RELEASE NO: 74-189

ALLEN IN NASA FACULTY PROGRAM

Professor Charles W. Allen, instructor in the department of electrical engineering at Virginia Polytechnic and State University, is taking part in a 10-week summer faculty fellowship program at the NASA Johnson Space Center.

He is one of 53 university professor and instructors participating in the program at JSC, which is sponsored by NASA in cooperation with the American Society for Engineering Education.

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NASA field centers and local universities administer the programs, with funding coming from the NASA Office of University Affairs in the form of grants to the universities. Johnson Space Center's partners in the program are the University of Houston, Rice University and Texas A&M University.

The 20 engineering and systems design fellows working for 11 weeks this summer at JSC are conducting a systems study of solid waste disposal by incineration, with an energy source as a by-product. The 33 aeronautics and space reseach fellows at JSC for 10 weeks are working in such diverse fields as planetary and earth sciences, space medicine and environmental physiology, life support systems, communications, guidance and control, spacecraft propulsion and power generation, structures and mechanics, aerodynamics, spacecraft design and flight operations.

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Terry White
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FOR RELEASE:
August 16, 1974

RELEASE NO: 74-190

AMOSS IN NASA FACULTY PROGRAM

Dr. Donald C. Amoss, assistant professor of electrical, computer engineering and bioengineering at Clemson University, is taking part in a 10-week summer faculty fellowship program at the NASA Johnson Space Center.

He is one of 53 university professor and instructors participating in the program at JSC, which is sponsored by NASA in cooperation with the American Society for Engineering Education.

Dr. Amoss said, "The Faculty Fellowship Program offers valuable exposure to NASA's involvement in biomedical research and development."

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FOR RELEASE:
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RELEASE NO: 74-191

ANDRUS IN NASA FACULTY PROGRAM

Dr. Jan Frederick Andrus, associate professor of mathematics at the University of New Orleans, is taking part in a 10-week summer faculty fellowship program at the Johnson Space Center.

He is one of 53 university professors and instructors participating in the program at JSC, which is sponsored by NASA in cooperation with the American Society of Engineering Education.

Dr. Andrus is working on an optimal guidance system for the upper stage of the Space Shuttle vehicle.

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ANDERSON IN NASA FACULTY PROGRAM

Dr. Edward E. Anderson, assistant professor in the department of mechanical engineering at the South Dakota School of Mines and Technology, is taking part in a 10-week summer faculty fellowship program at the NASA Johnson Space Center.

An alumnus of Purdue and Iowa State, he is one of 53 university professors and instructors participating in the program at JSC, which is sponsored by NASA in cooperation with the American Society for Engineering Education.

Dr. Anderson says the program "serves as a significant link between the classroom and the space program."

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ARONHIME IN NASA FACULTY PROGRAM

Dr. Peter B. Aronhime, of the Illinois Institute of Technology electrical engineering department, is taking part in a 10-week summer faculty fellowship program at the NASA Johnson Space Center.

Formerly on the electrical engineering faculty of Tri-State College, he is one of 53 university professors and instructors participating in the program at JSC, which is sponsored by NASA in cooperation with the American Society for Engineering Education.

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BELKIN IN NASA FACULTY PROGRAM

Dr. Harold M. Belkin, associate professor of chemical engineering at New Mexico State University, is taking part in a 10-week summer faculty fellowship program at the NASA Johnson Space Center's White Sands Test Facility.

He is one of 53 university professors and instructors participating in the JSC program, which is sponsored by NASA in cooperation with the American Society for Engineering Education.

Dr. Belkin said, "The Faculty Fellowship Program allows the faculty member to get firsthand knowledge of the many ramifications of the space program as they relate to his technical discipline. In the relatively short period of my stay at the JSC White Sands Test Facility," he said, "I am amazed by the materials test capability at this facility."

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CHAO IN NASA FACULTY PROGRAM

Dr. Raul Eduardo Chao, associate professor of chemical engineering at the University of Puerto Rico, is taking part in a 10-week summer faculty fellowship program at the NASA Johnson Space Center.

An alumnus of Johns Hopkins University, he is one of 53 university professors and instructors participating in the program at JSC, which is sponsored by NASA in cooperation with the American Society for Engineering Education.

Dr. Chao said of the program, "It has been a very stimulating and rewarding challenge to work for two years with NASA scientists and engineers in the solution of our most pressing non-space problems."

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CHOPIN IN NASA FACULTY PROGRAM

Dr. Cecil M. Chopin, assistant professor of chemistry at Dominican College in Houston, is taking part in a 10-week summer faculty fellowship program at the NASA Johnson Space Center.

An alumnus of Northwestern State University and Louisiana State University, he is one of 53 university professors and instructors participating in the program at JSC, which is sponsored by NASA in cooperation with the American Society for Engineering Education.

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CORKE IN NASA FACULTY PROGRAM

Dr. Henry E. Corke, instructor of physics at Galveston College, is taking part in a 10-week summer faculty fellowship program at the NASA Johnson Space Center.

A resident of Clear Lake City, he is one of 53 university professors and instructors participating in the program at JSC, which is sponsored by NASA in cooperation with the American Society for Engineering Education.

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COX IN NASA FACULTY PROGRAM

Dr. Kenneth E. Cox, associate professor in the University of New Mexico Department of Chemical and Nuclear Engineering, is taking part in a 10-week summer faculty fellowship program at the NASA Johnson Space Center.

He is one of 53 university professors and instructors participating in the program at JSC, which is sponsored by NASA in cooperation with the American Society for Engineering Education.

Dr. Cox said, "The Faculty Fellowship Program is beneficial to my research field in the energy area. I am presently doing a study on coal conversion to clean energy forms. This is my second year at JSC," he said. "Last year was spent on the hydrogen study team, and the experience has been of great value to me, the University and my students."

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RELEASE NO: 74-199

FRANK IN NASA FACULTY PROGRAM

Dr. William Frank, assistant professor of Earth Science at Central State University, is taking part in a 10-week summer faculty fellowship program at the NASA Johnson Space Center.

He is one of 53 university professors and instructors participating in the program at JSC, which is sponsored by NASA in cooperation with the American Society for Engineering Education.

"Being able to interact daily with individuals with collectively thousands of man-years experience in Earth observations," said Dr. Frank, "has been a learning experience that would require far greater expenditures of time and money to equal any other way."

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FOR RELEASE:
August 16, 1974

RELEASE NO: 74-200

HEENAN IN NASA FACULTY PROGRAM

Dr. William A. Heenan, assistant professor of chemical engineering at the University of Puerto Rico, is taking part in a 10-week summer faculty fellowship program at the NASA Johnson Space Center.

He is one of 53 university professors and instructors participating in the program at JSC, which is sponsored by NASA in cooperation with the American Society for Engineering Education.

Dr. Heenan said, "The program is providing me with valuable information concerning solid waste management and energy production, which I plan to use in both my teaching and research at the University of Puerto Rico."

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FOR RELEASE:
August 16, 1974

RELEASE NO: 74-201

HENRY IN NASA FACULTY PROGRAM

Dr. Robert R. Henry, assistant professor of engineering at Northern Arizona University, is taking part in a 10-week summer faculty fellowship program at the NASA Johnson Space Center.

He is one of 53 university professors and instructors participating in the program at JSC, sponsored by NASA in cooperation with the American Society for Engineering Education.

Dr. Henry said the program is "an excellent opportunity for an educator to advance his knowledge while helping to solve current problems."

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RELEASE NO: 74-202

HIGGS IN NASA FACULTY PROGRAM

Dr. Gary K. Higgs, assistant professor of the Michigan State University geography department, is taking part in a 10-week summer faculty fellowship program at the NASA Johnson Space Center.

He is one of 53 university professors and instructors participating in the program at JSC, which is sponsored by NASA in cooperation with the American Society for Engineering Education.

Dr. Higgs said the program is "a tremendous advantage to teachers and researchers because it provides a very broad exposure to activities in the various fields of remote sensing studies and enables expanded professional contact."

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RELEASE NO: 74-203

MURRAY IN NASA FACULTY PROGRAM

Dr. Richard G. Murray, head of the Oklahoma State University Mechanical Power Technology Department, is taking part in a 10-week summer faculty fellowship program at the NASA Johnson Space Center.

He is one of 53 university professors and instructors participating at the program at JSC, which is sponsored by NASA in cooperation with the American Soceity for Engineering Education. Dr. Murray is working on internal combustion engine research at JSC.

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RELEASE NO: 74-204

NAUGLE IN NASA FACULTY PROGRAM

Dr. Norman W. Naugle, associate professor of mathematics at Texas A&M University, is taking part in a 10-week summer faculty fellowship program at the NASA Johnson Space Center.

He is one of 53 university professors and instructors participating in the program at JSC, which is sponsored by NASA in cooperation with the American Society for Engineering Education.

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RELEASE NO: 74-205

OWEN IN NASA FACULTY PROGRAM

Dr. Earle W. Owen, associate professor of electrical engineering at the University of California at Davis, is taking part in a 10-week summer faculty fellowship program at the NASA Johnson Space Center.

He is one of 53 university professors and instructors participating in the program at JSC, which is sponsored by NASA in cooperation with the American Society for Engineering Education. Dr. Owen said that he is "enjoying the program greatly."

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RELEASE NO: 74-206

PENDLETON IN NASA FACULTY PROGRAM

Dr. Richard L. Pendleton, assistant professor of mechanical engineering at the South Dakota School of Mines and Technology, is taking part in a 10-week summer faculty fellowship program at the NASA Johnson Space Center.

He is one of 53 university professors and instructors participating in the program at JSC, which is sponsored by NASA in cooperation with the American Society for Engineering Education.

Dr. Pendleton said, "Being able to work with the NASA technical group and become involved in their plans and problems, as well as working on special research problems, has proven to be very interesting and professionally rewarding."

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RELEASE NO: 74-207

RUFFIN IN NASA FACULTY PROGRAM

Professor Ineatha W. Ruffin, assistant professor of physics at Southern University, Baton Rouge, Louisiana, is taking part in a 10-week summer faculty fellowship program at the NASA Johnson Space Center.

She is one of 53 university professors and instructors participating in the program at JSC, which is sponsored by NASA in cooperation with the American Society for Engineering Education.

Professor Ruffin said, "The program is a rewarding intellectual experience."

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Johnson Space Center
Houston, Texas 77058

Terry White
713/483-5111

FOR RELEASE:
August 16, 1974

RELEASE NO: 74-208

SILVER IN NASA FACULTY PROGRAM

Dr. Murray Silver, assistant professor of mathematics at Bowdoin College, is taking part in a 10-week summer faculty fellowship program at the NASA Johnson Space Center.

He is one of 53 university professors and instructors participating in the program at JSC, which is sponsored by NASA in cooperation with the American Society for Engineering Education.

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FOR RELEASE:
August 16, 1974

RELEASE NO: 74-209

SMITH IN NASA FACULTY PROGRAM

Dr. Theodore F. Smith, assistant professor of mechanical engineering at the University of Iowa, is taking part in a 10-week summer faculty fellowship program at the NASA Johnson Space Center.

He is one of 53 university professors and instructors participating in the program at JSC, which is sponsored by NASA in cooperation with the American Society for Engineering Education.

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FOR RELEASE:
August 16, 1974

RELEASE NO: 74-210

SOLOMON IN NASA FACULTY PROGRAM

Dr. Jimmy L. Solomon, assistant professor of mathematics at Texas A&I University, is taking part in a 10-week summer faculty fellowship program at the NASA Johnson Space Center.

He is one of 53 university professors and instructors participating in the program at JSC, which is sponsored by NASA in cooperation with the American Society for Engineering Education.

Dr. Solomon describes the program as "a stimulating experience."

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RELEASE NO: 74-211

WALTON IN NASA FACULTY PROGRAM

Dr. Jay R. Walton, assistant professor of mathematics at Texas A&M University, (and native of Gary; and DePauw alumnus) is taking part in a 10-week summer faculty fellowship program at NASA Johnson Space Center.

He is one of 53 university professors and instructors participating in the program at JSC, which is sponsored by NASA in cooperationwith the American Society for Engineering Education.

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FOR RELEASE:
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RELEASE NO: 74-212

WANG IN NASA FACULTY PROGRAM

Dr. Sam Shu-Yi Wang, associate professor of mechanical engineering at the University of Mississippi, is taking part in a 10-week summer faculty fellowship program at the NASA Johnson Space Center.

He is one of 53 university professors and instructors participating in the program at JSC, which is sponsored by NASA in cooperation with the American Society for Engineering Education.

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FOR RELEASE:
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RELEASE NO: 74-213

WHITSON IN NASA FACULTY PROGRAM

Dr. Dennis W. Whitson, associate professor of physics at Indiana University of Pennsylvania, is taking part in a 10-week summer faculty fellowship program at the NASA Johnson Space Center.

He is one of 53 university professors and instructors participating in the program at JSC, which is sponsored by NASA in cooperation with the American Soceity for Engineering Education.

Dr. Whitson said, "In the next decade, scientists and engineers will be desparately needed by this society. This program helps to keep a number of these people current with what is happening and at the same time broadening their interests."

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RELEASE NO: 74-214

WILLIAMSON IN NASA FACULTY PROGRAM

Dr. Edward P. Williamson, associate professor of electrical engineering at Tulane University, is taking part in a 10-week summar faculty fellowship program at the NASA Johnson Space Center.

He is one of 53 university professors and instructors participating in the program at JSC, which is sponsored by NASA in cooperation with the American Society for Engineering Education.

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FOR RELEASE:
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RELEASE NO: 74-215

WOLF IN NASA FACULTY PROGRAM

Dr. George W. Wolf, assistant professor of astronomy at Southwest Missouri State University, is taking part in a 10-week summer faculty fellowship program at the NASA Johnson Space Center.

He is one of 53 university professors and instructors participating in the program at JSC, which is sponsored by NASA in cooperation with the American Society for Engineering Education.

Dr. Wolf said, "The program permits faculty members who spend most of thier time during the academic year teaching to collaborate in research and thereby improve the necessary skills of their professions."

