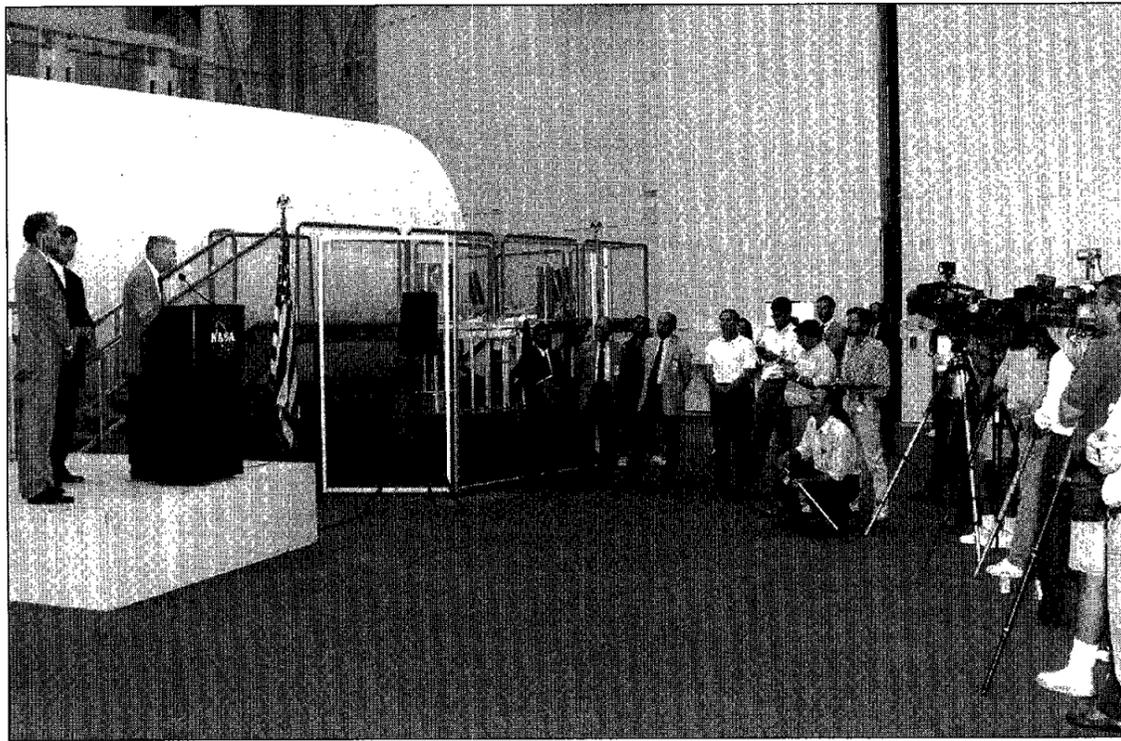


# Space News Roundup

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No. 33



JSC Photo by Jack Jacob

JSC Director Aaron Cohen and Rep. Mike Andrews answer news media questions about JSC's naming as the host center for the space station program in Bldg. 9 on Tuesday.

## Goldin picks JSC to host space station

JSC will be the home of 300 host center jobs for the new space station program, and Boeing Defense and Space Group will be the prime contractor.

NASA Administrator Daniel S. Goldin, Texas Gov. Ann Richards and Rep. Jack Brooks, dean of the Texas congressional delegation, announced the selections Tuesday.

"These decisions," Goldin said, "mark a significant step forward in carrying out the President's decision to move ahead with a redesigned space station."

Goldin said the selections are part of President Clinton's initiative to save more than \$4 billion over the next five years and more than \$18 billion over the life of the space station program.

"We at the Johnson Space Center are extremely pleased to hear of the decision to locate the space station program here and are eager to take on this important challenge," JSC Director Aaron Cohen said.

It is important to remember, Cohen added, that "we certainly need the Marshall Space Flight Center, Kennedy Space Center and Lewis Space Center to make a team. They play a very vital role in the space station program, as do the contractors that support Boeing."

"Just as Houston and JSC led the U.S. to the Moon three decades ago, we will now lead the U.S. and the world into a permanent presence in space during the '90s," Brooks said. "It is an exciting challenge for Houston and our nation, and one that we can meet."

Rep. Mike Andrews, D-Texas, said he believes the announcement will have a positive impact on the budget votes expected in the House and Senate after the current recess ends.

They signal to Congress that NASA is sincere in its desire to develop a leaner, more efficient agency and space station program.

"We stand today with this announcement at the opening of a door to the next chapter in this great adventure of space exploration, a door that will lead us into rooms we can only imagine," Andrews said. "Rooms that will aid us in discovering cures for cancer, exceed our limitations in heart research, nutritional research, biochemistry, genetics, answers to questions we can only dream of today. Once again, our center has been recognized for its leadership and its talent and recog-

*'This will be an extremely strong and effective team. It's good for the American taxpayer, for NASA and for the contractors.'*



—NASA Administrator  
Daniel S. Goldin

and recognized for its leadership and its talent and recog-

nized for the responsibility and challenge that lies ahead."

The decision "makes Houston the world spaceport for the human exploration of space," Richards said.

An interim report to the Office of Science and Technology Policy and the international partners on the new design for the space station was ready for delivery late last week, Goldin said.

"The transition process is on track, decisions are being made, and the groundwork for building the new space station team is being laid," he said. "I'm extremely pleased with the progress we are making."

JSC was selected because of two critical factors, Goldin said. First, JSC has the necessary experience, personnel and facilities to respond flexibly to the space station program needs. Second, JSC has a strong operations capability in terms of both the civil service work force and its extensive facilities. Its close proximity to the operations capability is conducive for the evolution of the space station development program to an

Please see **NEW**, Page 4

## JSC awaits effects of host center decision

Managers predict benefits, inconveniences from move

Managers who will be affected by the arrival of the new space station program office said this past week that they are pleased by the decision to make JSC the host center, but that all of the repercussions are not yet known.

While about 300 civil service jobs will support the program at JSC, the move is part of an overall restructuring designed to cut the total number of government workers from about 2,300 to 1,000.

JSC Director Aaron Cohen said Houston's selection as the host center means that the jobs pinch probably won't be felt as much here as it would have if the host center had gone elsewhere, but that it was not clear just how many civil service and contractor jobs would be supporting the new program office.

The long-term significance of JSC's selection as host center is that it will keep the human element of space flight here for a long time, he said.

