

# Space News Roundup

Vol. 29

January 5, 1990

No. 1

## JSC to be quality improvement model

By Kelly Humphries

JSC's quality improvement efforts can be an example to all federal agencies now that they've received national recognition by the Office of Management and Budget (OMB).

OMB announced last week that JSC has been chosen as one of three 1990 Quality Improvement Prototypes, a distinction that will make it a model for quality improvement efforts at other agencies and field centers.

JSC will receive the prestigious award from the director of OMB during ceremonies May 30-June 1, 1990, at the third annual Conference on Quality and Productivity Improve-

ment. The conference is sponsored by OMB and the President's Council on Management Improvement.

"I'm proud that JSC has been singled out by OMB, but I'm not surprised," said JSC Director Aaron Cohen. "The people at this center have put a lot of thought and effort into improving the quality of work here, and I think it shows."

"The main lesson to be learned from our experience, and what other organizations should look at, is that quality improvement cannot be achieved through half-hearted efforts. It takes good planning and a sustained commitment throughout an organization to bring about significant

improvements in work quality," he added.

NASA Headquarters nominated JSC and its "Achievement Through Team Excellence" program for the award. The nomination revolved around the theme of a high-technology organization committed to total quality. It explained how the center is addressing an increasingly complex set of challenges requiring new concepts, techniques and fundamental changes in the way it does business.

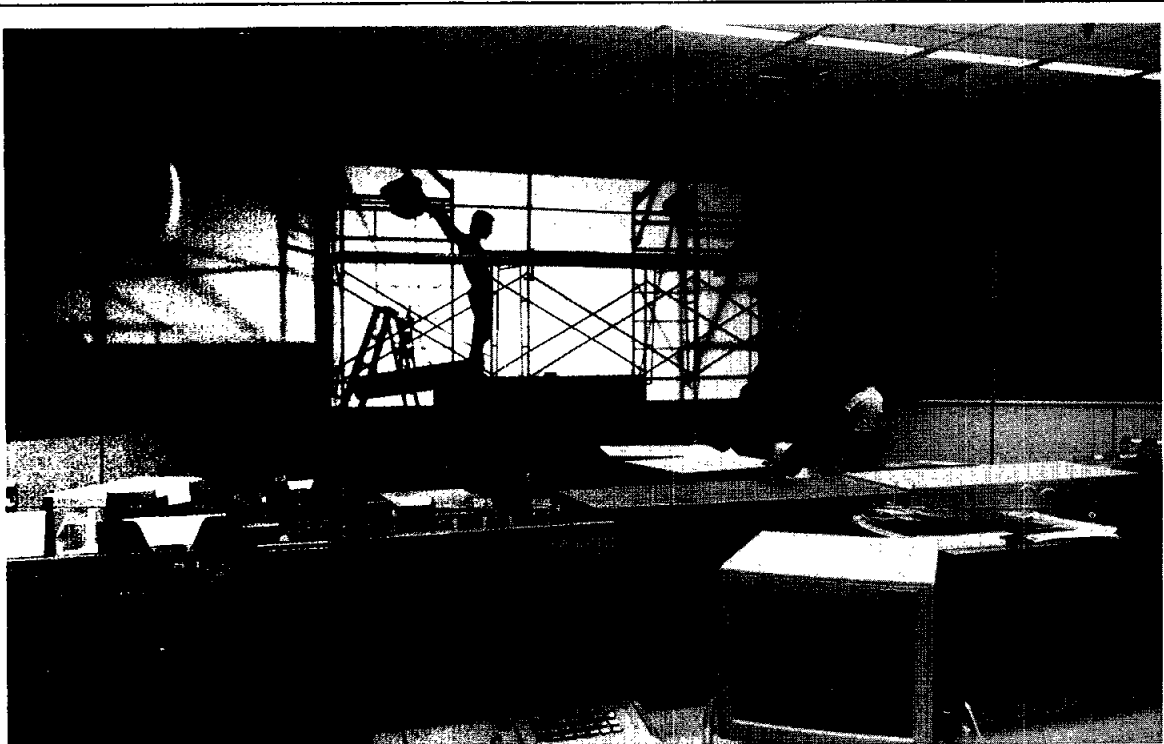
Strategic planning efforts, the culture survey process, quality improvement planning, NASA Employee Teams (NETs) and tech-

nology advancement efforts were among the components detailed in JSC's 23-page nomination.

Les Sullivan, chief of JSC's Management Analysis Office and coordinator of the center's many quality improvement programs, said the award belongs to all of the JSC civil servants and contractors who have worked diligently to improve quality and productivity throughout the center.

"It's the result of all the efforts at the center over the past three years to begin preparing ourselves for the bold new programs we're about to undertake," he said.