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WOLGAMOTT IN NASA FACULTY PROGRAM

Dr. Gary D. Wolgamott, associate professor of microbiology at Southwestern Oklahoma State University, is taking part in a 10-week summer faculty fellowship program at the NASA Johnson Space Center.

A native of Kiowa, Kansas and a graduate of Northwestern Oklahoma State University, he is one of 53 university professors and instructors participating in the program at JSC, which is sponsored by NASA in cooperation with the American Society for Engineering Education.

Dr. Wolgamott said, "The faculty fellowship program is a tremendous educational opportunity and it is very thrilling to have an active role in the microbiological experimental payload package of our nation's space program."

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RELEASE NO: 74-217

YEH IN NASA FACULTY PROGRAM

Dr. Hsi-Han Yeh, associate professor of electrical engineering at the University of Kentucky, is taking part in a 10-week summer faculty fellowship program at the NASA Johnson Space Center.

He is one of 53 university professors and instructors participating in the program at JSC, which is sponsored by NASA in cooperation with the American Society for Engineering Education.

Dr. Yeh said, "The program offers the invaluable experience of participating in space research and design work."

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RELEASE NO: 74-218

ANTUNES IN NASA FACULTY PROGRAM

Dr. George E. Antunes, associate professor of political science at the University of Houston, is taking part in a 11-week summer faculty fellowship program at the NASA Johnson Space Center.

A native of Havre, Montana, and a graduate of Gonzaga University in Spokane, Washington, he is one of 53 university professors and instructors participating in the program at JSC, which is sponsored by NASA in cooperation with the American Society for Engineering Education.

"Our group has an interesting research topic," said Dr. Antunes. "Few people have serously examined municipal garbage as a source of raw materials and energy."

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CARMICHAEL IN NASA FACULTY PROGRAM

Dr. Ronald L. Carmichael, professor of engineering management at the University of Missouri at Rolla, is taking part in a 11-week summer faculty fellowship program at the NASA Johnson Space Center.

He is one of 53 university professors and instructors participating in the program at JSC, which is sponsored by NASA in cooperation with the American Society for Engineering Education.

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RELEASE NO: 74-220

CHENG IN NASA FACULTY PROGRAM

Dr. Shang-I Cheng, professor of chemical engineering at the Cooper Union, is taking part in a 11-week summer faculty fellowship program at the NASA Johnson Space Center.

He is one of 53 university professors and instructors participating in the program at JSC, which is sponsored by NASA in cooperation with the American Society for Engineering Education.

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RELEASE NO: 74-221

HALTER AND HOLM IN NASA FACULTY PROGRAM

Two A&M professors, Dr. Gary M. Halter of the political science department, and Dr. Francis W. Holm of the mechanical engineering department, are taking part in a 11-week summer faculty fellowship program at the NASA Johnson Space Center.

They are among 53 university professors and instructors participating in the program at JSC, which is sponsored by NASA in cooperation with the American Society for Engineering Education.

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KUESTER IN NASA FACULTY PROGRAM

Dr. James L. Kuester, associate professor of chemical engineering at the University of Arizona, is taking part in a 11-week summer faculty fellowship program at the NASA Johnson Space Center.

A native of Phoenix, he is one of 53 university professors and instructors participating in the program at JSC, which is sponsored by NASA in cooperation with the American Society for Engineering Education.

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RELEASE NO: 74-223

LUTES IN NASA FACULTY PROGRAM

Dr. Loren D. Lutes, associate professor of civil engineering at Rice University, is taking part in a 11-week summer faculty fellowship program at the NASA Johnson Space Center.

He is one of 53 university professors and instructors participating in the program at JSC, which is sponsored by NASA in cooperation with the American Society for Engineering Education.

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RELEASE NO: 74-224

MAPLES IN NASA FACULTY PROGRAM

Dr. Dupree Maples, associate professor of mechanical engineering at Louisiana State University, is taking part in a 11-week summer faculty fellowship program at the NASA Johnson Space Center.

He is one of 53 university professors and instructors participating in the program at JSC, which is sponsored by NASA in cooperation with the American Society for Engineering Education.

Referring to the solid waste disposal system study his group is working on at JSC, Dr. Maples said, "Energy from solid waste will aid in the solution of two national problems. First, the solid waste disposal problem in the United States is reaching alarming proportions, and second, we have an energy shortage. The NASA study is an attempt to combine these two problems into one solution: energy from solid waste."

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RELEASE NO: 74-225

MEYERS IN NASA FACULTY PROGRAM

Dr. Arthur C. Meyers, instructor of natural science and technology in the Environmental Design College of the University of Colorado, is taking part in a 11-week summer faculty fellowship program at the NASA Johnson Space Center.

He is one of 53 university professors and instructors participating in the program at JSC, which is sponsored by NASA in cooperation with the American Society for Engineering Education.

Dr. Meyers said, "I have found the program most helpful in professional growth in environmental design and environmental physics."

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RELEASE NO: 74-226

RAO IN NASA FACULTY PROGRAM

Dr. Shankaranarayana R. N. Rao, chairman of the civil engineering department at Prairie View A&M University, is taking part in an 11-week summer faculty fellowship program at the NASA Johnson Space Center.

He is one of 53 university professors and instructors participating in the program at JSC, which is sponsored by NASA in cooperation with the American Society for Engineering Education.

Dr. Rao said, "A faculty fellowship program such as this is a worthy instrument for the benefit of the future of our society."

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The 20 engineering and systems design fellows working for 11 weeks this summer at JSC are conducting a systems study of solid waste disposal by incineration, with an energy source as a by-product. The 33 aeronautics and space research fellows at JSC for 10 weeks are working in such diverse fields as planetary and earth sciences, space medicine and environmental physiology, life support systems, communications, guidance and control. spacecraft propulsion and power generation, structures and mechanics, aerodynamics, spacecraft design and flight operations.

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NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
Johnson Space Center
Houston, Texas 77058

Terry White
713/483-5111

FOR RELEASE:
August 16, 1974

RELEASE NO: 74-227

RIESCO IN NASA FACULTY PROGRAM

Dr. Armando Riesco II, assistant professor in the industrial engineering department at the University of Puerto Rico, is taking part in an 11-week summer faculty fellowship program at the NASA Johnson Space Center.

He is one of 53 university professors and instructors participating in the program at JSC, which is sponsored by NASA in cooperation with the American Society for Engineering Education.

Dr. Riesco said, "This program provides an opportunity for faculty members to work in an interdisciplinary group which concentrates itself on very timely and important problems."

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FOR RELEASE:
August 16, 1974

RELEASE NO: 74-228

SWIFT AND WIEBE IN NASA FACULTY PROGRAM

Dr. Fredrick W. Swift and Dr. Henry A. Wiebe, assistant professors in the engineering management department of the University of Missouri at Rolla, are taking part in an 11-week summer faculty fellowship program.

They are among 53 university professors and instructors participating in the program at JSC, which is sponsored by NASA in cooperation with the American Society for Engineering Education.

Dr. Swift said, "This outstanding program gives one an excellent opportunity to work with colleagues from other universities, but it should be expanded so that other universities could host the program."

Dr. Wiebe said the program is "of great benefit to the participants."

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FOR RELEASE:
August 16, 1974

RELEASE NO: 74-229

TURNER IN NASA FACULTY PROGRAM

Dr. William D. Turner, associate professor in the department of civil and mechanical engineering at Texas A&I University, is taking part in an 11-week summer faculty fellowship program at the NASA Johnson Space Center.

He is one of 53 university professors and instructors participating in the program at JSC, which is sponsored by NASA in cooperation with the American Society for Engineering Education.

- more -

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FOR RELEASE:
August 16, 1974

RELEASE NO: 74-230

POOLEN IN NASA FACULTY PROGRAM

Dr. Lambert J. Van Poolen, associate professor of engineering at Calvin College, is taking part in an 11-week summer faculty fellowship program at the NASA Johnson Space Center.

An Illinois Institute of Technology alumnus, he is one of 53 university professors and instructors participating in the program at JSC, which is sponsored by NASA in cooperation with the American Society for Engineering Education.

Dr. Van Poolen said, "This program, which brings together various disciplines, is showing the way to how complex engineering problems need to be solved. No longer can the engineer avoid the political, social and broad economic problems involved in designing and implementing technical solutions to problems."

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FOR RELEASE:
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RELEASE NO: 74-231

STEIB IN NASA FACULTY PROGRAM

Dr. Michael Steib, assistant professor of mathematics at the University of Houston, is taking part in an 11-week summer faculty fellowship program at the NASA Johnson Space Center.

He is one of 53 university professors and instructors participating in the program at JSC, which is sponsored by NASA in cooperation with the American Society for Engineering Education.

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FOR RELEASE:
August 16, 1974

RELEASE NO: 74-232

CHANG IN NASA FACULTY PROGRAM

Dr. Tsong-how Chang, assistant professor of industrial engineering at the University of Wisconsin-Milwaukee, is taking part in an 11-week summer faculty fellowship program at the NASA Johnson Space Center.

He is one of 53 university professors and instructors participating in the program at JSC, which is sponsored by NASA in cooperation with the American Society for Engineering Education.

Dr. Chang said, "This summer's program attempts to review and assess existing methods and to develop new ideas for mining the so-called "urban ore" which many cities have found increasingly difficult to put down after its been picked up."

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FOR RELEASE:
August 16, 1974

RELEASE NO: 74-233

KRAUSE IN NASA FACULTY PROGRAM

Professor Wayne Krause, instructor in the mechanical engineering department at the South Dakota School of Mines and Technology, is taking part in an 11-week summer faculty fellowship program at the NASA Johnson Space Center.

A native of Lead, South Dakota, he is one of 53 university professors and instructors participating in the program at JSC, which is sponsored by NASA in cooperation with the American Society for Engineering Education.

Professor Krause said, "I have had the opportunity to develop professionally and I am especially impressed with the interest shown by our NASA supervision. They are doing a fine job in supporting our efforts."

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FOR RELEASE:
August 12, 1974

RELEASE NO: 74-234

HORDINSKY PRESENTS SKYLAB PAPER

Dr. Jerry R. Hordinsky, formerly of Drake, North Dakota, is part of the NASA aerospace team from the Johnson Space Center, Houston, Texas, scheduled to make the first comprehensive report on the results of Skylab, the longest and most scientifically productive endeavors in the history of human exploration. Dr. Hordinsky was crew flight surgeon for Skylab-4.

Dr. Hordinsky, a graduate of North Dakota will present a paper on "Evaluation Of Life In Skylab From A Medical Viewpoint" at the 20th annual meeting of the American Astronautical Society (AAS) in Los Angeles, California, August 20-22, 1974. This three day conference which is co-sponsored by the University of Southern California, Los Angeles, and the AAS, is designed to present a definitive report on Skylab and its impact on future space programs.

The conference which features presentations by 77 government, industry and university aerospace engineers and scientists will highlight all facets of the 171-day long manned Skylab program during which time three separate crews lived and worked aboard the 100-ton orbiting scientific laboratory for periods of 28 to 84 days. The last mission ended on February 8, 1974.

Dr. Hordinsky's paper is part of the third day's session. His presentation details an overview of the significant results of the medical experiments conducted during Skylab and a summary of the medical observations gathered by the team of life scientists.

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Skylab, the first manned orbiting laboratory, was launched from the Kennedy Space Center, Florida, on May 14, 1973. The loss of a meteoroid and thermal shield and loss of one of the vehicles solar array panels threatened the success of the program; however, ground crews worked out procedural repairs which were carried out by the first crew of Charles Conrad, Dr. Joseph Kerwin, and Paul Weitz. This first team spent 28 days aboard the orbiting lab and returned with a harvest of scientific evidence on man's ability to perform during prolonged periods of weightlessness, new evidence on the intricacies of Sun and near stars, and extensive data on the natural resources of the Earth.

Subsequent missions of 59 days (Alan Bean, Dr. Owen Garriott, and Jack Lousma, July 28-September 25, 1973) and 84 days (Gerald Carr, Dr. Edward Gibson and William Pogue, November 16, 1973-February 8, 1974) provided additional data on man's future role in space as well as a wealth of new information about the dynamic processes of the Sun and its effects on the Earth. The Skylab missions have also proved the value of manned observations of the Earth from space, helped define the feasibility of new products in zero gravity and has stimulated interest of international cooperation in space.

Dr. Hordinsky has been with the NASA since 1972. Prior to joining the NASA, Dr. Hordinsky was a resident in Aviation Medicine at Harvard University, Cambridge, Massachusetts (1971-72), an Army flight surgeon at Ft. Polk, Louisiana; and an intern at Cook County Hospital, Chicago, Illinois.

Dr. Hordinsky, who was born in Kalusch, Ukraine, now resides in League City, Texas, with his wife Martha and daughters, Tamara, and Natalie.

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FOR RELEASE:
August 22, 1974

RELEASE NO: 74-235

VANCE BRAND ATTENDS APOLLO/SOYUZ SOVIET MEETINGS

Astronaut Vance Brand will be part of the group of crewmen, engineers, and support personnel from the NASA Johnson Space Center attending meetings and training exercises in the Soviet Union beginning in late August and continuing through September. These are preparations for the upcoming Apollo/Soyuz Test Project space flight now scheduled for mid-July of 1975.

Brand,of Longmont, Colorado, is the prime crew Command Module Pilot and will be attending negotiation meetings in the Moscow area the last week in August and the first week in September.

-more-

The ASTP flight scheduled for next year will be the first joint manned space flight by two nations.

Tentative mission profile for the flights of the U.S.S.R. and U.S. spacecraft has the Soyuz spacecraft launched first with a two-man crew on July 15, 1975 from the Soviet Cosmodrone. The U.S. Apollo spacecraft will be launched with three astronauts aboard a Saturn 1B rocket from the Kennedy Space Center, Florida, launch site approximately 7 1/2 hours later.

After achieving Earth orbit, the U.S. astronauts will place the spacecraft in the proper configuration for docking. The Apollo will then transfer to the same docking orbit as Soyuz. Docking of the two spacecraft is scheduled to take place about two days into the mission.