"JSC has a rich heritage in human space flight that will serve America well in making this country's dream of a permanently orbiting laboratory a reality," Cohen said. "More importantly, this center has the necessary resources to support the effort — a highly competent work force, good working conditions, capable facilities and access to the necessary communication and travel routes.

"We also look at this as a chance to prove to the American public and Congress that NASA can build a productive space station on schedule and within the budget as we continue to fly shuttles safely and more economically," Cohen added.

JSC Space Station Projects Office Manager Jack Boykin said the move to JSC will be NASA's first big test of the effort to reinvent government.

"This will optimize the participation of the Space Station Freedom core expertise without the trauma of relocation, and by doing so will enhance the probability of success in what is surely the biggest programmatic challenge this agency has ever faced," Boykin said.

Mission Operations Deputy Director John O'Neill has been designated the leader of the Host Center Transition Team and will coordinate moving the station management to JSC, taking direction from the Space Station

Transition Team at NASA Headquarters.

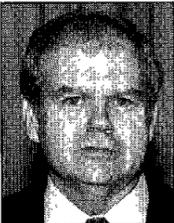
O'Neill said the co-location of shuttle and station management at JSC will provide smoother and more effective operations during the development of the station.

"As we move toward space station operations, we will easily be able to make as much use as possible of shuttle tools, facilities and skills and may reduce develop-

Please see **TRANSITION**, Page 4

*As we move toward space station operations, we will easily be able to make as much use as possible of shuttle tools, facilities and skills and may reduce development costs for the station.'*

—John O'Neill  
Host Center Transition Team Leader



## Engine swap progresses; managers to set target

By James Hartsfield

As Kennedy Space Center technicians finish replacing the three main engines from *Discovery*, shuttle managers today may be able to set a firm launch date for STS-51, perhaps the first week of September.

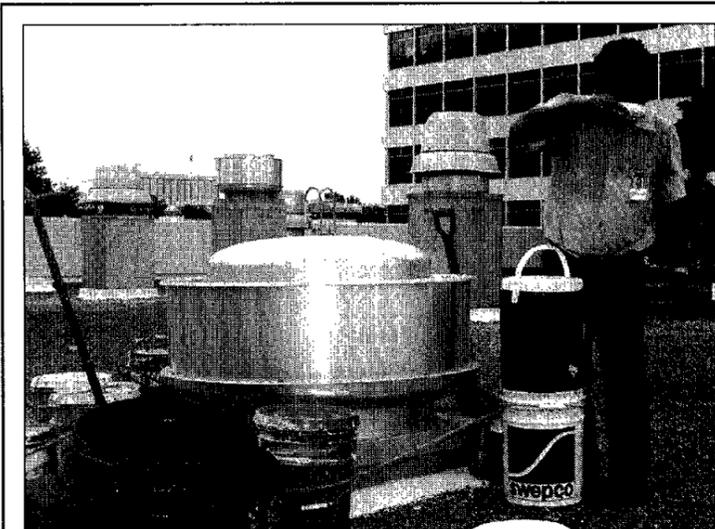
*Discovery's* engines will be taken back to the KSC engine shop for refurbishment while three new engines are installed in the spacecraft. Early last week, the problem that halted the Aug. 12 launch attempt—a faulty fuel flow sensor on one of the engine's liquid hydrogen fuel lines—was duplicated when the sensor was tested by the manufacturer at its supercold operating temperature.

As the engine replacement progresses, workers also are replenishing the supply of argon used for cooling the Orbiting and Retrievable Far and Extreme Ultraviolet Spectrometer in *Discovery's* cargo bay.

*Columbia's* launch date on STS-58, the 14-day-long Space and Life Sciences-2 flight, will not be determined until after a date has been set for *Discovery*. *Columbia* is in the Vehicle Assembly

Bldg., attached to the solid rockets and fuel tank for STS-58.

Due to the delay in the launch of SLS-2, KSC technicians will replenish several experiments in the Spacelab in *Columbia's* cargo bay.



JSC Photo by Jack Jacob

**HOT JOB**—Johnson Controls worker Joe Perez hits the cooler during another hot day on the roof of the Bldg. 3 cafeteria. Perez and coworkers William Furch, Larry Scales and Terry Chapman have been braving near 100-degree temperatures to perform maintenance on the roof.

## NASA awaiting Senate vote on buy-out incentive

JSC's Human Resources Office reports that legislation authorizing buy-out incentives for NASA employees has passed the House of Representatives but that the Senate was not able to complete work on it before adjourning.

The plan now is to try to get the NASA package considered as soon as the Senate reconvenes after Labor Day, Employee Services Section Chief Mary Allen said. If all goes as expected, the buy-out incentives should be available in late September or early October.

Allen said an early-out request is being forwarded to the Office of Personnel Management for approval. OPM has reviewed a draft of the package and promised a quick turnaround.

Please see **ACTION**, Page 4

JSC

# Ticket Window

The following discount tickets are available for purchase in the Bldg. 11 Exchange Store from 10 a.m.-2 p.m. Monday-Thursday and 9 a.m.-3 p.m. Friday. For more information, call x35350 or x30990.

Rocking 50's Dinner Dance (7 p.m., Aug. 28, Gilruth Center): \$15 per person; tickets on sale until Aug. 25.

Astros vs. San Diego Padres (1:35 p.m., Sept. 19, Astrodome) — Discount tickets: \$9; on sale until Sept. 3.

Moody Gardens — Discount tickets to three of five attractions: \$14.

Six Flags Over Texas — Discount tickets: one-day pass, \$19.95; two-day pass, \$24.95 and children under four feet, \$18.95.

Splash Town USA — Discount tickets: \$10.50.

Astroworld — Discount tickets: adult, \$18.95; children under 4 1/2 feet, \$15.95.

Waterworld — Discount tickets: \$9.95.

Sea World in San Antonio — Discount tickets: adult, \$19.75; child (3-11), \$13.15.

Fiesta Texas, San Antonio — Discount tickets: adult, \$18.35; child (6-11) \$12.75.

Space Center Houston — Discount tickets: adult, \$7.50; child (3-11) \$4.50; commemorative: \$9.95.

Metro tickets — Passes, books and single tickets available.

Movie discounts — General Cinema, \$4.50; AMC Theater, \$3.75; Loew's Theater, \$4.

JSC

# Gilruth Center News

**Sign up policy** — All classes and athletic activities are first come, first served. Sign up in person at the Gilruth Center and show a badge or EAA membership card. Classes tend to fill up two weeks in advance. For more information, call x30304.