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JSC Photo by Kim Murray

A workman is silhouetted behind one of the 10-by-20-foot Mission Control orbital tracking display screens during last week's replacement activities.

## Replacing the irreplaceable

By Linda Copley

Some 30 engineers, technicians, and glaziers spent the better part of Christmas week replacing the irreplaceable in the Mission Control Center (MCC).

They installed two new 10-by-20-foot half-inch-thick glass screens for the world-famous orbital tracking displays in Flight Control Rooms (FCR) 1 and 2. Used for the past 25 years, the old screens had become too difficult to clean.

"The new screens were built as part of a visual upgrade in the MCC that includes installing new rear screen projectors next August, said Lamar Flanagan, head of the Systems Development Division's Visual Systems Development Section. "The new screens will enhance the projected image of the world map we've been using since the MCC opened," Flanagan said, "as well as serving as part of our new visual system upgrade later."

"The old coating on the original glass had become

deteriorated," explained Chuck Bailey, NASA project engineer. "The optical qualities of the new screens are improved, with better off-angle properties, more clarity, and the capability of being washed."

Weighing well over 1,200 pounds each, the original screens were carefully moved out of their original aluminum frames with suction cups by a group of locally owned Binswanger Glass employees that included foreman Wayne Poole, who helped install the original screens.

"Everyone held their breath, waiting to see if the old glass would remain intact, or shatter," said Rockwell's Adrienne Blume, MCC projects engineer, who worked on the project with Ford Aerospace's Marty Skudlarek, Bendix's Dick Roy and Rockwell's George Hayden.

Because the MCC is a designated historical site, the Apollo-era screens will be put into storage for possible future use in a replica of the original control room.

## Truly plans unite OAST, exploration

NASA Administrator Richard H. Truly has announced plans to merge two major agency offices to ensure tight coordination in planning for human exploration of the solar system and developing the new technologies needed.

The Office of Aeronautics and Space Technology and the Office of Exploration will be combined under the direction of Arnold D. Aldrich after a consolidation plan is completed early this year.

Aldrich, associate administrator for aeronautics and space technology, and Dr. Franklin D. Martin, assistant administrator for exploration, will work together on the consolidation plan.

Truly said that the Office of Exploration, under Martin's direction, has successfully completed the preliminary studies of requirements to undertake sustained human exploration of the solar system. Last July 20, President Bush announced that it would be a goal of the United States to establish a permanent human presence on the Moon and use the experience gained there to begin exploration of the planet Mars.

"The time has come now not only to continue our analysis of exploration mission alternatives but also to begin actual pursuit of the innovative and enabling technologies that have been identified as necessary to proceed," Truly said. "These two efforts are closely related and we

want them to advance virtually in lock step under a strong central management."

The Office of Exploration was created two and a half years ago on the recommendation of Dr. Sally K. Ride, a physicist and the first American woman to fly in space. Ride had directed a study to help determine the nation's next major goal in space.

The study group recommended that the country undertake one or more of four activities—expanded robotic study of the solar system, considerably stepped-up investigation of Earth processes to better protect the environment, establishment of a scientific outpost on the Moon and human exploration of Mars.

The study recommended that NASA create a "think-tank" office to do the preliminary studies in human exploration. This included identification of new technology required, as well as new space transportation capabilities.

In the past, American private enterprise has been able to translate new space technology into products and processes that helped the nation maintain a lead in world markets and ensure economic well-being at home.

It is anticipated that technology to be developed over the next two decades for solar system exploration will lead to advances in the private

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## Help conserve energy, Weitz asks employees

JSC employees are being asked to participate in an effort to conserve energy and stretch limited Resource and Program Management (R&PM) funds.

JSC Deputy Director P.J. Weitz said Tuesday the conservation effort was necessitated by a \$24 million reduction in R&PM funding in the fiscal year 1990 budget. R&PM appropriations fund all institutional spending.

Current annual cost for electricity at JSC is more than \$7.1 million, and natural gas costs exceed \$1.6 million. Center Operations Director Ken Gilbreath estimates JSC can reduce its energy consumption by at least 10 percent, which would be a savings of

about \$870,000.

"Since energy costs are funded from our R&PM budget, prudent and responsible control and management of energy usage is essential," Weitz said. "A reduction in energy usage is an effort in which every JSC employee can participate meaningfully."

Weitz asked that all employees follow five energy conservation guidelines and look for more ways to conserve:

- Keep thermostats no higher than 70 degrees Fahrenheit in the winter and no lower than 76 degrees in the summer;
- Keep building doors closed;

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### Energy Conservation

- Keep thermostats 70 degrees in winter, 76 in summer.
- Keep building doors closed.
- Don't use air-conditioning after hours unless it's essential.
- Turn off work-area lights at day's end.
- Power down non-essential equipment when not in use.