During the two days that the spacecraft are linked together each of the crew members in both spacecraft will visit the spacecraft of the other country. The combined U.S. - U.S.S.R. crew will perform joint experiments and radio/television reporting from both Apollo and Soyuz.

After the joint docking experiments have been completed, the spacecraft will separate and continue on a program of autonomous flight. The Soyuz will land in the U.S.S.R. and the Apollo will make a water landing in the Pacific Ocean.

During the entire flight, the ground control centers of both countries will remain in radio communications contact with each other as well as their spacecraft.

The joint docking mission of the Soyuz and Apollo spacecraft in 1975 will be a major step in the realization of agreements between the Soviet Union and the United States on cooperation in exploration and peaceful uses of outer space.

The main goal of the joint flight is to test and evaluate the compatibility of systems for rendezvous, docking and the transfer of cosmonauts and astronauts between future manned spacecraft and stations.

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FOR RELEASE:
August 16, 1974

RELEASE NO: 74-236

SKYLAB LIFE SCIENCE SYMPOSIUM SCHEDULED

Project Apollo proved that man could cross a quarter million miles of space and land on another celestrial body, but the Skylab space station proved that man can adapt to long-duration space flights with no adverse effects upon his physiological systems.

Skylab's contribution to medical knowledge of how well man can perform useful work in space will be covered in 38 papers to be presented in a three-day Skylab Life Sciences Symposium August 27-29, 1974 at the NASA Johnson Space Center. The papers will detail the results of medical experiments as described by the principal investigators, and crew performance as related by the Skylab crewmen and by the NASA physicians who monitored crew biomedical responses during the 171 days the space stations was manned.

JSC Director of Life Sciences Richard S. Johnston said, "The performance of the Skylab crewmen, the medical equipment, and the principal investigator team was outstanding and exceeded all expectations. With the completion of the postflight medical evaluations from the last Skylab flight, we feel it is appropriate to summarize and report to the scientific community the biomedical findings resulting from this program."

The symposium will close with a panel discussion on the afternoon of the final day.

-end-

(Notice to editors: Copies of the Skylab Life Sciences Symposium Agenda are available from the JSC Public Information Office upon request.)

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FOR RELEASE:
August 22, 1974

RELEASE NO: 74-237

KEN YOUNG ATTENDS APOLLO/SOYUZ SOVIET MEETINGS

Ken Young of Austin will be part of the group of crewmen, engineers, and support personnel from the NASA Johnson Space Center (JSC) attending meetings and training exercises in the Soviet Union beginning in late August and continuing through September. These are preparations for the upcoming Apollo/Soyuz Test Project (ASTP) space flight now scheduled for mid-July 1975.

Young is the ASTP Project Manager for the JSC Mission Planning and Analysis Division and will serve as trajectory subgroup chairman of the working group during negotiation meetings September 1-14 in the Moscow area.

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The ASTP flight scheduled for next year will be the first joint manned space flight by two nations.

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After achieving Earth orbit, the U.S. astronauts will place the spacecraft in the proper configuration for docking. The Apollo will then transfer to the same docking orbit as Soyuz. Docking of the two spacecraft is scheduled to take place about two days into the mission.

During the two days that the spacecraft are linked together each of the crew members in both spacecraft will visit the spacecraft of the other country. The combined U.S. - U.S.S.R. crew will perform joint experiments and radio/television reporting from both Apollo and Soyuz.

After the joint docking experiments have been completed, the spacecraft will separate and continue on a program of autonomous flight. The Soyuz will land in the U.S.S.R. and the Apollo will make a water landing in the Pacific Ocean.

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The joint docking mission of the Soyuz and Apollo spacecraft in 1975 will be a major step in the realization of agreements between the Soviet Union and the United States on cooperation in exploration and peaceful uses of outer space.

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FOR RELEASE:
August 22, 1974

RELEASE NO: 74-238

LAWRENCE BOURGEOIS JR. ATTENDS APOLLO/SOYUZ SOVIET MEETINGS

Lawrence Bourgeois Jr. of Houma, Louisiana, will be part of the group of crewmen, engineers and support personnel from the NASA Johnson Space Center attending meetings and training exercises in the Soviet Union beginning in late August and continuing through September. These are preparations for the upcoming Apollo/Soyuz Test Project (ASTP) space flight now scheduled for mid-July 1975.

Bourgeois is an experiments flight controller and will be attending flight controller training in the Moscow area September 16-27. The training is to familiarize the flight controllers with the Soviet spacecraft and control center operations for the ASTP mission.

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FOR RELEASE:
August 22, 1974

RELEASE NO: 74-239

HAROLD BLACK ATTENDS APOLLO/SOYUZ SOVIET MEETINGS

Harold Black of Clifton, New Jersey, will be part of a group of crewmen, engineers. and support personnel from the NASA Johnson Space Center attending meetings and training exercises in the Soviet Union beginning in late August and continuing through September. These are preparations for the upcoming Apollo/Soyuz Test Project (ASTP) space flight now scheduled for mid-July of 1975.

Black a communications systems flight controller will be attending negotiation meetings and flight controller training exercises in the Moscow area September 8-28. His responsibility is planning the use of, managing and troubleshooting of the ASTP communications systems.

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FOR RELEASE:
August 22, 1974

RELEASE NO: 74-240

M. P. FRANK ATTENDS APOLLO/SOYUZ SOVIET MEETINGS

M. P. Frank, of Denton, Texas, will head up the group of crewmen, engineers and support personnel from the NASA Johnson Space Center attending meetings and training exercises in the Soviet Union beginning in late August and continuing through September. These are preparations for the upcoming Apollo/Soyuz Test Project space flight now scheduled for mid-July 1975.

Frank is the lead flight director for the ASTP flight and chairman of the joint working group that will be attending these meetings in the Moscow area. He will take part in the negotiation meetings and the flight controller training exercises during September 8-28 with the group's Soviet counterparts.

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FOR RELEASE:
August 22, 1974

RELEASE NO: 74-241

ASTRONAUT KAROL J. BOBKO ATTENDS APOLLO/SOYUZ SOVIET MEETINGS

Astronaut Karol J. Bobko of Seaford, New York, will be part of the group of crewmen, engineers and support personnel from the NASA Johnson Space Center attending meetings and training exercises in the Soviet Union beginning in late August and continuing through September. These are preparations for the upcoming Apollo/Soyuz Test Project (ASTP) space flight now scheduled for mid-July 1975.

Bobko, a support crewmen for ASTP assisting the flight crews in training and test activities, will be attending negotiation meetings and taking part in flight controller training in the Moscow area September 16-27.

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The joint docking mission of the Soyuz and Apollo spacecraft in 1975 will be a major step in the realization of agreements between the Soviet Union and the United States on cooperation in exploration and peaceful uses of outer space.

The main goal of the joint flight is to test and evaluate the compatibility of systems for rendezvous, docking and the transfer of cosmonauts and astronauts between future manned spacecraft and stations.

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NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
Johnson Space Center
Houston, Texas 77058

Milton Reim
713/483-5111

FOR RELEASE:
August 22, 1974

RELEASE NO: 74-242

DANIEL A. BLAND, JR. ATTENDS APOLLO/SOYUZ SOVIET MEETINGS

Daniel A. Bland, Jr. of Raleigh, North Carolina, will be part of the group of crewmen, engineers and support personnel from the NASA Johnson Space Center attending meetings and training exercises in the Soviet Union beginning in late August and continuing through September. These are preparations for the upcoming Apollo/Soyuz Test Project (ASTP) space flight now scheduled for mid-July 1975.

Bland, working on joint US/USSR flight procedures development for ASTP, will be attending negotiation meetings in the Moscow area August 26 through September 13.

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The ASTP flight scheduled for next year will be the first joint manned space flight by two nations.

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After achieving Earth orbit, the U.S. astronauts will place the spacecraft in the proper configuration for docking. The Apollo will then transfer to the same docking orbit as Soyuz. Docking of the two spacecraft is scheduled to take place about two days into the mission.

During the two days that the spacecraft are linked together each of the crew members in both spacecraft will visit the spacecraft of the other country. The combined U.S. - U.S.S.R. crew will perform joint experiments and radio/television reporting from both Apollo and Soyuz.

After the joint docking experiments have been completed, the spacecraft will separate and continue on a program of autonomous flight. The Soyuz will land in the U.S.S.R. and the Apollo will make a water landing in the Pacific Ocean.

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NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
Johnson Space Center
Houston, Texas 77058

Milton Reim
713/483-5111

FOR RELEASE:
August 22, 1974

RELEASE NO: 74-243

ELVIN B. PIPPERT, JR. ATTENDS APOLLO/SOYUZ SOVIET MEETINGS

Elvin B. Pippert, Jr., of Houston, Texas, will be part of the group of crewmen, engineers and support personnel from the NASA Johnson Space Center attending meetings and training exercises in the Soviet Union beginning in late August and continuing through September. These are preparations for the upcoming Apollo/Soyuz Test Project (ASTP) space flight now scheduled for mid-July 1975.

Pippert is the lead flight planner for the ASTP mission and a member of the joint delegation for onboard documents. He will be attending negotiation meetings in the Moscow area August 26 through September 13.

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NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
Johnson Space Center
Houston, Texas 77058

Milton Reim
713/483-5111

FOR RELEASE:
August 22, 1974

RELEASE NO: 74-244

ROBERT W. BECKER ATTENDS APOLLO/SOYUZ SOVIET MEETINGS

Robert W. Becker of Aurora, Missouri, will be part of the group of crewmen, engineers and support personnel from the NASA Johnson Space Center attending meetings and training exercises in the Soviet Union beginning in late August and continuing through September. These are preparations for the upcoming Apollo/Soyuz Test Project (ASTP) space flight now scheduled for mid-July 1975.

Becker is a visiting trajectory specialist for the ASTP mission and will take part in the flight controller training in the Moscow area September 16-27. During the mission in July 1975 he will serve as an advisor and consultant in the USSR control center.

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NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
Johnson Space Center
Houston, Texas 77058

Milton Reim
713/483-5111

FOR RELEASE:
August 22, 1974

RELEASE NO: 74-245

MAURICE KENNEDY ATTENDS APOLLO/SOYUZ SOVIET MEETINGS

Maurice Kennedy of Freeport, Texas, will be part of the group of crewmen, engineers and support personnel from the NASA Johnson Space Center attending meetings and training exercises in the Soviet Union beginning in late August and continuing through September. These are preparations for the upcoming Apollo/Soyuz Test Project (ASTP) space flight now scheduled for mid-July 1975.

Kennedy is an operations and procedures officer for Mission Control Center and will be taking part in the flight controller training in the Moscow area September 16-27.

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NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
Johnson Space Center
Houston, Texas 77058

Bob Gordon
713/483-5111

FOR RELEASE:
August 20, 1974

RELEASE NO: 74-246

ASTRONAUT GIBSON ANNOUNCES RESIGNATION

Dr. Edward Gibson, science pilot on the 84-day long Skylab-4 mission, today announced he will leave the NASA astronaut corps on November 30, 1974.

Gibson, 37, will join The Aerospace Corporation of Los Angeles as a senior staff scientist and will specialize in the interpretation of Solar data gathered during the 171 days of manned operation of the Skylab program. Dr. Gibson who received a doctorate of engineering from California Institute of Technology and an honorary doctorate of Science from the University of Rochester (New York) authored a text book on solar science during his years with the NASA.

Gibson has been a scientist astronaut since 1965 and was the science pilot on the third and final manned visit to the Skylab space station (November 16, 1973 to February 8, 1974). This was the longest manned flight (84 days, 1 hour and 15 minutes) in the history of manned space exploration to date. He was the crewman primarily responsible for the 338 hours of operation of the Apollo Telescope Mount which made extensive observations of solar processes.

In his new job with The Aerospace Corporation, Dr. Gibson will concentrate his studies on solar activity, how it developed, the underlying causes and its effect on the Earth.

Dr. Gibson, one of the key speakers at the Skylab Conference being held at the University of Southern California, is scheduled to deliver a paper on "Flight Experience of an Astronaut". More than 70 technical and scientific papers will be presented during the three days of the conference which is designed to present a definitive report on Skylab results and its impact on

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future manned flight. The conference is sponsored by the American Astronautical Society and the USC's Institute of Safety and Systems Management.

Dr. Gibson said his decision to leave "was a very difficult one to make." He said "I have greatly enjoyed and have felt a tremendous challenge in my work with the NASA and feel my experience in the Skylab was the most challenging years of my life."

"I am leaving only because of the tremendous amount of solar data we have accumulated in Skylab and I feel compelled to roll up my sleeves and make the best of the data."

Dr. Gibson is a native of Buffalo, New York. Before joining the NASA, he was a senior research scientist with the Applied Research Laboratories of the Philco Corporation at Newport Beach, California. His technical publications are in the fields of plasma physics and solar physics.

He is married to the former Julie Ann Volk of Tonawanda, New York. The Gibson's have four children.

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NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
Johnson Space Center
Houston, Texas 77058

Milton Reim
713/483-5111

FOR RELEASE:
September 4, 1974

RELEASE NO: 74-248

CHARLES F. DEITERICH ATTENDS APOLLO/SOYUZ SOVIET MEETINGS

Charles F. Deiterich formerly of Bloomsburg, Pennsylvania, and a 1960 graduate of University of St. Thomas in Houston will be part of the group of crewmen, engineers, and support personnel from the NASA Johnson Space Center attending meetings and training exercises in the Soviet Union beginning in late August and continuing through September. These are preparation for the upcoming Apollo/Soyuz Test Project (ASTP) space flight now scheduled for mid-July 1975.

Deiterich, now of Houston, is the retrofire officer for the ASTP flight and will be attending flight controller training in the Moscow area September 16-27. His responsibility during the flight will be to compute and monitor the Apollo command and service module deorbit maneuvers.

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The ASTP flight scheduled for next year will be the first joint manned space flight by two nations.

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NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
Johnson Space Center
Houston, Texas 77058

Milton Reim
713/483-5111

FOR RELEASE:
September 5, 1974

RELEASE NO: 74-249

SY LIEBERGOT ATTENDS APOLLO/SOYUZ SOVIET MEETINGS

Sy Liebergot, a 1963 graduate of Los Angeles State College, will be part of the group of crewmen, engineers and support personnel from the NASA Johnson Space Center attending meetings and training exercises in the Soviet Union beginning in late August and continuing through September. These are preparations for the upcoming Apollo/Soyuz Test Project (ASTP) space flight now scheduled for mid-July 1975.