**EAA badges** — Dependents and spouses may apply for photo identification badges from 6:30-9 p.m. Monday-Friday. Dependents must be between 16 and 23 years old.

**Defensive driving** — Course is offered from 8 a.m.-4:30 p.m. Sept. 18. Cost is \$19.

**Weight Safety** — Required course for employees wishing to use the weight room is offered from 8-9:30 p.m. Aug. 26. Pre-registration is required; cost is \$5.

**Aerobics** — High/low-impact class meets from 5:15-6:15 p.m. Tuesdays and Thursdays. Cost is \$32 for eight weeks.

**Exercise** — Low-impact class meets from 5:15-6:15 p.m. Mondays and Wednesdays. Cost is \$24 for eight weeks.

**Aikido** — Martial arts class meets from 5-7:30 p.m. Tuesdays. Cost is \$15 per month.

**Scuba diving** — Class will meet from 6:30-9 p.m. Tuesdays and Thursdays beginning Aug. 26. Cost is \$190 for four weeks.

**Fitness program** — Health Related Fitness Program includes a medical examination screening and a 12-week individually prescribed exercise program. For more information, call Larry Weir at x30301.

JSC

# Swap Shop

Swap Shop ads are accepted from current and retired NASA civil service employees and on-site contractor employees. Each ad must be submitted on a separate full-sized, revised JSC Form 1452. Deadline is 5 p.m. every Friday, two weeks before the desired date of publication. Ads may be run only once. Send ads to Roundup Swap Shop, Code AP3, or deliver them to the deposit box outside Rm. 147 in Bldg. 2. No phone or fax ads accepted.

## Property

Sale: Univ Green TH, 2-2.5, gar, FPL, comm pool, \$72.9k. Dave, x38156 or Herb, x38161.

Lease: Pipers Meadow, 3-2-2, carpets, drapes, FPL, fenced, builtins, \$825/mo. 538-3352.

Rent: Galv condo, furn, sleeps 6, Seawall & 61st St, pools, cable, wknd/wkly/dly. Magdi Yassa, 343-4760 or 486-0788.

Rent: Heritage Park, 3-2-2, cut-de-sac, FPL, fenced. Geno, x44867 or 992-2156.

Lease: Friendswood, 4-2-2, pool, no pets, avail 9-1, \$750/mo. 482-4354.

Sale: Taylor Lake watershed lot, 75' x 150', 32 large oaks, improvements, \$23k. 334-6515.

Sale: LC, 4-2-2, FPL, ceiling fans, newly landscaped, starter home, \$74.9k negotiable, assumable. Peter, 526-1853.

Rent: Colorado, furn, sleeps 6, hiking biking, fishing, horseback, low summer rates through October. 488-4453.

Lease: Dickinson, 3-2-2, 1 yr old, avail 9-1, \$750/mo. 484-0392.

Rent: Lake Travis cabin, private boat dock, CA/H, accommodates 8, fall/winter, \$325/\$90, wkly/dly. 474-4922.

Rent: Univ Trace, 1-1, 1st floor, all appl, W/D, DW, alarm, cable, cov parking, \$425/mo + dep. 748-6605.

Rent: Arkansas cottage, overlooks Blue Mountain Lake, furn, wooded, 4 acres, screened porch, antiques, \$250/wk, \$50/day. x33005 or 334-7531.

Lease: Pebblebrook condo, 1-1, refrig, WD, corner unit, \$395. 486-1984 or 335-1514.

Rent: Nassau Bay, 4-2-2, recently remodeled, \$895/mo. Minh, x30992 or 484-2456.

Sale: Univ Green, 3-2-2, new AC, fans, deck, custom blinds, drapes, all appl, \$83k, assumable, no approval, 9.5%, eq, 18K owner will finance second with \$10k dn. 488-0345.

Sale: Dickinson, 4-2-5-2, pool, FPL, wetbar, 3/4 acre, sec sys, 100 yr old trees. x34354 or 337-1640.

Sale: Shoreacres, 4-2-2, pool, extra wooded lot, custom drapes, new carpet, 1850 sq ft, \$89k. 470-2592.

Lease/Sale: Baywind condo, 2-1, W/D. 532-4628.

Lease: 2-2.5 TH, lake view, security, storage, access to docks. Robin, x31598 or 474-2339.

Sale: Univ Trace condo, 2 stroy, 1-1.5, FPL, end unit facing pool. Bill, x35615 or 946-7152.

Sale: Lake Livingston lot, retirement subdivision, lg trees, pool, tennis, boat ramp, all util, \$2k. 488-0719.

## Cars & Trucks

'81 Mercedes 380 SL, convertible, 60k miles, good cond, \$15k OBO. 332-9656.

'87 Olds Cutlass Supreme Brougham, 4 dr, pwr locks, AM/FM/cass, ex cond, \$2.5k OBO. x33937 or 339-3464.

'78 Datsun 280Z, body/eng ex shape, low

miles, \$2350 OBO. Jim Briley, x44632 or 488-7901.

'83 Mazda GLC, std, runs good, \$975. Caroline, 212-1357 or 333-9161.

'72 Olds Cutlass Supreme, 2 dr, V8, good eng/brakes/tires, \$500 OBO. Glen, x30058 or 534-2497.

'85 Olds Calais, silver, 65k mi, needs air compressor, \$2k; '78 Volvo 244 DL, red, runs, needs work, \$700 OBO. Sheri, x37451 or 326-1110.

'84 Pontiac Bonneville, AC, PS/PB/PW/PL, power seat, cruise, loaded, 58k mi, new tires, AM/FM/cass, ex cond, \$3.2k. Andy, 992-1856.

'85 Grand Marquis, loaded, 69k mi, ex cond; '59 Chevy Cheyenne PU, best offer. 771-1012.

'85 Ford F150 PU, V8, 302 eng, auto, AM/FM/cass, AC, PS/PB, running boards, 94m, ex cond, \$4k. Bob Wirt, x39376 or 332-4756.

'71 VW Karmann Ghia, mech restoration complete, needs cosmetics, auto stick shift, new tires, brakes, \$1950. Eric, 482-8759.

'85 Honda Goldwing Interstate, new tires, battery, tuneup, oil/filter change, inspection sticker, \$4k. Gene, x36424 or 482-0139.

'87 Chevy Nova, AM/FM, auto, AC, 73k mi, \$3k OBO. x38389.