## Countdown begins for Jan. 8 launch

By Kyle Herring

Countdown to the launch of *Columbia* on its ninth space shuttle mission began yesterday with the call-to-stations at 3 p.m. CST. Liftoff is scheduled for 7:10 a.m. Monday.

Shuttle managers conducted a "delta" flight readiness review Wednesday and concluded that the vehicle, crew and flight control team was ready for a Jan. 8 launch to deploy a Navy communications

satellite and retrieve the Long Duration Exposure Facility (LDEF).

In addition, as a 10-day flight, it is the first in a series of missions to extend the flight duration of the orbiter. Landing is scheduled for Jan. 18 at 4:23 a.m. CST.

Since all systems are in good shape, no meeting will be held two days prior to launch. Managers will travel to the launch site tomorrow evening to conduct the

Please see COUNTDOWN, Page 4



**STS-32**

JSC

# Ticket Window

The following discount tickets are available for purchase in the Bldg. 11 Exchange Gift Store from 10 a.m. to 2 p.m. weekdays.

General Cinema (valid for one year): \$3.75 each.

AMC Theater (valid until May 1990): \$3 each.

Sea World (San Antonio, year long): adults, \$17.25; children \$14.75.

Powderhorn Ski Trip (Jan. 23-27): 12 seats still available: \$385 each (four to a condo); \$339 each (six to a condo).

Gold C and Entertainment Coupon Books are now available in the Bldg. 11 Gift Store.

JSC

# Gilruth Center News

**Sign up policy**—All classes and athletic activities are first come, first served. To enroll, you must sign up in person at the Gilruth Recreation Center. Everyone will be required to show a badge or EAA membership card. Payment must be made in full at the time of registration. Classes tend to fill up four weeks in advance. For more information, call x35789 or x30304.

**EAA badges**—Dependents and spouses may apply for a photo I.D. 6:30-9:30 p.m. Monday-Friday.

**Defensive driving**—Course is offered from 8 a.m.-5 p.m., Feb. 3 and 17; cost is \$15.

**Weight safety**—Required course will be held 8—9:30 p.m., Jan. 17; cost is \$4.

**Ballroom dance**—Classes begin at the Gilruth Rec Center on Jan. 4, and meet each Thursday for 8 weeks. Beginning and advanced classes meet from 7-8:15 p.m., intermediate from 8:15-9:30 p.m.; cost is \$60 per couple.

**Low-impact aerobics and exercise**—Each eight-week session runs twice a week from 5:15-6:15 p.m. Cost is \$24.

**Soccer and flag football registration**—Sign-ups will be held Jan. 10-11 at the Gilruth Rec Center

**Country and Western dance lessons**—Dance lessons begin Jan. 22 and are held each Monday night for six weeks. Cost is \$20 per couple.

JSC

# Swap Shop

## Property

Rent: Heavenly Valley, Lake Tahoe condo, sleeps 6, 19-26 Mar. 1990, fully equipped, \$425. x34726 or 474-5610.

Sale: 966 acres, sell all or part, 4-2.5-3 brick home, fenced, metal shop. (512) 771-3893.

Sale: Ganado, TX, 1.5 acre lot, 5 min. from Lake Texana, \$6,000. 335-1250.

Sale: Medical Center, 2-story townhome, brick, 2-2.5-2, approx. 2,000 sq. ft., \$72,900. 480-6351. Sale: CLC/Bay Forest, 2-story Village Builders, brick, 4-3.5-2, approx. 3,250 sq. ft., \$192,900. 480-6351.

Sale: 60 acres, 3 mi. from Karnes City, TX, on Hwy. 80; 2-story house on 1.5 lots. 783-9164. Lease: Pebblebrook condo, El Lago, 1-1, mirrored walls, W/D, 650 sq. ft., \$330/mo. Lindemann, 488-3300 or 532-2218.

Sale: Seabrook, 3-2-2, formals, FPL, 1,800 sq. ft., remodel, never flooded, \$4K total move-in, \$67,500. Richard, x30271 or 474-9334.

Rent: Dickinson mobile home lot, 5 mi. from NASA Rd. 1, \$70/mo. 332-0365 or 282-2802.

Sale: Taylor Lake Estates, 90' x 135' lots, \$34,500 and \$36,500. Don, x38039 or 333-3313. Lease: Webster/Ellington, 2-1 apt w/many extras, incl. W/D, \$415/mo. Dave, x38156 or 486-5181 or Eric, x38420.

Sale: 14 x 70 mobile home, 2-2, neat, \$16,000. 534-4770.

Sale: 2-2-1 Perry home w/study, 2,040 sq. ft., brick, FPL, 2-car det. gar., \$133,900. 488-0945.

Sale: Richmond, 3.08 acres on creek w/trees, util. avail., \$60K. 480-5842.