Liebergot is the Apollo command and service module environmental and electrical systems engineer (EECOM) for the ASTP flight. He will be taking part in flight controller training in the Moscow area September 16-27.

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NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
Johnson Space Center
Houston, Texas 77058

Jack Riley
713/483-5111

FOR RELEASE:
September 6, 1974

RELEASE NO: 74-250

ASTP ACTIVITIES IN U.S. AND U.S.S.R.

Soviet cosmonauts assigned to next summer's joint space mission with the United States will arrive in Houston Sunday, September 8, to begin three weeks of training at the Johnson Space Center. On the same day, a large delegation of U.S. engineers and specialists will reach Moscow to take part in technical and management meetings on the Apollo-Soyuz Test Project.

The eight cosmonauts who will train here are prime crewmen Aleksey A. Leonov and Valeriy N. Kubasov and backup crewmen Anatoliy V. Filipchenko, Nikolay N. Rukavishnikov, Vladimir A. Dzhanibekov, Boris D. Andreyev, Yuriy V. Romanenko and Aleksandr S. Ivanchenkov. They will be accompanied by a ninth cosmonaut, Major General Vladimir A. Shatalov, Chief of Cosmonaut Training for the U.S.S.R., and six support specialists.

The joint training with American astronauts will end September 27. It will include flight simulations, procedures training in Apollo and docking module mockups, communications training and study of spacecraft systems.

U.S. astronauts assigned to ASTP completed a 3-week training period in the Soviet Union last July 12. Joint crew training is planned again in both countries next spring. Prime crewmen for the U.S. are astronauts Thomas P. Stafford, Vance D. Brand and Donald K. Slayton.

Dr. Glynn S. Lunney, U.S. Technical Director for ASTP, will head a 47-member group arriving in Moscow Sunday for a 2-week stay. Thirty U.S. engineers and technicians presently are completing the second week of a 3-week visit to Moscow.

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Thirteen U.S. flight controllers will go to the Soviet Union on September 15 for three weeks of training in the Soviet mission control center in preparation for the international space mission.

The target launch date for the earth orbital mission is July 15, 1975. Spacecraft from the two countries will rendezvous and dock, and the crews will exchange visits and conduct joint experiments during the approximately two days the spacecraft are joined.

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NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
Johnson Space Center
Houston, Texas 77058

Robert Gordon
713/483-5111

FOR RELEASE:
September 9, 1974

RELEASE NO: 74-251

EARTH ORBIT MAINTENANCE STUDY CONTRACT

How man may assemble, repair and maintain spacecraft in earth orbit is the subject of a study contract awarded by the NASA to the Martin Marietta Corporation in Denver, Colorado.

Martin has been asked to investigate, further develop, and assess the technical and operational concepts for manned and automated assembly of space systems during the Space Shuttle era of the 1980-90's. The 12-month $300,000 contract calls for Martin to identify the technical and operational feasibility, relative effectiveness, cost factors, and other significant trade-offs and sensitivities involved in the various methods of performing these functions in orbit from the space shuttle orbiter.

Becoming operational in 1980, the Space Shuttle Orbiter will be launched vertically from Kennedy Space Center, Florida, on a large expendable liquid propellant tank and two recoverable and reusable solid propellant rocket boosters. The 123 foot long orbiter will remain in earth orbit for designated mission durations some of which conceivably may be the assembly or repair of space systems in orbit.

Upon mission completion, the orbiter will reenter the atmosphere and land on a runway much like a conventional aircraft.

The NASA has requested Martin's study to consider the utilization of the manipulative devices, now planned for use in the Orbiter 60-foot long cargo bay, as well as utilization of the "Buck Rogers" type astronaut maneuvering unit successfully operated during the recently concluded 8-month long Skylab Program. The study will also include the use of simple docking or mating systems for the assembly of modular space systems in orbit.

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Martin will also analyze the varying degrees of human skills and dexterity, as well as identify what projected state of the art or other ancillary equipment will be required to perform man's first major in-space assembly, maintenance and repair work.

The contract calls for Martin to make quarterly progress reports to the Johnson Space Center and have its final report prepared by the end of the 12-month contract.

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NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
Johnson Space Center
Houston, Texas 77058

Charles Redmond
713/483-5111

FOR RELEASE:
September 9, 1974

RELEASE NO: 74-252

SHUTTLE EARTH OBSERVATIONS PACKAGE STUDY

The General Electric Company of Valley Forge, Pennsylvania, has been awarded a contract of $89,700 for a conceptual design study of the Standard Earth Observations Package for Shuttle (SEOPS). The contract was awarded on August 15, 1974, and runs for one year.

During the Shuttle era it is anticipated that operational earth surveys will be conducted from automated satellites due to the world-wide repetitive coverage required. However, the space Shuttle with its payload capability in terms of power, weight, volume and earth return offers a unique opportunity to acquire specialized earth observations information which can then be returned to earth for processing and analysis.

It is expected that the SEOPS package will be hard-mounted to the Shuttle vehicle and will gather information on targets of opportunity or on catastrophic events.

The primary objectives of the General Electric study will be to define the conceptual design and specifications for a standard sensing package including choice of sensors, signal conditioning, film and/or magnetic storage systems, power, environmental control, structural and mechanical systems.

The package is to be designed for minimal interference to the Shuttle itself, the crew and flight operations. The concept calls for a modularized system which will allow selected instrument flight arrays to be installed for projected targets. The SEOPS package will supplement any primary payload which will fly in the Shuttle cargo bay. Design of this system calls for a quick-installation and disconnect capability.

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APOLLO SOYUZ TEST PROJECT

PRESS COMMUNIQUE

September 20, 1974

Joint preparations for the Apollo Soyuz Test Project (ASTP) continued to progress satisfactorily during the visit of a United States delegation to Moscow from August 26 through September 20.

While a team of National Aeronautics and Space Administration (NASA) specialists met with their USSR Academy of Science counterparts in Moscow, the Soviet and American flight crews were conducting further joint training and familiarization sessions for a three-week period at the Johnson Space Center in Houston.

A team of U.S. flight controllers is also spending two weeks in Moscow meeting with USSR flight controllers for familiarization and training. Their schedule includes briefings on USSR Mission Control Center operations, Soyuz spacecraft systems and review of the mission flight plan. The USSR flight controllers will visit Houston in December for similar training concerned with U.S. Mission Control Center operations.

The technical directors, Dr. Glynn S. Lunney for the U.S., and Prof. K. Bushuyev for the USSR, announced that the joint work on the project continues successfully on schedule for the launch of the first international manned mission on July 15, 1975.

During the meetings, Soviet specialists announced plans to fly a manned Soyuz mission related to the ASTP project before the planned joint mission, during which systems intended for the joint mission will be tested. NASA will be informed of further details prior to the flight to permit its tracking network to follow the mission.

The project directors also announced plans to conduct joint pre-launch tests at the USA launch site from February 1-8, 1975, and at the USSR launch area from May 5-13, 1975. These tests will include participation by the flight crews and technical specialists from both countries.

The five working groups continued their discussions on mission related technical and operational questions. The two sides reached a preliminary agreement on a joint public information plan for the mission.

A series of joint tests involving the actual flight docking systems will be conducted in Moscow for an eight-week period starting October 23. The compatible docking systems developed independently by each country will be tested with specialists from both countries participating. A series of similar tests were successfully completed on prototype equipment in Houston early this month.

The project directors agreed to a detailed schedule of technical meetings and flight crew and flight controller training sessions in both countries for the remaining 10 months leading up to the flight.

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
Johnson Space Center
Houston, Texas 77058

Louis Parker
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FOR RELEASE:
September 23, 1974

RELEASE NO: 74-253

SOLAR OBSERVATORY CLOSES AT JSC

Personnel from the National Oceanic and Atmospheric Administration (NOAA) who had operated the Solar Observatory at JSC since 1970, are moving to the Marshall Spaceflight Center in Huntsville, Alabama. NOAA's space environmental laboratory representative, Jesse Smith, says that the move to MSFC is to continue work as co-investigator on the Skylab S056 experiment.

S056 was a Marshall experiment conducted with the Apollo Telescope Mount (ATM) on board Skylab. The objective of this experiment was to gather solar radiation data in the X-ray region of the solar spectrum which would produce information regarding physical processes occurring within the solar atmosphere, with special emphasis on obtaining data of active solar phenomena such as solar flares.

Built in 1966 for the then-called Manned Spacecraft Center, the solar observatory was first part of NASA's Solar Particle Alert Network (SPAN), a support operation for the Apollo program. The station built in Houston, Texas, one of seven around the world, was operated by NASA and contractor personnel until the latter Apollo missions in 1970 when NOAA took over operation of SPAN. SPAN's prime function

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during the Apollo program was to observe solar activity that accelerated high energy particles which would have created a radiation hazard for the astronauts outside the command module and also outside the protective magnetosphere of the earth. When solar flares were observed, analyses were performed to determine whether high energy particles were ejected into interplanetary space and thus might be observed by the manned or unmanned satellite. Although no mission was affected, the possibility always existed.

During the more recent Skylab mission, NOAA operated a full time world wide solar patrol. In addition to briefing scientists daily as to the activity of the sun, NOAA handed out real-time solar information which contributed to the daily flight plan. This real-time data was obtained from observers who manned the eyepiece of the solar telescope, and television images taken from the telescope located at the Johnson Space Center observatory.

The JSC NOAA Solar Observatory will be closed and reopened for use later during the Space Shuttle operations in 1980.

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NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
Johnson Space Center
Houston, Texas 77058

Robert Gordon
713/483-5111

FOR RELEASE:
September 27, 1974

RELEASE NO: 74-254

BUSS FLIGHT

A telescope which may one day find its way aboard the Space Shuttle, America's next generation of space ship, will undergo a series of tests next month when its lifted by balloon to an altitude of 25 miles above the rolling hills of east Texas.

Designed to gather scientific data on various types of stars, including "giant" and "supergiant" stars, this candidate experiment for the Space Shuttle era, is called Balloon-borne Ultraviolet Stellar Spectrometer (BUSS). It is the experiment of Dr. Yoji Kondo of the NASA Johnson Space Center, Houston, Texas. Co-investigators on this stellar experiment are Dr. T. H. Morgan of JSC and Professor Jerry L. Modisette of the Houston Baptist College.

The BUSS payload, contained in a gondola which will be attached beneath a giant balloon, will be launched from the National Scientific Balloon Facility of the National Center for Atmospheric Research (NCAR) at Palestine, Texas. Launch date is tenatively set for the first week in October.

Purpose of the BUSS flight, said Dr. Kondo, is to gain information on six stars including Adelbaran, a "giant" star in the Taurus Constellation and Epsilon Pegasi, a "supergiant" star in the Constellation Pegasus. The experiment package will be aloft for a minimum float observation time of five and one-half hours.

Mission manager for the Johnson Space Center of the BUSS flight is David R. White of JSC's Planetary and Earth Sciences Division.

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Launch operations will be conducted by personnel of the NCAR facility at Palestine. Time of the launch will be late evening with recovery of the payload and the scientific instruments set for the following morning after local sunrise. The launch balloon, when fully inflated with 15.5 million cubic feet of helium, will be more than 300 feet tall.

Ground stations will track the scientific payload during a launch and float period and will monitor recovery procedures. At completion of the 5.5 hour observation period the payload will be disengaged from the balloon system and lowered to the ground by a 64-foot diameter parachute.

The BUSS scientific payload consists of a 16-inch telescope, an Ebert-Fastie spectrometer, detector, star pointing and control system and telemetry and command system. The 300-foot tall balloon will lift the 1,200 lb. payload to float altitude in about two hours.

At the 130,000 foot altitude, the BUSS instruments will be above 99.8 per cent of the Earth's atmosphere and will receive and transmit to a NASA ground station observations in the ultraviolet (UV) wavelengths which do not penetrate the Earth's atmosphere.

Information gained from this and subsequent BUSS flights will be helpful to scientists in further understanding of the birth of stars and planetary systems. This phase of the program is a forerunner of future programs in concert with European scientists. One such program is with Professor C. de Jager, prominent space scientists of the Space Research Laboratory of Utrecht, The Netherlands, now tenatively set for the 1975-77 period.

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NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
Johnson Space Center
Houston, Texas 77058

Terry White
713/483-5111

FOR RELEASE:
October 1, 1974

RELEASE NO: 74-255

SPACELAB SIMULATION UNDERWAY AT JSC

Astronaut-physician Dr. Story Musgrave and Dr. Dennis R. Morrison of the Bioscience Payloads Office at the Johnson Space Center here entered a mockup Spacelab October 1 for a seven-day shakedown test of operational procedures and experiment demonstrations. Spacelab is a scientific space station that will be carried into earth orbit as a Space Shuttle payload.

Located in what was once the Lunar Receiving Laboratory, the Life Sciences Payload Facility will be the scene of a series of Space Shuttle life sciences experiment development tests from now until Spacelab and Space Shuttle are ready for orbital flight. Spacelab is being developed and built by the European Space Research Organization (ESRO), a consortium of 10 European countries.

Musgrave and Morrison will live in a mobile home adjacent to the laboratory during Spacelab off-duty hours. Test directors, the science manager and data managers monitor the simulation from consoles in the laboratory near the Spacelab mockup. The first test will end October 7.

The first test, in addition to serving as a rehearsal for future tests and as a means of perfecting operational procedures, will also evaluate proposed Space Shuttle ground support and flight crew operational procedures, data handling techniques, man-machine integration concepts and a group of biomedical demonstrations that are possible forerunners of actual Spacelab medical experiments.

Included in the payload simulation are 12 biomedical demonstrations which are representative of the type of experiments that likely will be flown

-more-

aboard the space station.

The demonstrations are:

Pulmonary Function---the Spacelab mockup is fitted with equipment for monitoring human respiritory functions and measuring such factors as lung capacity, flow rates and ventilation dynamics.