'79 Mustang 5.0, V8, AC, alloy wheels, silver, 160k mi, needs paint, \$2k OBO. Dave, x38118 or 280-9541.

'89 Honda Accord LXi, 4 dr, blue/green, tan leather int, pwr windows, pwr sunroof, AM/FM/cass, ex cond, \$8k. 486-0235.

'84 Merc Cougar, 2 dr, V8, all pwr, AM/FM/cass/CB, needs paint, lg blue, \$2.5k. 331-2693.

'91 Nissan Stanza XE, auto, air, pwr windows, pwr locks, tilt, cruise, AM/FM/cass, 50k mi, \$9.9k. James, x40045 or 332-1129.

'85 Dodge Daytona XC LNT, 5 spd, EFI, PS/PB, AM/FM/cass, no rust, \$1350. 482-1429.

'81 VW Rabbit, diesel, 58 mpg, new tires, shocks, rebuilt eng, \$2295. Ed, 280-9621.

'76 Mercedes 240D, AC, 15k on new eng, needs minor fixups, yellow, \$1.8k OBO. 334-3185.

'86 Volvo 240DL, 4 dr, auto, AC, stereo cass, 75k mi, ex cond, \$4950. 286-8164.

'76 Monte Carlo, \$500 OBO. Ignacia or Delia, 271-7731.

'87 Ford Taurus LX wagon, good cond, loaded, \$3k. Jeff, x37388 or 996-1529.

'82 Ford F100 PU, new tires, runs good, \$2.6k OBO. Chad, x35786 or 482-9263.

'90 Dodge Grand Caravan SE, 3.3L, V6, 42k mi, ex cond, \$12.5k. x35913 or 280-0065.

## Boats & Planes

RC helicopter, K&B 40 eng, Kraft radio, starting motor, \$125. 486-7245.

'88 Four Winns bowrider, 140 hp Johnson, custom galv trlr, extras, ex cond, \$10.9k OBO. 488-5092.

'83 Hobbie Cat 16' Signature Model w/trlr, life jackets, harnesses, tools, \$1499 OBO. Doug, x41081.

## Audiovisual & Computers

Magnavox 486 SX, 80 MB HD, 2 MB RAM, Hayes 2400 modem, w/color VGA monitor, \$900 OBO. Jeannie, 488-9648.

Citizen Tribute 124, 24 pin dot matrix, 200 cps, push/pull, bottom/rear paper feed, prof quality, ex cond, \$250. Tim, x30134.

Apple II w/2 disk drives, 9" B&W monitor, manuals, sw, \$350 OBO. Frank, x34933 or 470-8993.

JSC

# Dates & Data

## Today

**Workshop** — The Federal Women's Program is sponsoring a workshop on "The Power of Professional Presence," from 8:30 a.m.-12 p.m. and again from 1-4:30 p.m. Aug. 23 at the Gilruth Center. D.A. Benton, an international specialist in self-presentation, will conduct the workshop. Shuttle bus transportation will be provided. For more information, contact Pam Adams at x33761.

**Cafeteria menu** — Special: Italian outlet. Entrees: barbecue beef, spare ribs with kraut, steamed pollock, French dip sandwich. Soup: black bean and rice. Vegetables: California mix, okra and tomatoes, vegetable sticks, ranch style beans.

## Tuesday

**Workshops** — The Federal Women's Program is sponsoring a workshop on "Budgeting and Planning Your Financial Future," from 8:30 a.m.-12 p.m. Aug. 24 at the Gilruth Center. Beth Hearn, a certified financial planner and registered investment advisor, will conduct the workshop. From 1-4:30 p.m. Madelyn Burley-Allen, author of three books on self-improvement techniques, will conduct a workshop on "Excellence in Effective Listening." Shuttle bus transportation will be provided. For more information, contact Pam Adams at x33761.

**Cafeteria menu** — Special: corned beef hash. Entrees: meatballs and spaghetti, grilled liver and onions, beef cannelloni, ham steak Hawaiian. Soup: split pea. Vegetables: winter blend mix, seasoned

cabbage, breaded squash, lima beans.

## Wednesday

**Cafeteria menu** — Special: smoked barbecue link. Entrees: cheese enchiladas, roast pork and dressing, baked scrod, baked chicken, Reuben sandwich. Soup: seafood gumbo. Vegetables: Italian green beans, Spanish rice, turnip greens, peas and carrots.

## Thursday

**TQ round table** — The Mission Operations Directorate's Q+ Committee will host an American Quality Coaches Round Table discussion from 2:30-3:30 p.m. Aug. 26 in the Bldg. 30 auditorium. The discussion will focus on the philosophies of Dr. Juran, Dr. Deming and Philip Crosby. For more information, contact Dave Miller at x37073 or Emmerson Edwards at x34228.

**Cafeteria menu** — Special: chicken fried steak. Entrees: roast beef with dressing, steamed pollock, lasagna with meat, baked chicken, French dip sandwich. Soup: beef and barley. Vegetables: whole green beans, butter squash, cut corn, black-eyed peas.

## Friday

**Cafeteria menu** — Special: fried chicken. Entrees: broiled cod fish, beef stroganoff, vegetable lasagna. Vegetables: steamed broccoli, carrots Vichy, Italian zucchini, breaded okra.

## Monday

**Blood pressure screening** — The American Heart Association is

sponsoring a blood pressure screening from 8:30-11:30 a.m. in Bldg. 1, 1-2 p.m. in Bldg. 7A and 2:30-3:30 p.m. in Bldg. 32 Aug. 30. Daily screening will be available from 10 a.m.-12 p.m. and 2-4 p.m. in Bldg. 8. For more information, call Dolores Bellfore at x34111.

**Cafeteria menu** — Special: meat sauce and spaghetti. Entrees: franks and sauerkraut, sweet and sour pork chop with fried rice, potato baked chicken. Soup: cream of potato. Vegetables: French beans, buttered squash, lima beans.

## Aug. 31

**Blood drive** — The next JSC on-site blood drive will be from 8-11:30 a.m. and 1-3:30 p.m. Aug. 31 at the Gilruth Center. For more information, contact Susan Anderson at x33073.

**Blood pressure screening** — The American Heart Association is sponsoring a blood pressure screening from 8:30 a.m.-12 p.m. in Bldg. 30, 1-2:30 p.m. in Bldg. 16 and 3-4 p.m. in Bldg. 31 Aug. 31. Daily screening will be available from 10 a.m.-12 p.m. and 2-4 p.m. in Bldg. 8. For more information, call Dolores Bellfore at x34111.