Cardiovascular Physiology and Cellular Repair---an assessment of cardiovascular and healing responses of dogs in simulated weightlessness.

Pine Lignification---analysis of pine seedlings in a study of plant growth in weightlessness.

Effect of Spaceflight Environment on the Replication of Adenovirus---assay of virus cultures using the automated Microbial Ecological Monitoring System to gather data toward aiding diagnosis of human infections in spaceflight.

Study of Cell Physiology of the Ameba---the single-celled protozoan friend of all biology students will be observed and microphotographed as its protoplasm undergoes changes.

Inflight Gas and Liquid Chromatography---atmospheric analysis in the Spacelab mockup which may lead to an atmospheric monitoring system for use in future space laboratories.

Human Transfer Function---a computerized test rig which measures human performance in continuous tracking, critical instabilities, cross-coupled instabilities and reaction time.

Clinical Diagnostic System---a mini-lab for real-time blood and physiochemical analysis which may be the forerunner of spaceflight diagnostic hardware.

Electronystagmography---an eight-cylinder term for the recording of eyeball motions while a person is subjected to side accelerations when seated in a specially-fitted swing chair.

Inflight Embryo Development---a demonstration of fish egg fertilization in simulated reduced gravity.

Microbial Load Monitoring---test samples from the Spacelab mockup crew and from the environment will be monitored for microbial load.

Renal Concentration Test---kidney function chemistry will be analyzed using the Clinical Diagnostic System.

-end-

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
Johnson Space Center
Houston, Texas 77058

Robert Gordon
713/483-5111

FOR RELEASE:
October 2, 1974

RELEASE NO: 74-256

DR. MORGAN INVESTIGATOR ON SHUTTLE BALLOON TEST

Dr. Thomas H. Morgan, 29, formerly of Jacksonville, Florida, is one of the investigating scientists involved in an experiment which one day may fly aboard Space Shuttle, America's next generation of space ship.

Dr. Morgan is co-investigator on the Balloon Borne Ultraviolet Stellar Spectrometer (BUSS) which is scheduled to undergo a series of test flights this month from Palestine, Texas. The BUSS experiment will gather data on far distant stars in the Taurus Constellation and Pegasus Constellation from 25 miles high above the rolling hills of east Texas.

Dr. Morgan, the son of Mr. and Mrs. James E. Morgan, is a graduate of the University of Florida where he received a Bachelor of Science in 1966 and a doctor of philosophy in Physics in 1972. Author of numerous scientific papers on stellar studies, Dr. Mprgan completed a three year master fellowship with the Ford Foundation (1968), served as a graduate school fellow with the National Science Foundation (1969) and an Arts and Science Fellow (1970). He joined the National Aeronautics and Space Administration in 1972 where he has participated in the analysis of scientific data from the Gemini and Skylab astronomy experiments.

The BUSS experiment is designed to gather scientific data on various types of stars, including "giant" and "supergiant" stars. This candidate experiment for the Space Shuttle era, is called Balloon-borne Ultraviolet Stellar Spectrometer (BUSS). It is the experiment of Dr. Yoji Kondo of the NASA Johnson Space Center, Houston, Texas with co-investigators being

-more-

Dr. Morgan and Professor Jerry L. Modisette of the Houston Baptist College.

The BUSS payload, contained in a gondola which will be attached beneath a giant balloon, will be launched from the National Scientific Balloon Facility of the National Center for Atmospheric Research (NCAR) at Palestine, Texas. Launch date is tenatively set for the first week in October.

Purpose of the BUSS flight, is to gain information on six stars including Adelbaran, a "giant" star in the Taurus Constellation and Epsilon Pegasi, a "supergiant" star in the Constellation Pegasus. The experiment package will be aloft for a minimum float observation time of five and one-half hours.

Launch operations will be conducted by personnel of the NCAR facility at Palestine. Time of the launch will be late evening with recovery of the payload and the scientific instruments set for the following morning after local sunrise. The launch balloon, when fully inflated with 15.5 million cubic feet of helium, will be more than 300 feet tall.

Ground stations will track the scientific payload during a launch and float period and will monitor recovery procedures. At completion of the 5.5 hour observation period the payload will be desengaged from the balloon system and lowered to the ground by a 64-foot diameter parachute.

The BUSS scientific payload consists of a 16-inch telescope, and Ebert-Fastie spectrometer, detector, star pointing and control system and telemetry and command system. The 300-foot tall balloon will lift the 1,200 lb. payload to float altitude in about two hours.

At the 130,000 foot altitude, the BUSS instruments will be above 99.8 per cent of the Earth's atmosphere and will receive and transmit to a NASA ground station observations in the ultraviolet (UV) wavelengths which do not penetrate the Earth's atmosphere.

Information gained from this and subsequent BUSS flights will be helpful to scientists in further understanding of the birth of stars and planetary systems. This phase of the program is a forerunner of future programs in concert with European scientists. One such program is with Professor C. de Jager, prominent space scientist of the Space Research Laboratory of Utrecht, The Netherlands, now tenatively set for the 1975-77 period.

Dr. Morgan is a member of the American Astronomical Society, America Physical Society, Astronomical Society of the Pacific, Phi Eta Sigma, Sigma Phi Sigma, and the Phi Kappa Phi. He is the author or co-author of 10 scientific and technical papers dealing in stellar studies.

-end-

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
Johnson Space Center
Houston, Texas 77058

Robert Gordon
713/483-5111

FOR RELEASE:
October 2, 1974

RELEASE NO: 74-257

WHITE, MANAGER OF SHUTTLE BALLOON TEST

David R. White, formerly of Corpus Christi, Texas is mission manager of an experiment which one day may fly aboard the Space Shuttle, America's next generation of space ship.

White is responsible for the operational and technical management of the Balloon Borne Ultraviolet Stellar Spectrometer (BUSS) which is scheduled to undergo a series of tests later this month from Palestine, Texas. The BUSS experiment will gather data on far distant stars in the Taurus and Pegasus Constellations from 25 miles high above the rolling hills of east Texas.

White, the son of Mr. and Mrs. C. H. White of Corpus Christi, is a graduate of Del Mar College, 1959 where he received a Bachelor of Arts Degree in 1959; Texas A&I University where he earned a Bachelor or Science Degree in 1963. He also completed graduate studies at the University of New Mexico 1964-67.

Before joining the National Aeronautics and Space Administration in 1967, White was an environmental test engineer at the Air Force Missile Development Center, Holloman Air Force Base, New Mexico (1963-66); and later served as chief of the Vibration and Instrumentation Section Environmental Test Branch, Holloman AFB (1966-67).

The BUSS experiment is designed to gather scientific data on various types of stars, including "giant" and "supergiant" stars. This candidate experiment for the Space Shuttle era, is called Balloon-borne Ultraviolet Stellar Spectrometer (BUSS). It is the experiment of Dr. Yoji Kondo of the NASA Johnson Space Center, Houston, Texas with co-investigators being

-more-

Dr. T. H. Morgan of JSC and Professor Jerry L. Modisette of the Houston Baptist College.

The BUSS payload, contained in a gondola which will be attached beneath a giant balloon, will be launched from the National Scientific Balloon Facility of the National Center for Atmospheric Research (NCAR) at Palestine, Texas. Launch date is tenatively set for the first week in October.

Purpose of the BUSS flight, said Dr. Kondo, is to gain information on six stars including Adelbaran, a "giant" star in the Taurus Constellation and Epsilon Pegasi, a "supergiant" star in the Constellation Pegasus. The experiment package will be aloft for a minimum float observation time of five and one-half hours.

Launch operations will be conducted by personnel of the NCAR facility at Palestine. Time of the launch will be late evening with recovery of the payload and the scientific instruments set for the following morning after local sunrise. The launch balloon, when fully inflated with 19.5 million cubic feet of helium, will be more than 300 feet tall.

Ground stations will track the scientific payload during a launch and float period and will monitor recovery procedures. At completion of the 5.5 hour observation period the payload will be disengaged for the balloon system and lowered to the ground by a 64-foot diameter parachute.

The BUSS scientific payload consists of a 16-inch telescope, an Ebert-Fastie spectrometer, detector, star pointing and control system and telemetry and command system. The 300-foot tall balloon will lift the 1,200 lb, payload to float altitude in about two hours.

At the 130,000 foot altitude, the BUSS instruments will be above 99.8 per cent of the Earth's atmosphere and will receive and transmit to a NASA ground station observations in the ultraviolet (UV) wavelengths which do not penetrate the Earth's atmosphere.

Information gained from this and subsequent BUSS flights will be helpful to scientists in further understanding of the birth of stars and planetary systems. This phase of the program is a forerunner of future programs in concert with European scientists. One such program is with Professor C. de Jager, prominent space scientist of the Space Research Laboratory of Utrecht, The Netherlands, now tenatively set for the 1975-77 period.

White is a member of the Institute of Electrical and Electronic Engineers and a member of the Phi Theta Kappa.

He is married to the former Julia Nancy White of Corpus Christi. The Whites reside in El Lago with their two children Keith, nine and Glenn six.

-end-

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
Johnson Space Center
Houston, Texas 77058

Robert Gordon
713/483-5111

FOR RELEASE:
October 2, 1974

RELEASE NO: 74-258

SUPPLEMENTAL CONTRACT AWARD TO RI

A supplemental agreement totaling approximately $16.5 million has been signed between the NASA and the Space Division of Rockwell International Corporation, Downey, California for additional work for the development of the Space Shuttle Orbiter and integration of all elements of the Space Shuttle System.

As prime contractor, Rockwell is responsible for the design, development and production of the Orbiter vehicle and for the integration of all elements of the Shuttle system.

This supplemental contract agreement, the 27th since the original contract award in August 9, 1972, brings the estimated value of the Shuttle Orbiter contract to approximately $995 million.

This latest agreement formally incorporates eight changes, amendments, and technical directives previously authorized by the NASA for sneak circuit analysis, support for vertical flight test of the Orbiter, mid-fuselage mockups and various other changes.

-end-

NEWS

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
Johnson Space Center
Houston, Texas 77058

Charles Redmond
713/483-5111

FOR RELEASE:
October 2, 1974

RELEASE NO: 74-259

ALSO RELEASED AT NASA HEADQUARTERS

APOLLO SOYUZ CREWS TO PRODUCE OWN "SOLAR ECLIPSE"

An artificial solar eclipse that they alone can see will be produced by the American and Russian crews on their joint space mission in July 1975.

Astronauts and cosmonauts will work together on the 10-day joint Apollo Soyuz Test Project.

They will be producing the artificial eclipse, to be seen from the Russian Soyuz spacecraft, in order to see and photograph the solar corona -- the atmosphere of the Sun.

This atmosphere is much fainter than the surface of the Sun. To prevent light from the surface from coming through, the Apollo spacecraft will be used as an occulting device, producing the artificial eclipse.

The experiment will allow space photography to be performed of the extended solar corona as well as the spacecraft-associated environment around the Apollo vehicle which could develop from outgassing of sealed compartments, degassing and sublimation of outer structural materials of the spacecraft or firings of the attitude control thrusters.

In the experiment, the Apollo will first align the Soyuz toward the Sun. Then, shortly after spacecraft sunrise, the Apollo will undock from the Soyuz and back away toward the Sun.

As the distance between the two spacecraft increases, more of the solar corona will be exposed to the field of view of the motion picture camera mounted on the Soyuz. During separation, this camera will automatically take sequence of photographs with varying exposures.

-more-

An attempt will be made to correlate the observed coronal structure with surface activity on the Sun, which is to be observed simultaneously with ground-based instruments.

Principal investigators for the experiment is Dr. G. M. Nikolsky of the USSR. American co-investigator is Dr. R. T. Giuli of NASA's Johnson Space Center, Houston, Texas. Dr. Giuli is also the program scientist for the other experiments to be performed jointly with the USSR or unilaterally by the United States.

-end-

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
Johnson Space Center
Houston, Texas 77058

Robert T. White
713/483-5111

FOR RELEASE:
October 8, 1974

RELEASE NO: 74-260

DR. CAROLYN LEACH TO GET CIVIL SERVICE LEAGUE AWARD

Dr. Carolyn S. Leach of the Johnson Space Center Biomedical Research Division will receive the National Civil Service League's 1974 Career Service Award for Special Achievement in ceremonies October 9, in Washington, D. C.

Head of the Endocrine and Biochemistry Laboratories at JSC, Dr. Leach was cited in the award for her role as principal investigator for the Skylab life sciences biochemistry experiment. She also had a key role in endocrine and biochemistry studies during the Apollo program.

Dr. Leach is a native of Leesville, Louisiana and earned a bachelor of science degree in biology from Northwestern State College in Natchitoches. She completed work on her doctorate in physiology and biochemistry at Baylor University College of Medicine, Houston.

Dr. Leach is married to Harrison Huntoon, formerly of Providence and Little Compton.

- end -

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
Johnson Space Center
Houston, Texas 77058

Charles Redmond
713/483-5111

FOR RELEASE:

October 15, 1974

RELEASE NO: 74-261

ALSO RELEASED AT NASA HEADQUARTERS

APOLLO SOYUZ EXPERIMENTS TO STUDY INTERSTELLAR HELIUM

Whether or not the solar system is gaining mass from the influx of helium may be established through one of the experiments aboard the joint U.S./USSR manned space mission next year.

The experiment also may contribute to the understanding of the evolution of stars.

Called MA-088 Helium Glow Detector, the experiment will provide the first opportunity for the systematic mapping of interstellar (between stars) gas which includes helium.

Instruments on the Apollo Soyuz Test Project (ASTP) mission scheduled for launch in July 1975 will detect sunlight reflected back toward Earth from the interstellar helium. From these reflections, or helium glow, it may be possible to measure the temperature, density and velocity of the helium.

Earlier rocket instruments have indicated the existence of this interstellar helium and its inflow into the solar system.

Interstellar gas is the medium from which celestial objects form and into which many of the stars dissipate their materials when they expire. It is also the medium through which light rays, and other radiations which allow scientists to study these objects, travel.