## Sept. 1

**Blood pressure screening** — The American Heart Association is sponsoring a blood pressure screening from 8:30-11:30 a.m. in Bldg. 45, 1-2 p.m. in Bldg. 44 and 2:30-4 p.m. in Bldg. 325 Sept. 1. Daily screening will be available from 10 a.m.-12 p.m. and 2-4 p.m. in Bldg. 8. For more information, contact Dolores Bellfore at x34111.

Frigidaire dryer, \$75. Jesse, 332-6681 or 996-9641.

Rattan, open-scalloped, qn sz hdbd, honey color, \$75. 480-2444.

Kg sz waterbed, oak finish, mirrored hdbd, w/linen, heater, \$200. x30117 or 996-0949.

## Wanted

Want slate pool table in good cond w/access. 484-7964.

Want to buy used full length petticoats. Karen, 280-8822.

Want roommate to live in 4-2 Friendswood home, nonsmoker, all household priv, \$250/mo, all bills paid. Michael, x38169 or 482-8496.

Want female roommate to share house in CL, \$285/mo, util incl. Theresa, 333-6491 or 480-6980.

Want help w/house and children 2-3 days wk, must have transportation. Lisa, 474-5609.

Want roommate for 3-2-2, 2 rooms, half gar w/opener, prefer female, near Ellington, \$325/mo, half util. John D., x49673 or 484-7890.

Want bar stools without backs. 332-1583.

Want nonsmoking roommate to share 3-2-5-2 house in Meadowbend, \$300/mo + 1/3 util + dep. Gloria, x31891 or 538-2283.

Want vanpool riders, West Loop Park-n-Ride to NASA. Richard Heetderks, x37557.

## Miscellaneous

Antique mahogany game tbl, \$175; hickory rocker, \$150; oak waterbed, semi-motionless, \$150. 482-0626.

Viking 150E sewing machine, 2 yrs old, extra presser feet, sewing tbl insert, \$450 OBO; qn sz sleeper sofa, loveseat, chair, \$450 OBO; Sanyo cass deck, \$75 OBO. Sharon, x32256.

Furniture and appliances. 332-7275.

Bridal petticoat, full length, drawstring waist, medium to full skirt dresses, \$35 OBO. x38850 or 526-4987.

Slate pool tbl, full sz, 4 yrs old, \$500. 480-2444.

Mitsubishi lg screen 45" tv, stereo, all features, was \$3.3k, now \$1.6k or trade for working car. 488-0345.

Scuba diver's tank w/regulator, \$75; Montgomery Ward exec bike, \$35. Dorothy, 482-6542.

Hoover convertible w/attach, \$30; 65" kiddie hotline slalom ski, \$50; 200 red bricks, \$0.20/pc one or all; rolling office chair, best offer. x47740 or 474-4828.

Single waterbed frame, matt, bookcase hdbd, \$20. x45357.

Solid metal weights, weight bench, \$125 OBO; stationary bikes, \$65, \$55; patio screened tent, \$45; tv, not working, BO; '78 17.5' SeaRay boat, 14.5 hp I/O MercCruiser, runs good, \$4k OBO. Dennis, x47113 or 332-6257.

'87 Snapper hi-vac lawnmower, rear bagger, self propelled, was \$450, now \$175, ex cond. Scott, x34614 or 334-2278.

Beckett tribute to Nolan Ryan, \$10; '90 upper deck baseball cards, low # foil boxes, \$35. David, 283-1053 or 482-7005.

Toys, household, trains, film, beauty supplies, crafts, sm appl, Hallmark gift wrap, baby clothes. Diane, 283-1858 or 538-2914.

Free crib matt, will bring to you onsite. Mary, x36621.

Bdrm set, dbl bed, nitestand, \$50; dresser, \$25; desk, chair, \$25. Mike, \$51-2233.

Canister vacuum, \$20; collegiate type reclining

chair, \$25. Mary Jo, 554-2233.

Century wire feed welder, 120 v, w/mask, gloves, wire, \$400; mobile illuminator for x-ray film, \$150. Henry, 991-0821.

Soloflex exercise machine, incl extra weight straps, free weights, \$300. Chris, 332-5629.

Handmade pine bookshelves, country style, \$40/ea. Lisa, 474-5609.

Sofa, French Provincial, Fruitwood, loveseat, 4 lots at Rosewood Cemetery, 941-3262.

4 gold BMW BBS wheels, 4 lug, 15", 7.5" wide, good cond, \$400 OBO. 488-9044.

Ermerson air conditioner, 8000 btu, ex cond, \$250. x36309 or 474-9747.

Brown sofa, good cond, \$30. 286-6218.

Teal colored formal, sz 4, \$90; matching satin slippers, 2" heels, \$20 or \$100 for both. 337-1759.

Bed frame, maple, short poster dbl sz, \$125; wall mirror w/gold leaf frame, \$75; wooden gold leafed candlestick holders, \$25. Gene, x30182 or 480-9580.

Remington 700 ADL, .243 cal, Bushnell scope 3x9, mount, \$300. Howard, x37346.

13" color tv w/remote, \$75; Trek 2200 road bike, carbon fiber w/STI, Shimano components, Avocet computer, time clipless pedals, \$800 OBO. Jeannie, 488-9648.

Health club membership, \$6.30/mo dues, fixed, \$300 OBO to transfer membership. 488-8588.

Pres & First Lady gold charter membership, transferrable, dues paid til 5-94, then \$5.20/mo, \$400 OBO. Chris, x33068 or 667-9659.

Astro tickets, 4 for 9-7; 2 for 9-6, incl free parking, \$10/ea. x38516.

Simmons crib w/matt, \$200; Fisher Price playpen, \$50; Graeco stroller, \$30; Gerry intercoms, \$15; maple hdbd/ftdb, needs refinishing, \$75. x36776 or 286-3266.

12.5" Aqua Cat, \$1.2k; 1200 btus window AC, \$300; stackable Lady Kenmore W/D, \$200; kg sz waterbed, \$100. 244-4117 or 283-1050.

Honda mower, 18 mos old, mulcher/bagger attachments, \$350; edger, \$100; work bench; butcher block formica top w/dwr/cabinets, \$100. x34221 or 338-1248.

Carpet, rust/cinnamon, 150 yds, \$375 all; \$3/yd. Mark, x38013 or 992-4132.

Infant plastic bathtub, \$5; toddler sz plastic rocking horse, \$15; portable inflatable baby play area, \$15; misc glass and/or plastic baby bottles. Ed, x41125 or 481-4889.

Ken



# Teamwork takes fleet to new heights

## AOD and Northrop employees team up to make NASA 965 conversion project a success

By Araceli Olivas

Unprecedented work strategies and management techniques within JSC's Aircraft Operations Division enabled it to achieve new levels of excellence and surpass all expectations in the recent challenge of converting an old Air Force T-38 to an astronaut training aircraft.

The key to success was involving everyone in the decision making, planning extensively, setting clear goals, working as a team, and using time and resources to the greatest capacity without increasing the work force or the amount of overtime, according to Greg Johnson, head of the Aircraft Maintenance Section and Carl Koontz, aerospace engineer in the Aircraft Engineering Section.

"Our goal was to convert NASA 965 to a T-38A within 90 days and under a \$240,000 budget. Not only did we meet our 90-day timeline, but we did it for under \$200,000," Johnson said.

In February of 1992, AOD was authorized to add another aircraft to fill in while major structure repairs and avionics upgrades were being made to the existing aircraft, Koontz explained. Prior to this, he said, repairs and upgrades would put planes out of commission four to six months without replacements. NASA 965 was selected from surplus Air Force AT-38B lead-in fighters stored at the JSC facility at El Paso.

"We wanted an aircraft that would be a suitable replacement for airplanes that were undergoing repairs and upgrades but that didn't require a large modification effort," Johnson said.

Managers from AOD and its contractor, Northrop Worldwide Aircraft Services, met to assess the modifications. Johnson said they began by setting a 90-day deadline but soon realized they didn't have knowledge specific enough to answer detailed questions, such as which modifications took a long time and when it would make sense to follow one modification with another.

"To answer these specific questions," Johnson continued, "management brought the workers, who would actually be doing the modifications, into the meeting. That interaction was extremely beneficial in ensuring that they made the projected timeline of 90 days."

Johnson said that together, AOD/NWAS workers and managers realized that only about three-fourths of the standard NASA modifications would be necessary. They determined that the other 25% of the modifications were only short-term assets. That is, they would not serve the purpose that the aircraft was to be used for, nor the amount of time it was to be flown.

Some good examples of these short-term assets are the radar altimeter and paint modifications, Johnson said. They decided that the radar altimeter modification, which was optional in the first place, would take more time and effort than they wanted to expend. They also decided to leave the camouflage paint on the aircraft rather than paint it the standard white, since the color of the plane did not matter.

"The workers were able to look at a modification and determine whether or not we could do without it, the number of hours it would take to complete, the sequence in which they would have to do it and the areas they would have to open up to get to it," Johnson said.

The AOD/NWAS team arrived at the esti-

ated cost of \$240,000 by looking at the necessary modifications and inspections and closely assessing the number of regular hours and overtime necessary to complete the project, Johnson said. They also looked specifically at what parts would have to be changed, because certain parts could have driven the cost far over the \$240,000 budget. They limited themselves to modifying parts that really needed it.

"As a result of including everyone in the decision making," Koontz said, "a great deal of time, effort and money was saved even before any work had actually begun."

When the team began working on the aircraft, it continued to look for ways of keeping costs down, Johnson said.

Team members made a close analysis of hours expended and authorized overtime only when it was needed to end a job, not simply to continue working on the aircraft. They also didn't work on the plane during weekends to any significant amount and made use of existing supply, non-destructive testing and engine personnel.

"This makes the 90-day turnover more spectacular," Johnson said, "because they didn't have to spend more time on it or use more workers."

Other important factors that made the project a success, Johnson added, were that they followed a detailed project plan, tracked each modification, and held weekly update meetings which enabled them to discuss various issues and evaluate their progress. Koontz pointed out that the workers were actually excused from the job to attend the meetings.

"They brought the workers in and asked

them what was holding them up and what support they needed to continue the project," Johnson said.

They used flow charts to record their progress and plan the following week's work as well as the work for the remainder of the 90-day period. One of the most significant breakthroughs that came from these meetings was that they came up with a way of working on the airplane while it was being defueled. Prior to this, they had to wait for the plane to be completely defueled before they could work on it.

"Those meetings were crucial to keeping the project on track, dealing with unforeseen repairs and avoiding conflicts between workers needing access to the same work area," Koontz said.

The result was that the project was completed on time and under budget. The conversion had begun on March 10, 1992, and the flight readiness review took place on June 9, 1992. The newly converted aircraft was flown for the first time on June 10, 1992, by Robert Naughton, chief, aircraft operations.

"The key to the success of the project was involving the actual workers who knew exactly where the wires went and what they interfaced with, so that they could see which modifications would be the most feasible," Johnson remarked.

Koontz attributed the quick turnaround largely to the "hands on, pride-of-ownership philosophy of the team approach."

"The schedule was very impressive," Johnson agreed. "They used a minimal amount of overtime and completed it on time. In the past it would have taken much longer. It was a tremendous team effort,

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—Greg Johnson,  
Aircraft Maintenance Section Chief

from management to the workers. We had a dedicated work force that we didn't pull off to do other jobs."

They also practiced good meeting strategies during their weekly updates, Johnson said. Everyone participated, and no one was interrupted. The team leaders functioned in getting the meetings started, not controlling them. The workers were also experts in the types of modifications that needed to be made, and they went into the project knowing what the goal was. The teamwork of those individuals was "phenomenal," Johnson said confidently.

"Pride of ownership and the challenge of the project itself were the strongest motivations," Koontz asserted.

They had such pride in the team, Johnson added, that they had a plaque made with the names of the people who significantly contributed to the project.