Because this gas is tenous and because it is sometimes difficult to distinguish radiations emitted by the gas from radiations emitted by celestial objects, it has been difficult to observe the interstellar gas.

-more-

A neutral helium filter placed in front of the helium glow detector will discriminate between interstellar helium and natural helium present in the Earth's upper atmosphere.

Principal Investigator for the experiment is Prof. C. S. Bowyer of the Space Science Laboratory at the University of California at Berkeley. Bowyer is also the P-I on a related experiment which uses an extreme UV (Ultraviolet) telescope and which will survey the sky looking for extreme UV stellar sources.

Co-investigator for the experiment is Dr. P. Paresce of the same laboratory.

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Note to Editors: An illustration of the experiment apparatus is available from the Johnson Space Center, Public Affairs Office, Code AP3, Houston, Texas 77058. Ask for NASA picture #S-74-1553.

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
Johnson Space Center
Houston, Texas 77058

Robert Gordon
713/483-5111

FOR RELEASE:
October 18, 1974
10:45 p.m.

RELEASE NO: 74-263

INITIAL SPACE SHUTTLE FLIGHTS TO LAND IN CALIFORNIA

Dr. James C. Fletcher, NASA Administrator, announced today that the first few Space Shuttle development flights will return from space to NASA's Flight Research Center, Edwards, California.

In a talk before the Antelope Valley Board of Trade, Lancaster, California, Dr. Fletcher stated: "We plan to make the first horizontal flight tests of the Shuttle Orbiter, launched from a 747 aircraft, at NASA's Flight Research Center at Edwards (Air Force Base). In addition, we plan to use Edwards as a secondary landing site for operational Shuttle flights when weather or other considerations make it desirable."

He continued: "We also plan to land the first few Shuttle orbital test flights at Edwards for the added safety margins and good weather conditions during these initial flights. To have the Orbiter return to Antelope Valley for a landing after the first flight in space is quite appropriate."

The Space Shuttle to be assembled in Palmdale, California, will be a reusable space vehicle designed for a wide variety of space missions in earth orbit. Its primary launch and landing site will be the Kennedy Space Center, Florida.

Plans now call for horizontal flight tests of the Shuttle in 1977 and earth orbital flight tests in 1979. When fully operational in 1980, the Shuttle will be able to retrieve satellites from earth orbit; to repair and redeploy them; or bring them back to earth for refurbishment and reuse. It can also be used to carry out missions in which scientists and technicians conduct experiments in earth orbit or service automated satellites already in orbit.

-end-

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
Johnson Space Center
Houston, Texas 77058

Milton E. Reim
713/483-5111

FOR RELEASE:
October 23, 1974

RELEASE NO: 74-264

SOVIET FLIGHT CONTROLLERS AT JSC FOR ASTP TRAINING

Flight controllers from the Soviet Union for the Apollo-Soyuz Test Project (ASTP) flight are scheduled to begin two weeks of training at the NASA Johnson Space Center on Thursday, October 24, 1974, in preparation for the July 1975 joint United States-Soviet Union mission.

NASA flight controllers were in the Soviet Union for two weeks of training in September.

The flight controllers will arrive in the Houston area the evening of October 23, and will begin the training at noon on Thursday, October 24.

Approximately 20 Soviet controllers representing the various flight control disciplines for the ASTP mission will attend a series of sessions on Apollo trajectory, spacecraft systems and communications, the docking module, Mission Control Center operations and contingency flight planning.

The Soviet Union flight controllers include flight directors, flight control specialists representing the mission control disciplines of capcom, flight dynamics and trajectories, spacecraft systems, docking, life support, engineering and development, and inter-control center communications, plus interpreters.

During the conduct of the actual mission, only about eight of the Soviet Union flight controllers representing the above disciplines will be in the Houston Mission Control Center.

- more -

The launches of the two spacecraft for the joint mission are now scheduled for July 15, 1975, with the joining in space of the two vehicles scheduled for the third day of the mission. The crews will transfer back and forth between the two spacecraft, perform experiments and then return to their respective vehicles and separate after two days. The Apollo and Soyuz will then continue separate missions for the remainder of their flights.

- end -

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
Johnson Space Center
Houston, Texas 77058

Terry White
713/483-5111

FOR RELEASE:
October 22, 1974

RELEASE NO: 74-265

NASA-JSC TESTS APOLLO-SOYUZ SATELLITE COMMUNICATIONS RELAY

A spacecraft antenna that beamed communications across the quarter million miles between the earth and the moon in Project Apollo, and a communications satellite designed to relay educational television into remote areas of the earth, will join forces in next July's Apollo-Soyuz space mission.

Applications Technology Satellite 6 (ATS-6), orbiting 35, 882 kilometers (22, 296 statute miles) above the earth, and the Apollo S-Band steerable high-gain antenna operating together will provide data, voice and television coverage from Apollo for more than half of each orbit.

Communications engineers at the NASA Johnson Space Center here and at the Goddard Space Flight Center in Greenbelt, Maryland will perform a joint operational test of the satellite relay system on the night of October 23. JSC's Electronic Systems Test Laboratory, where space communications systems are tested for compatibility and performance, will be the focal point of the eight-hour test.

The Apollo antenna and portions of the Apollo communications equipment will be mounted in a special trailer located outside the Electronic Systems Test Laboratory, and the remainder of the equipment will be inside the Laboratory.

- more -

Command signals and voice will be uplinked from a ground station at Rosman, North Carolina through the ATS-6 satellite to the Apollo equipment. Engineers at JSC will evaluate the quality of the voice and command signals.

Voice, television and simulated telemetry data will be transmitted from Houston through ATS-6 to the Rosman ground station in a test of downlink reception. Performance of the telemetry channel will be evaluated at Rosman by Goddard engineers. Voice and television signals received at Rosman will be transmitted by land lines back to JSC for evaluation.

ATS-6 is presently "parked" above the equator at 94 degrees west longitude over the Galapagos Islands and has seen service in relaying educational television to remote areas of Alaska. Prior to the U.S.-Soviet Union Apollo-Soyuz mission in July, ATS-6 will be moved to a new station over Kenya at 35 degrees east longitude.

Voice, data and television from Apollo during the mission will be relayed through ATS-6 to a mobile ground station at the NASA Space Flight Tracking and Data Network station at Madrid, Spain. The mobile station at Madrid will route the signals both ways between Apollo and the Mission Control Center in Houston.

The October 23 test will involve voice and data handling circuits in Mission Control Center and the television facilities in JSC's Photographic Technology Laboratory in a simulation of actual mission conditions. Relay through ATS-6 during the Apollo-Soyuz mission will be the first spacecraft-to-satellite-to-ground routing employed in the manned spaceflight program.

Previous earth-orbit missions have been limited to coverage only when a spacecraft was within line-of-sight of a ground tracking station, with long periods of "LOS" (loss of signal) as a spacecraft's orbit drifted off the network because of the earth's rotation. Lunar missions had continuous communications between the spacecraft and Mission Control except for about 47 minutes of each lunar orbit when the spacecraft was behind the moon. Communications from a lunar module landed on the lunar surface were continuous.

From its new position over Kenya, ATS-6 will serve as a relay station for educational television beamed to remote regions of India. The satellite was launched May 30, 1974, from NASA Kennedy Space Center atop a Titan IIIC launch vehicle. The deployment mechanism for the ATS-6 parabolic antenna was tested in the fall of 1973 in JSC's Space Environment Simulation Laboratory 65x120 foot vacuum chamber.

Scheduled for launch July 15, 1975, the Apollo-Soyuz mission is the first joint effort in manned space flight between the United States and the Soviet Union. Soyuz will be launched from the Soviet launch complex at Baikonour in Kazakhstan, and Apollo will be launched about seven and a half hours later from NASA Kennedy Space Center. The two spacecraft will rendezvous and spend two days docked together for joint scientific experiments and crew exchanges. Apollo will remain in orbit for approximately nine days, and Soyuz for six days.

Apollo crewmen are Thomas P. Stafford, commander; Vance D. Brand, command module pilot; and Donald K. "Deke" Slayton, docking module pilot. Soyuz crewmen are cosmonauts Alexei A. Leonov, commander, and Valeriy A. Kubasov, flight engineer.

- end -

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
Johnson Space Center
Houston, Texas 77058

Charles R. Redmond
713/483-5111

FOR RELEASE:
November 1, 1974

RELEASE NO: 74-266

SKYLAB PHOTOGRAPHS AID CITY PLANNING

One of the remarkable results of the three Skylab missions was the more than 37,000 high-quality, high-resolution, multi-spectral photographs of large areas of the U.S. and foreign countries obtained by the nine crewmen.

From Skylab's altitude of 435 kilometers (270 miles), the photos present a synoptic view of entire regions.

A major advantage of space-acquired remote sensing data, including photographs, is the ability to provide complete coverage of a large urban area in a single picture frame. One of the Skylab cameras, the S190B Earth Terrain Camera, covers an area of 11,881 square kilometers (3,481 square nautical miles). The original scale of the images from this camera is 1:950,000, or small scale.

Another advantage of the Skylab imagery is that it is both timely and practical. Any one of these 37,000 photographs could be used for a variety of urban planning purposes including updating baseline maps and the preparation of thematic maps depicting:

*Net residential density (for example, the population density of an entire residential neighborhood).

*Transportation circulation systems (feeder routes, main arterials, freeways and turnpikes, railroads, and airports).

*Public lands (including institutions, schools, resevoirs, and landfills).

- more -

*Open space and recreation land (such as parks, golf courses, cemeteries).

*Community renewal projects (urban beautification areas, ghetto clearance projects).

*Commercial and industrial areas (including shopping centers, Central Business Districts, commercial highway developments, and manufacturing areas).

*Working and living areas (border zones between downtown areas and close-in residential areas).

The photographs which earth scientists have to work with include many different types of films from high resolution black-and-white to color infrared emulsions.

Using color and color infrared photos, scientists at the Johnson Space Center in Houston, Texas, have produced a preliminary signature, or key, for interpreting space photographs of American urban areas. Using this key, residential areas show up as well defined areas exhibiting a uniform street pattern. Their color is heterogeneous, caused by different reflective surfaces within the area such as roof tops, concrete or asphalt streets, and vegetation.

Shopping areas present a fairly uniform, highly reflective surface and are usually found near the center of an urban area. Industrial areas, if they are large, generally have unique shapes and contrast sharply with the surrounding environment.

Transportation networks are the most obvious of all ground objects to identify. Ease of identification ranks from the Interstate System with its large interchanges (easiest) to interconnecting highways within residential areas often covered by tree-tops (most difficult). Problems often occur, however, in differentiating railroads from highways as both are likely to be straight, with intersections at major roads.

Open space and parks are easy to identify being uniform in color; in the infrared images they are especially easy to identify in the growing months as the vegetation shows up brilliant magenta.

Scientists are quick to note that the signature of a city is affected by changes in the scale of the photograph. At small scales on the order of 1:1 million cities appear

as bluish-grey splotches in color photos. In larger scales of 1:24,000 the photographs show features and patterns in variegated fashion.

A common usage for space imagery is as an uncontrolled (non-corrected) photomap at the desired scale. Photographic technology has advanced rapidly during the past decade and small scale imagery such as that from Skylab's cameras can be enlarged and enhanced to a specific scale and format for direct comparison purposes with existing maps.

Images from the two Skylab photographic systems, the S190B and the S190A Multi-Spectral Camera, can be enlarged many times their original size. The 70mm (2.5x2.5) film from the S190A camera, when enlarged to a scale of 1:250,000, allows easy identification of township roads and section lines bordering on forrested areas.

The 5 inch film from the S190B camera can be enlarged up to 10 times more, to a scale of 1:24,000. Images at this scale show city streets, buildings and other density features.

Skylab investigators have demonstrated the utility of such photographs for land-use classification at details competitive with high altitude aircraft imagery taken at 60,000 feet. These same investigators have economically updated existing land-use activity maps of their test areas. They have also indicated the ability to identify residential age and density patterns, determine single versus multiple family residential areas, map street patterns, transportation routes and distinguish between industrial and commercial areas.

NASA scientists along with others are currently working in other areas, such as geology, hydrology, meterology, medicine and agriculture to determine if there are other cost-effective methods of applying remote sensing to the work-a-day world.

- end -

NOTE TO EDITORS AND DIRECTORS:

Following is a listing of recently released earth resources experiment package (EREP) photographs of earth features which can be used in addition to the photo(s) you have received to illustrate the accompanying release. The listing includes photographs which pertain to and show the various earth resource disciplines. Photographs should be ordered by number and preference for transparency or print should be noted:

SL4 137 3646	New Zealand, shows major tectonic fault zone
SL4 136 3501	Australia, shows Gulf current processes
SL4 142 4541	Los Angeles, shows major Pacific zone fault lines
SL4 136 3446	Oceans around New Zealand, shows plankton bloom
SL4 139 4040	Rocky Mountains, shows snow and water resource management
SL4 139 3966	Washington and Pacific NW, snow mapping
SL4 142 4532	California coast, San Joaquin Valley drainage system
SL4 141 4270	Great Lakes area, shows lee-side snow fall differences
SL4 138 3894	New England, shows use of snow in geologic and topographic mapping
SL4 138 3756	Spanish Morocco coast, shows dunes - useful for desertification studies
SL4 142 4548	Baja California, shows geology and sediment drainage from Baja region
SL4 138 3760	Monterrey, Mexico, shows topographic features of Sierra Madre Oriental Mts.
SL4 141 4316	Hudson Bay, illustrates Hudson Bay-area ice formation
SL4 136 3531	New Zealand, shows Alpine fault zone
SL4 137 3703	Campbell Island, illustrates bow wave formed in clouds by island
SL4 140 4111	Aleutian Islands, also shows cloud wakes over islands
SL4 142 4577	Ice Islands in South Atlantic, shows sea formation of ice island packs
SL4 137 3566	Thunderstorms, illustrates use of terminator light for weather observation
SL4 139 4029	Florida and Bahamas, shows shallow Great Banks area of Atlantic
SL4 139 3997	Hawaii, shows use of color variations related to lava flows
SL4 141 4340	Hokkaido Island, Japan, shows sea ice development
SL4 141 4293	Heel of Italy, shows cities and urban areas in Heel and demography
SL4 141 4283	Alps in Switzerland and Italy, shows snow cover of Alpine area
SL4 142 4429	Florida Keys, shows ocean currents around Florida's tip
SL4 143 4608	Rio de la Plata, shows sediment plume from Buenos Aires area
SL4 137 3578	Melbourne, shows ocean surface features such as wave heights, form
SL4 136 3475	Gulf area of Louisiana, shows air pollution from fires
SL4 139 3942	Kyushu Island, Japan, shows smoke resulting from volcanic eruption of Sakurajima

SL4 136 3388	Typhoon in Pacific Ocean, shows the large vortex of the typhoon
SL4 93 067	Flagstaff, infrared photo shows many aspects of Flagstaff area including snow cover, vegetation
SL4 92 300	Mobile Bay, Alabama, shows various stream effluents into bay, sedimentation
SL4 93 153	Birmingham, shows city in infrared, also strip mine areas around city
SL4 93 167	Kennedy Space Center, Florida, shows major land-ocean features of Cape area

Non-media inquiries requesting copies of these photographs can be forwarded to Bara Photographic, 4805 Frolich Lane, Hyattsville, MD 20781. Sample prices for Bara products are: B&W 8x10 print - $1.75/copy; Color 8x10 print - $5.00/copy; and Color 4x5 transparencies - $5.00/copy. Bara is the authorized NASA photographic contractor. Additional earth-looking views may also be obtained from the US Department of the Interior, EROS Data Center, 10th & Dakota Avenue, Sioux Falls, SD 57198.