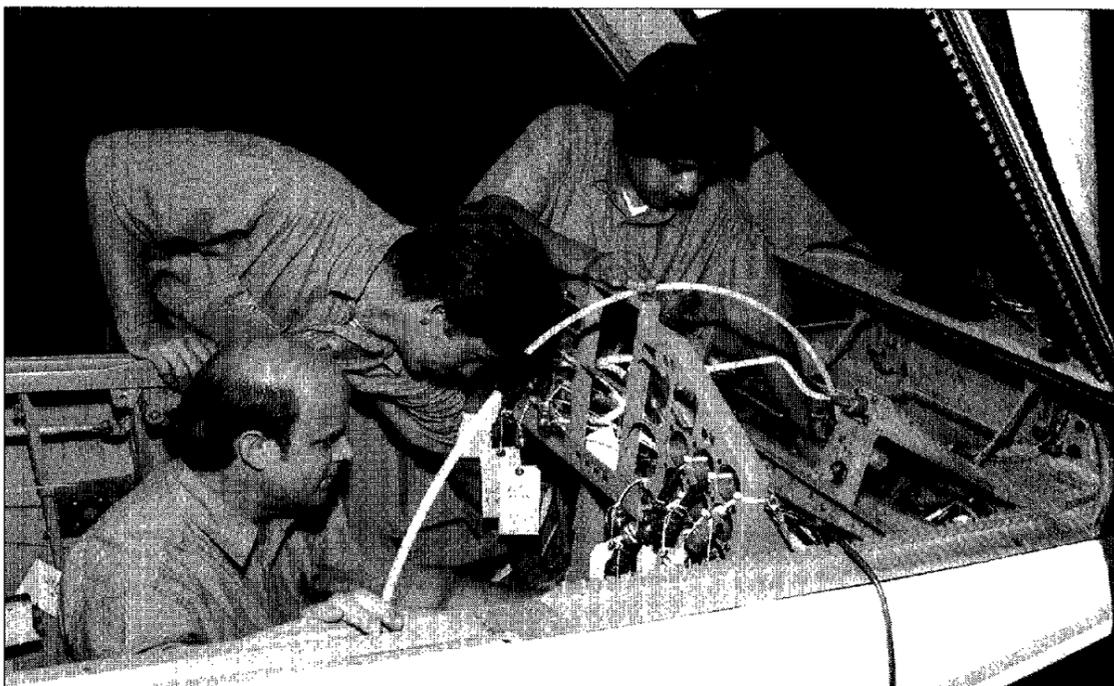
They are Richard Phillips, foreman; Roy Cox, quality control inspector; Brian Rivkin, aircraft mechanic; Jose Febus, aircraft mechanic; Michael Ritchson, aircraft specialist; John Perry Jr., sheet metal specialist; Bob Newlin, corrosion control specialist; David Thibodeaux, hydraulic specialist; Bill Hughey, electrical specialist; Alvin Jones, special project specialist; Cindy Vasex, aircraft records specialist; Carl Koontz, engineer; Willis Peacock, engineer; Pete Dowling, quality assurance inspector; and Greg Johnson, operations.

The plaque will be displayed on the wall of the new crew ready room once it is completed.

The success of this project means that JSC now has more planes at a lower cost, and that astronauts can continue to be trained when previously there would not have been a plane available.

"We have gotten extremely good availability out of it," Johnson said. "It has been a very positive asset to JSC."

Koontz added that as a result of their team work, AOD and NWAS improved communication among their personnel and learned how to better coordinate conflicting schedules between workers. He said that in the future they will approach similar jobs in the same way. □



Top: Perry Simonds, in the aft cockpit, and David Thibodeaux, part of the NASA 965 modification team, work on the former Air Force plane at Ellington Field. Right: Harvey Braswell, David Wyckoff and Maria Bousie, from left, work on an avionics upgrade to NASA 961, replacing metal pitot-static tubing with plastic tubing as part of a major upgrade project.

JSC Photos

# Transition team to reveal full scope of host center

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ment costs for the station in that manner," O'Neill said. "Mission Operations has already prepared to work the programs together in many ways with plans for a Consolidated Control Center, and this will make that plan that much more convenient and efficient."

"It will provide a lot more effective communications as well," O'Neill added. "In MOD, we have always been faced with constantly having to send people all over the

agency. Although, with the work that will be continuing to be performed at the other centers, we'll still have to do that type of thing, having the station managed here should reduce it."

Flight Crew Operations Director David Leestma said that with training and mission operations facilities here as well, mission integration will be much easier on flight crews.

"The focus of human space flight in this country has traditionally been at JSC," Leestma said. "We are very

pleased that the decision was made to locate the space station program here because it will be easier for astronauts to continue in an active role in the program planning and development effort."

Center Operations Deputy Director Jim Hickmon said JSC has ample facilities for the space station program office but that they are in pockets.

"We were asked to come up with some contiguous space for anywhere from 300 to 600 people that

are going to be manning the program office," he said. "We came up with three different options; all three involve some portions of Bldg. 4S. The effect of all that is going to be a waterfall of existing personnel in these offices throughout JSC. We think we can accommodate that, but it won't be easy."

"It's going to mean that some people around the center are going to have to accept smaller spaces. Some organizations are going to have to be disrupted and not be con-

tiguous," Hickmon said. "We're going to have some disgruntled people, but we will do everything to minimize the inconvenience to the people in those offices."

In addition, the move will put some strain on institutional services such as telephones, data circuits, supplies and materials and mail service, he said.

The full scope of the move won't be known until the transition team arrives around Sept. 1, Hickmon said.

## Program to help smokers kick habit

The JSC Total Health Program invites smokers to kick the habit through a special 14-week smoking cessation program beginning in September.

The holistic approach focuses on total personal wellness and addresses major concerns of people who wish to quit smoking, including nutrition and weight gain, mood fluctuations and withdrawal symptoms.

In addition, the cessation program will involve rational emotive therapy to handle addiction denial, behavior modification, stress management, muscle relaxing and other exercises.

Prescriptions for nicotine patches or gum will be available following a brief medical screening.

The group will meet weekly for one hour with facilitators Suzanne Foster of the JSC Employee Assistance Program and Dr. Ellen Remenchik of the JSC Clinic.

The smoking cessation program is free and opened to all JSC employees, contractors and their dependents. Registration deadline is Sept. 1. For more information, contact the Employee Assistance Program office at x36130.



total health

## JSC awards orbiter avionics software contract to IBM

JSC has awarded the Space Shuttle Orbiter Avionics Software contract to IBM Corp., Houston.

The contract is for the development and maintenance of the primary avionics support software, tool development and maintenance and certification of primary flight software.

The contract is a 10-year continu-

ation of work currently performed by IBM. The total estimated cost and fee of the 10-year effort is \$357.7 million, divided into a two-year base contract period beginning July 1, 1993, with a pair of two-year option periods and one four-year option period.

IBM employs 270 workers to support this effort on-site at JSC.