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
Johnson Space Center
Houston, Texas 77058

Charles Redmond
713/483-5111

FOR RELEASE:
November 6, 1974
12 Noon

ALSO RELEASED AT NASA HEADQUARTERS

RELEASE NO: 74-267

LARGE AREA CROP INVENTORY EXPERIMENT

The launch of the second Earth Resources Technology Satellite (ERTS-B), presently scheduled for January 1975, will make possible the next steps of experimentation in the various earth resources disciplines.

Several experimental demonstrations designed to show the practical benefits to resource management of multispectral remote sensing from space have been selected, including experiments in water management, agriculture, land use, planning, and monitoring ice conditions in navigable lakes.

One of these is a Large Area Crop Inventory Experiment (LACIE), a joint investigation by the U.S. Department of Agriculture, the National Oceanic and Atmospheric Administration (NOAA) in the Department of Commerce, and the National Aeronautics and Space Administration (NASA) to test whether the use of data gathered by spacecraft and analyzed with the aid of computers can improve the timelines and accuracy of major crop forecasts.

At the outset LACIE will concentrate on wheat grown in the North American area. The experiment will combine crop acreage measurements obtained from ERTS-B data and meteorological information from NOAA satellites and from ground stations designed to relate weather conditions to yield assessment and ultimately to production forecasts. A particular state or several states initially will be chosen for detailed evaluation,

- more -

particularly as to the adequacy of the yield modeling. At the same time area estimates will be made by a sampling technique covering the entire region. If during the first year this activity proves successful and useful, it will be extended in the second year to other regions and ultimately to other crops.

The Department of Agriculture will study the utilization of the experimentally derived production estimates in its crop reports. These reports are made public as a routine service to the domestic and international agriculture community.

Like ERTS-1, which was launched in July 1972, ERTS-B will circle the globe 14 times a day, scanning a swath of the Earth's surface 185 kilometers (115 miles) wide from a 912-kilometer (567-mile) circular, near-polar, Sun-synchronous orbit. The satellite passes over each local area with the same Sun angle every 18 days. ERTS-1, in its 27 months, has returned some 100,000 images covering all the United States and three-fourths of the world's land masses. The imagery is provided to investigators throughout the world and to several government agencies, and is put on public sale through Federal data centers.

As is currently the case with ERTS-1, the data received from ERTS-B will be processed into basic forms at the Goddard Space Flight Center in Greenbelt, MD. For LACIE, Goddard will process automatically the raw data from the sample areas into computer compatible magnetic tapes. The tape reels will be shipped to the Johnson Space Center in Houston, TX. There a computer-assisted analysis of the North American data will take place for purposes of crop identification and for the integration of the sample areas into an overall acreage estimate.

It is hoped that such information could be assembled a number of times during the growing season. The yield data will also be integrated with the acreage information at Houston, although early experimental work on yield modeling will be done at other places, such as NOAA's Center for Climate and Environmental Assessment at the University

of Missouri at Columbia.

Work in the first year of LACIE will be mainly of a research nature to develop and validate methods. Computer techniques for classifying growing crops and estimating acreage will be refined and the results checked by visual image-interpretation and field reporting.

During the same time, agricultural-meteorological computer models relating weather and climate information to crop yield will be designed and tested. Data processing and analysis procedures will also be developed for routine handling of the quantities of data required for large-area inventories.

Each of the three agencies will have its own Project Manager responsible for the resources provided by his agency and for guidance of its part of the LACIE implementation; however, to aid in integration, an interagency Executive Steering Group has been established to provide overall management and guidance. The day-to-day management of the experiment itself will take place at Houston under a LACIE Manager selected by NASA.

Although each LACIE task will require integration of efforts of at least two of the three agencies involved, each agency has certain lead responsibilities, including that of the Department of Agriculture in defining output product requirements and in evaluating the utility of output products, NOAA in developing and evaluating yield models and in providing climatological and meteorological data, and NASA in developing the sampling, classification, and measurement systems, and in acquiring and processing ERTS data.

Final evaluations and results of the experiment will be published in the usual manner in the scientific and technical literature.

The experiment is designed to determine the degree to which the relatively new remote sensing and data processing techniques may enhance the Department of Agriculture's crop forecasting programs.

The results are expected to contribute substantially toward determining the benefits and costs of employing the new methods and their usefulness for meeting future requirements of the Department of Agriculture and other resource-management agencies.

If the experiment proves them effective, the new techniques, in combination with current crop estimating methods and historical production data, could benefit both producers and consumers by helping to reduce the annual uncertainties affecting the management and marketing of major crops. Faster, earlier, and more accurate forecasts could assist in rational planning for the most effective use of supplies as well as in emergency food distribution.

- end -

NEWS

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
Johnson Space Center
Houston, Texas 77058

Terry White
713/483-5111

FOR RELEASE:
November 6, 1974

RELEASE NO: 74-268

RAF PHYSICIAN NAMED TO POST AT JOHNSON SPACE CENTER

Group Captain Peter Whittingham of the Royal Air Force Institute of Aviation Medicine at Farnborough, England has joined the Johnson Space Center Life Sciences Directorate.

Dr. Whittingham 51, will spend one year on loan from the RAF as consultant to the JSC Director of Life Sciences in planning research in support of Space Shuttle and other advanced programs.

He received his medical education from Kings College Medical School at Newcastle-upon-Tyne and joined the RAF Institute of Aviation Medicine in 1948. His work at the Institute has included investigations into the physiological effects of high-altitude flight, rapid decompression, pressure breathing, and rapid acceleration and decelerations. Dr. Whittingham has also been involved in the design and testing of aircrew equipment for use in a wide range of operations and world climates. He has lectured widely before military, medical and education groups on survival techniques and equipment design.

Dr. Whittingham and his wife, Anne, have two sons, Christopher and Leigh, and a daughter Susanna.

- end -

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
Johnson Space Center
Houston, Texas 77058

Milton Reim
713/483-5111

FOR RELEASE:
November 21, 1974

RELEASE NO: 74-269

NASA JSC AIRCRAFT OPERATIONS FLYS PROJECT AIRSTREAM

The Johnson Space Center Flight Operations Aircraft Division recently completed its first mission of Project Airstream gathering high altitude gaseous and particulate samples from the upper atmosphere in the western hemisphere with the NASA high altitude WB-57F aircraft.

High altitude air sampling missions are flown for the Atomic Energy Commission and the Department of Transportation with samples taken during three periods each year. The project requires that continuous particulate and intermittent gaseous samples be taken at four altitudes between 45 and 63-thousand feet in a north-south corridor from 75 degrees north to 10 degrees south latitude.

The air sample corridor begins over the Arctic circle ice cap off the coast of Alaska. It crosses that state on a north-south line, then parallels the west coast of Canada, traverses the western United States exiting at Houston over the Gulf of Mexico, then crosses the Caribbean Sea and Panama to the Pacific Ocean. It continues over western Ecuador and the snow capped Andes Mountains ending at a point just north of Lima, Peru.

Samples collected on these missions are analyzed by the AEC for the High Altitude Sampling Program to determine the global distribution of atmosphere nuclear weapons test debris, both gaseous and particulate. The analytical results are made available to all interested parties through technical publications.

Particulate samples are obtained by passing the outside ram airstream through special 16-inch diameter paper filters. Gaseous samples are collected

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by compressing the outside air to 3000 psi and storing it in basketball size spheres. During each flight these sampling systems are capable of obtaining sequentially up to 12 particulate and 8 gaseous samples.

Aircraft Operations pilots and crewmen made 14 flights in a 17-day period from October 9-25 collecting the samples. The flights were staged out of Elmendorf Air Force Base, Anchorage, Alaska, Howard Air Force Base, Panama and Ellington Air Force Base. The aircraft crews logged 32,000 miles during the sampling mission.

The WB-57F aircraft two-man crew, a pilot and systems engineer, wear pressurized flight suits similar to those worn by the Gemini astronauts.

NASA 928, the specially configured WB-57F has a wingspan of 122 feet and is the only four-engine aircraft operated by a single pilot. The aircraft is capable of attaining altitudes in excess of 60,000 feet.

Additional air sampling equipment is scheduled to be installed on the aircraft this month in Albuquerque, New Mexico to enable the collecting of samples for the Department of Trnasportation Climactic Impact Assessment Program. These samples will provide information on the effects of high altitude aircraft and rocket exhausts on the upper atmosphere.

Project manager for the JSC Airstream mission is Charles D. Anderson and project pilot is Richard A. Laidley, both flying several of the flights. Other crewmen making flights include pilots Charles F. Hayes, Frank Marlow, Richard Tuntland and Roger C. Zweig, along with assistant project managers David W. Whittle, William D. Reeves and Harley Weyer. Ground crews from JSC were deployed to Alaska and Panama to support the flights from those locations.

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NEWS

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
Johnson Space Center
Houston, Texas 77058

Charles Redmond
713/483-5111

FOR RELEASE:
November 18, 1974

RELEASE NO: 74-270

ALSO RELEASED AT NASA HEADQUARTERS

ASTP EXPERIMENT PROMOTES UNDERSTANDING OF ENERGY GENERATION

One of the astronomy experiments to be performed aboard the Apollo spacecraft during the joint U.S.-USSR space mission next July may lead to a better understanding of how energy is generated.

Spacecraft of the two countries will rendezvous and dock in the joint Apollo Soyuz Test Project (ASTP).

The object of the experiment, called MA-048 X-Ray Observation by NASA, is to provide high-resolution celestial maps of sources and background radiation in the so-called "soft" X-ray region of the spectrum.

The information obtained could contribute to an understanding of how these X-rays emit particles such as electrons. Understanding of similar processes in the Sun contributed to the development of ways to use nuclear energy.

During Skylab, some X-ray sources were mapped but the ASTP experiment will map sources in a slightly different range.

The first astronomical X-rays were discovered in 1962. To date, about 160 sources have been observed in the higher energy ranges.

In 1967 several scientists began making observations in a lower energy band and several important results were produced from these observations.

- more -

First, a diffuse glow of X-ray was observed to be present in all directions of the galaxy. But mostly toward the poles of the Milky Way galaxy.

The second result was the detection of X-ray sources which emit only at low energies.

There are currently about 10 of these sources known and most appear to be associated with old supernova remnants and probably indicate the presence of hot gas plasmas produced by the shock waves from the original exploding stars.

X-rays also have been observed in the Earth's auroral regions.

The ASTP experiment will complement the observations of the Uhuru X-ray astronomy satellite in a different energy range and will provide moderate resolution observations for sources which emit only in the low energy X-ray range.

Principal investigator for the experiment is Dr. Herbert Friedman of the Naval Research Laboratory in Washington, DC. Co-investigators are Drs. Seth Shulman, Richard Henry and Gilbert Fritz, also of the NRL.

- end -

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
Johnson Space Center
Houston, Texas 77058

Charles Redmond
713/483-5111

FOR RELEASE:
December 2, 1974

RELEASE NO: 74-271

ALSO RELEASED AT NASA HEADQUARTERS

ALSEP 12 FIVE YEARS OLD AND STILL GOING STRONG

Five years ago two American astronauts placed and left on the Moon a remote scientific instrument package. Five years and over 21,000 Earth-to-Moon commands later this set of instruments continues to radio back to Earth information about the Moon's seismic activity, the energy hitting the surface from the Sun and the Moon's weak magnetic field.

Original specifications for the Apollo Lunar Scientific Experiment Package (ALSEP 12) called for the instruments to last for one year after the return of Apollo 12 astronauts Pete Conrad, Alan Bean and Richard Gordon.

Don Wiseman, one of the men originally responsible for the hardware development at Johnson Space Center (JSC), Houston, attributes the long life to basically simple design with basically durable materials. "It was a bare bones design; basically sound," Wiseman said.

According to W. "Ike" Eichelman, JSC's chief technical monitor for the ALSEP, the basic ingredient in the longevity of the instrument packages is their atomic power plants. Due to several factors -- the Moon's environment, the cosmic irradiation, and others -- the generating units have actually performed better on the Moon than ever predicted using simulated environments on Earth. Eichelman estimates that ALSEP 12 will last at least two more years, or seven times longer than its original life expectancy.

- more -

The need for remote data from the Moon centered about certain questions best answered with continuing data from which a trend could be established; questions like what is the Moon's internal structure and temperature, what processes are responsible for the present structure of the lunar surface, what is the pattern and distribution of seismic activity on the Moon, how do solid body properties and processes on the Moon compare with those on Earth?

The ALSEP series which included similar packages for Apollo missions 14 through 17, was designed to return lunar scientific data to Earth in the areas of geology, geophysics, geochemistry and astrophysics.

Each ALSEP was carried to the Moon in two compartments aboard the Lunar Modules and placed in position by the astronauts during their forays about the Moon's barren surface. Although each ALSEP contained a number of identical instruments, each one was different in distinct ways from the others. Each, however, was powered by a Radioisotope Thermal Generator (RTG) which transforms atomically generated heat into about 75 watts of energy at 16 volts.

The instruments consisted of a passive seismic device, an active seismic array using mortar rounds to set up shock waves, two ion detectors, a solar wind spectrometer, a particle detector, magnetometers and instruments to measure heat flow from the Moon's interior.

Although there were earlier instrument packages which were soft-landed on the Moon prior to the Apollo missions, the ALSEP packages have been the longest lived, most sophisticated package of sensors ever designed and placed on the Moon.

Dr. Palmer Dyal, a NASA lunar investigator at Ames Research Center in California, has derived measurements of the Moon's magnetic field from the Apollo ALSEP magnetometers. His estimates show the Moon's magnetic field to be about 1,000 times weaker than the Earth's and the result of a probable one-time magnetism. No significant dipole field exists on the Moon at present -- which means a magnetic compass would be

absolutely useless on the Moon. The Earth's field, in contrast, derives from internal processes of our planet.

A powerful magnetic field is generated deep within the Earth by the constantly rotating molten metal core. This core functions like a dynamo and develops a field measurable many thousand miles into space. In contrast, the main lunar magnetic field consists of near-surface fields highly variable in magnitude and direction.

Dyal says "that the lunar magnetic field can be viewed as a sort of magnetic tape recording of conditions on the Moon more than three billion years ago." These investigations have also led to other tentative conclusions concerning the interior structure of the Moon. From magnetic data Dyal has figured the abundance of free iron on the Moon at about 2.5 per cent by weight. Total iron content of the Moon is about nine per cent by weight. The Earth is about 30 per cent iron by weight.

Signals received by the seismometers have definitely established the existence of Moonquakes. These are associated with activity deep within the Moon 700 to 1,200 km (420 to 720 mi.) and with shallow activity produced by thermal heating and cooling during the lunar day and night. A third class of seismic events may be associated with processes within the lunar regolith.

One of the most surprising results was the long duration and ringing nature of seismic signals from the Moon -- completely different from that observed here on Earth. This is explained by the diffusive propagation of the shock waves as a result of intense scattering, particularly near the lunar surface. The diffusion is enhanced by low attenuation due to the lack of water and other volatiles in the pores of the lunar rocks. For this reason, seismic studies based on reflected signals cannot be used to the same advantage on the Moon as they are on Earth.

Other important findings based on the seismic data are that the lithosphere (solid part) of the Moon is 700 to 1,200 km (420 to 720 mi.) thick, much thicker than the Earth's. The Moon's core is probably near the melting point. Scientists, however, are

waiting for a large meteorite impact similar to one which occurred two years ago to confirm their theories about the Moon's core.

Seismic energy of the Moon has been found to be about 10 orders of magnitude less than the Earth's, and due to the Moon's thick lithosphere, there is no crustal plate movement like on Earth.

The heat flow measured by ALSEP instruments was surprising. It is about half that of the Earth's. It places strong constraints on the radioactivity of the Moon and indicates differentiation and upward concentrations of radioactivity early in the Moon's history. Previous models of the Moon's radioactivity were based on chondritic meteorites and terrestrial rocks. Bulk radioactive concentrations consistent with the heat flow measured on the Moon indicate that those models are inaccurate. Other findings indicate that, in comparison to the Earth, the Moon is depleted in volatile elements like iron, sodium and potassium.

Seismic, magnetic and heat flow data from the ALSEPs indicate a differentiated Moon well along in its evolutionary history -- further along than the Earth.

The ALSEP instruments have also been successful in obtaining a better picture of the Earth's magnetosphere -- a realm of trapped particles. As the Earth orbits about the Sun it is continually in the flux of high energy particles emitted by the Sun.

When these particles approach the Earth's magnetic field they are deflected outward further into space. By using information from the suprathermal ion detector, cold-cathode ion gage and solar wind spectrometer, scientists have been able to look at Earth's solar atmosphere with more precision than ever.

One of the striking results has been the discovery that solar particles exist in stronger concentrations on the Earth's anti-Sun side than had been predicted. The implications and mechanism for this interesting turn are not yet known.

Data from the five ALSEPs is received by NASA's tracking network 24 hours a day. This information is stored on computer tapes and mailed to the Johnson Space Center. The computer tapes are duplicated and sent along to the dozen principal investigators

still analyzing the data. Through the National Space Science Data Center data tapes are made available to the scientific community at large. Several times each week, NASA engineers and technicians monitor the ALSEP instruments "live" from the Moon looking for problem areas or performing general maintenance checks.

- end -

NEWS

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
Johnson Space Center
Houston, Texas 77058

Jack Riley
713/483-5111

FOR RELEASE:
December 3, 1974

RELEASE NO: 74-272

U.S. TRACKING SOYUZ 16

NASA has been tracking the Soviet Soyuz 16 spacecraft since shortly after launch early yesterday and at 8:40 p.m. CST today will begin a 15-hour joint tracking exercise with the Soviet Union.

After the mission, information gathered by nine U.S. tracking stations will be compared to data received by Soviet stations during the same time period. The exercise is a forerunner of tracking operations and data comparison which will be required during the Apollo-Soyuz Test Project mission next July.

Data received by U.S. stations is relayed to the Goddard Space Flight Center, Greenbelt, Maryland. The Johnson Space Center's Mission Control Center is not involved.

The Soyuz 16 mission is a Soviet rehearsal for the ASTP mission. The cosmonauts now in orbit, Col. Anatoliy V. Filipchenko and Nikolay N. Rukavishnikov, are backup crewmen for next summer's joint flight and have taken part in joint crew training at JSC.

Apollo Spacecraft Program Office officials at JSC have received four telephone calls from Soviet ASTP officials since the launch of Soyuz 16. They report that the mission is going well and that the crew is in good health and has been observed from the ground via color television.

- more -

NASA has been given the state vectors for Soyuz 16, mathematical definitions of the spacecraft's location and velocity at stated times. That information assists in tracking by ground stations.

Soviet officials have also informed NASA of the plan for testing the compatible docking system developed for ASTP. Attached to the Soyuz 16 docking system is a donut-shaped metal flange with latches. Using this passive test ring, the cosmonauts are able to operate the Soyuz docking system in several test modes. The test ring will be retained by Soyuz until near the end of the mission.

U.S. stations involved in tracking Soyuz 16 are at Ascension, Bermuda, Canton Island, Hawaii, Kwajelein, Merritt Island, Florida, Tananarive, Grand Turk and Antigua.

- end -

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
Johnson Space Center
Houston, Texas 77058

Terry White
713/483-5111

FOR RELEASE:
December 5, 1974

RELEASE NO: 74-273

HOUSTON FIREMEN GET NASA-DEVELOPED LIGHTWEIGHT BREATHING GEAR

Firemen at Houston Fire Department's Station 16 this week received two lightweight breathing systems for a six-months field evaluation. The Firefighter's Breathing System was developed by engineers at the NASA Johnson Space Center using materials and technology from the nation's space program to design and build air tanks and masks that are lighter and more efficient than systems now in use.

The new air tanks are built of an aluminum liner with a glass fiber overwrap--a technique that was originally developed for solid-propellant rocket motor cases.

Project engineer Pat McLaughlan of the Center's Crew Systems Division said, "While current systems are capable of doing the job, the lower weight and added duration of the new system will provide the firefighter greater safety and efficiency."

McLaughlan will visit Station 16 Monday at 2 P.M. CST to talk with firemen at the end of the first week's field evaluation of the breathing system.

Breathing systems also are being furnished by the Center to fire departments in New York and Los Angeles in January for similar field evaluation.

- end -

NEWS

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
Johnson Space Center
Houston, Texas 77058

Terry White
713/483-5111

FOR RELEASE:
December 12, 1974

RELEASE NO: 74-274

BOEING AWARDED R&QA CONTRACT

The National Aeronautics and Space Administration has selected Boeing Company, Aerospace Division, Seattle, Washington, for negotiation leading to the award of a contract to provide Safety, Reliability and Quality Assurance Engineering Support at the Johnson Space Center, Houston, Texas.

The contractor's proposed cost for the first 2-year cost-plus-award-fee type contract is approximately $8 million. It is contemplated that there will be two extensions; one for 2 years, the other for 1 year.

The work to be accomplished by Boeing consists of Safety, Reliability, and Quality Assurance Engineering and technical tasks associated with current and future NASA-JSC programs for space vehicles, ground support equipment, facilities, and payloads (including experiments).

Two other firms submitted proposals for the work: Management and Technical Services Company, Philadelphia, Pennsylvania; and Planning Research Corp., McLean, Virginia.

The contract will be under the technical direction of the Johnson Space Center, Houston, Texas.

- end -

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
Johnson Space Center
Houston, Texas 77058

Milton E. Reim
713/483-5111

FOR RELEASE:
December 17, 1974

RELEASE NO: 74-275

JOINT US/USSR PROCEDURES SIMULATION THIS WEEK FOR ASTP

Flight controllers in Mission Control Center in Houston and their counterparts in the Soviet Union are scheduled to take part in a three-day communication procedural simulation beginning on Wednesday, December 18.

Procedures for configuring the two control centers and the network tracking stations to permit communications with each orbiting spacecraft during the Apollo-Soyuz Test Project (ASTP) mission next July will be worked out during the exercise.

The first two days of the simulation will exercise all modes of communication that will be used during the actual mission. Procedures will be checked-out for interfacing the voice, video, teletype, and telex facsimile between the two control centers and through the tracking networks.

Goddard Space Flight Center and the tracking station at Merritt Island, Florida, (MILA) will be up for the three-day exercise.

To communicate with Apollo through a Soviet tracking station requires a direct link from MCC in Houston to the Soviet control center and then through the Soviet tracking network. For the Soviets to communicate with Soyuz through an Apollo tracking station would require the reverse of the above procedure.

Flight control disciplines involved in the first two days will include: flight director, procedures officer, communications technician, switchboard operator, teletype operator, network controller, mission configuration supervisor and CapCom.

- more -

On Friday, the flight dynamics officers will take part in a control center interface exercise between Moscow and Houston when procedures checked-out the two previous days will be implemented using the Real Time Computer System. The time period just prior to Soyuz launch through Apollo launch will be simulated. State vectors (position and velocity at a given time) will be exchanged. Video tapes of launches and onboard spacecraft views will be televised between the two control centers.

This exercise will not involve any of the ASTP prime crewmen or simulators. Simulated status reports and data on spacecraft positions, etc., will be exchanged during the ten-hour procedural simulation.

The first Houston MCC simulation involving the Apollo crewmen is scheduled for mid-February and the first all-up simulation with both control centers and both Apollo and Soyuz crewmen is scheduled for late March of next year.

- end -

NEWS

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
Johnson Space Center
Houston, Texas 77058

Robert V. Gordon
713/483-5111

FOR RELEASE:
December 20, 1974

RELEASE NO: 74-276

ALSO RELEASED AT NASA HEADQUARTERS

NASA, SINGER TO NEGOTIATE SHUTTLE SIMULATOR CONTRACT

NASA has selected Singer Simulation Products Div., Houston, for negotiation leading to award of a contract for an Orbiter Aeroflight Simulator for use as a crew trainer for the Space Shuttle Orbiter Vehicle to support the Shuttle Program Office.

The contractor's proposed cost for the cost-plus-award fee contract is approximately $8 million. Singer will design, develop, fabricate, test and deliver a simulator that will consist of a high fidelity crew station, out-the-window color visual scene, motion base and flight computer-simulator interface device to simulate orbiter vehicle flight dynamics and motion during the atmospheric phase of the Shuttle Orbiter operations.

The contract will be under the technical direction of the NASA Johnson Space Center, Houston.

Grumman Aerospace Corp., Bethpage, N.Y., also submitted a proposal.

- end -

NEWS

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
Johnson Space Center
Houston, Texas 77058

R. Terry White
713/483-5111

RELEASE NO: 74-277

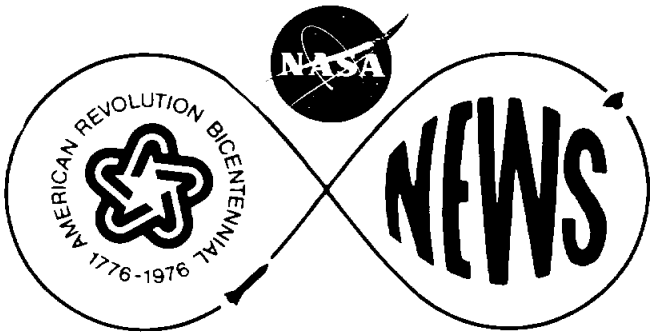
FOR RELEASE:
December 24, 1974
2:00 p.m.

NASA NEGOTIATES WITH KLATE-HOLT FOR JSC CUSTODIAL SERVICES

The NASA Johnson Space Center, Houston, Texas, has selected Klate Holt Company of Webster, Texas, for negotiation and award of a cost-plus-fixed/award fee contract for custodial support services at the Center.

Klate Holt Company's proposed cost and fee covering 364,000 man-hours during calendar year 1975 is approximately $1.4 million. The total expected cost for the three-year program of 364,000 man-hours per year is approximately $4.6 million. The contract provides for employment of 175 employees at JSC for the three years.

- end -



NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
Johnson Space Center
Houston, Texas 77058

Robert V. Gordon
713/483-5111

FOR RELEASE:
December 30, 1974

RELEASE NO: 74-278

TECHNICOLOR CONTRACT EXTENSION

Technicolor Graphic Services, Inc., Hollywood, California 90038, has been awarded a one-year extension to their contract for photographic support services at the Lyndon B. Johnson Space Center (JSC), Houston, Texas 77058.

The contract will be a cost-plus-award-fee for a twelve-month period beginning January 1, 1975, and ending December 31, 1975. The estimated amount for the 12-month period is $2,393,895.

- end -