## Space Center Houston plans Ballunar Liftoff

Space buffs and balloon enthusiasts will come together this weekend at Space Center Houston for the 210th anniversary of balloon flight.

The RE/MAX Space Center Houston Ballunar Liftoff '93 will put hot-air balloons beside rockets and shuttles.

JSC and contractor employees are invited to the festivities, which begin at 6:30 p.m. Friday. At 7:30 p.m., sky divers will perform over rocket park. After the exhibition, bal-

loon crews will fire up their jets in preparation for Saturday morning's competition. Gates open at 6 a.m. on Saturday and Sunday for the competitive hot-air balloon flights past the Saturn V. More than 30 balloon crews will participate.

To kick off the celebration, Space Center Houston will show the IMAX film "To Fly" at 9:30 a.m. Monday through Friday and at 8:30 a.m. Saturday and Sunday.

## Cohen gala vouchers on sale in Bldg. 11

JSC's Bldg. 11 Exchange Store now has vouchers for tickets to Friday's Space Center Houston gala for retiring Director Aaron Cohen.

Tickets for the black-tie optional gala, which will begin at 8 p.m. and feature hors d'oeuvres and a cash bar, will be on sale through Wednesday. A brief program will begin at 9:15 p.m.

Employees who buy vouchers will need to exchange their receipts for tickets at the door the night of the event. Cost is \$20.

Tickets must be purchased in advance at Space Center Houston ticket windows or by telephone with a major credit card. Orders will be accepted from 8:30 a.m.-4:30 p.m. Monday-Friday at x34273.



JSC Photo by Robert Markowitz

**MISSION ACCOMPLISHED**—Director Aaron Cohen, who retired Friday, receives a farewell handshake from one of the many employees to extended him best wishes on his new career as a professor at Texas A&M University. The informal reception in the Mission Control Center lobby was one of several set up around JSC to give employees a chance to say goodbye to their director of seven years and coworker of 31 years.

## Intercenter fitness challenge ends this month

JSC participants in the NASA Fitness Challenge, an agencywide competition promoting health through exercise, are urged to turn in their log sheets by the Aug. 31 deadline.

The third annual fitness challenge started in March and is based on the Presidential Sports Award requirements. Participants exercise in one or a combination of 67 different activ-

ities and verify their activities in a log sheet. Log sheets should be sent to the fitness staff at Mail Code AW9.

The NASA center with the highest percentage of civil servants and retirees qualifying will be the winner. Special awards also will be given for total civil service, contractor and family participation as well as participation in individual sports categories.

JSC placed fourth in the previous contests, said Larry Wier, director of the JSC Health Related Fitness Program. "Though there are lots of JSC people out exercising, very few complete and turn in their logs," he said.

Participants needing additional fitness log brochures can pick one up at the Gilruth Center or call x30301.

## Action on early-out option expected soon

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NASA Headquarters is considering offering the early-out option even before the buy-outs become available. Even though most people are expected to wait to see what happens with the buy-outs, some may take advantage of the early out if it is offered as a stand-alone incentive, Allen said.

In an Aug. 13 letter to all NASA employees, Associate Deputy Admin-

istrator John Dailey said the early-out and buy-out authorities are being sought as part of a broad-based effort to complete the redesign of NASA mandated by President Clinton and Congress.

"Since Congress will not reconvene until after the Labor Day holiday, there will be no action on the legislation until at least early September," Dailey wrote. "Although we remain optimistic, there is no

guarantee that we will obtain the necessary legislative approval for the separation incentive pay."

Dailey reported that there may be a narrow "window of opportunity" for accepting the incentive if approval is forthcoming, and included with his letter advance information and a worksheet to guide employees considering their options.

For more information, call the Employee Services Section at x33087.

## New space station program office will report to Headquarters

(Continued from Page 1)

operations program, thereby driving to lower life cycle costs and promoting stability and efficiency.

The new space station program office, consisting of about 300 civil servant positions, will be responsible for managing the design, development and the physical and analytical integration of the space station as the program evolves into operations. The total space station civil service work force is being pared down from 2,300 to 1,000. The remaining 700 civil service positions will be spread among all involved NASA centers, including JSC.

As the host center, JSC will provide support to the space station program with both personnel to augment the program office as well as facilities to meet space station requirements. With its unique facilities, JSC will han-

dle large components for construction, outfit, test and other integration activities. The center has adequate, on-site facilities to house the space station core management staff, both civil service and contractor.

The center director and management at JSC will have no space station program line management responsibility. The program office will report to NASA Headquarters.

Both Marshall and Lewis will continue to have key roles in the development of the space station. Major hardware development efforts will continue at both centers under the direction of the space station program office.

Boeing's role as the provider of the essential space station elements necessary to sustain human life—the pressurized laboratory and habitation modules as well as the environmental control and life support system—were

the key factors in its selection as prime contractor.

Non-selected space station prime contractors—Grumman Aerospace Corp., McDonnell Douglas Corp. and Rocketdyne Division, Rockwell International—have agreed to become novated subcontractors to Boeing.

Boeing's expertise in complex integration tasks, due to its current role in the integration and outfitting of the modules as well as the analytical and physical integration of the experiments, made it the logical choice since, as prime, it will be responsible for delivering the full-up space station vehicle and for coordinating and integrating the U.S. elements with those provided by the international partners.

As the single prime contractor, Boeing will be responsible for the

design, development, physical and analytical integration, test, delivery and launch of the space station vehicle. Boeing will be responsible for one year of sustaining engineering following launch of each launch package, including the appropriate spares.

Boeing also will be responsible for management and integration of the space station vehicle and will manage the subcontracts.

Non-selected contractors will continue to be responsible as subcontractors to Boeing for specific hardware development responsibilities and for supporting the prime in sustaining engineering activities. Their contracts will be modified to reflect the redesigned space station configuration. In addition, they will provide integration support to the prime.

"This will be an extremely strong and effective team," Goldin said. "It's

good for the American taxpayer, for NASA and for the contractors. It puts NASA in the proper role of establishing what we need and then getting out of the way and letting industry do the job. We don't have to tell them how to do the job, but we will provide the proper checks and balances to ensure that the contractors deliver what they promise.

"I have the utmost confidence in this outstanding group of contractors," Goldin added. "Together, under Boeing's leadership, they will deliver a space station which is so vital to carrying out the mission of this agency. I know they will succeed because the CEOs of these companies told me they will make this work. They are ready to accept the responsibility and the accountability, and they are eager to move out and build the space station."