Rent: Baywind I, 2BR/spill plan, parking, refrig., W/D conn., FPL, good cond., no pets, avail. Nov. 30, 1989, \$425/mo. plus \$200 dep. Mary Paige, 222-1543 or 558-1456.

Rent: Countryside, 3-2-2, FPL, fenced, \$600/mo. plus \$600 sec. dep. 486-9811.

Lease: Scarsdale area, 3-2-2, FPL, near elem. sch., \$500/mo. Laurie, x32426.

Rent: 2 rooms in League City house, \$250/mo. furn. or \$225/mo. unfurn., bills split evenly, non-smokers only, pets tolerated. Russ, 332-4336.

Lease: CLC Baywind II condo, 1 BR, FPL, kitch. appl., W/D conn., \$300/mo. 488-5019.

Rent: Condo, Winter Park, CO, sleeps 6, avail. ski season and summer mos. 488-4453.

Rent: Bal Harbour townhome, lg. 2 BR, atrium, boat slip, dbl. gar., \$1,200/mo. 486-8659 or 283-5480.

Sale: '82 Layton 23' travel trlr., ex. cond., sleeps 4 plus, 3-way ref., full bath, awning, good tires. 554-2929.

Sale/Lease: Canyon Lake, north side, 3-2, fen. yd., wkshp., near ramp, low down. Hu Davis, (512) 935-2743.

Sale: 1/2 for lease/rent: Austin duplex, 2 BR-1B plus CP, fen., avail 1 Jan. '90, \$390/mo. Karl, x31236 or 554-6180.

Sale: Seabrook, newly reded., 3-2-2, assume 7% loan, pay. \$275, \$48,000, no qual., \$5,000 down. 474-2857 or 859-4574.

Trade: Custom canyon view, 4-3 west of Austin, prefer 5 yr. old, open plan w/in 20 min. of JSC. 471-8795 or 333-6083.

Rent: Baciliff mobile home lot, \$85/mo., \$50 dep. 488-1758.

Sale/Lease: Nassau Bay townhouse, 4-2-2, over 2,000 sq. ft., 2-story den, atrium, FPL, \$995/mo. or \$109,900. Jerry, 488-5307.

## Cars & Trucks

'79 Cutlass Supreme Brougham, V-8, very clean, runs great, \$1,795. 280-8796.

'83 Mazda 626, low maint., low MPG, \$2,500. 488-6526.

'86 Ford Tempo, 5-spd., all pwr., new tires and batt., 57K mi., ex. cond., \$4,300. OBO. x31202 or 482-6118.

'74 MGB, eng. reb., new tires, \$1,800. 482-2021.

'77 Camero, runs good, \$1,500. 474-2200.

'62 Chevy Impala, 4-dr., AC, 6 cyl., runs great, \$1,100. 332-2318.

'88 Chevy Corsica, blue, 33K mi., mint, \$7,000.

486-7527.

'79 280ZX, auto., PW, PB, PS, PM, new alt. water pump, starter, 2 tires. 474-4084.

'80 Chevy Monte Carlo, V-8, auto., PS, PB, AC, 2-dr., good tires and brakes, good cond., 123K mi., \$1,450. OBO. 464-8694.

'76 Mercury Mrgs. Brougham, 4-dr. sedan, all pwr., good cond., \$1,600. OBO. Thom, 474-4663.

'85 Toyota MR2, silver, tail fin, loaded, 5-spd., ex. cond., 54K mi., \$6,500. OBO. Cindy, 779-4515 or Darwin, x32142.

'88 Chrysler Conquest, Mitsubishi Starion, 8K mi., 5-spd., sports pkg., AC, \$10,350. 280-1335 or 488-0945.

'79 VW Rabbit, clean, AC, radio w/cass., hchbck, good MPG, \$750. 480-7359.

'82 M-B 300 SD, 107K mi., \$13,900. x34129 or 326-2659.

'86 Pontiac Fiero SE, V-6, loaded, 26K mi., \$7,000. OBO. Karen, x34284.

'79 Cutlass Supreme Brougham, V-8, 2-dr., AC, PS, auto., tilt, stereo cass., ex. cond., \$1,895. 280-8796.

'82 Porsche 924 turbo, ex. cond., loaded, 55K mi., runs great, sunroof, \$7,800. 282-4857 or 486-4940.

'84 Bonneville Brougham, clean, ex. cond., auto., cruise, stereo/cass., PL, tilt, \$4,500. 474-2384.

'86 Celica GT-S, 5-spd., ex. cond., PS, PB, AC, PW, PL, P/moonroof, cruise, stereo/cass., \$9,500. 474-2384.

'78 Plymouth Volare station wagon, good cond., 44K mi., \$1,800. Kathy, x38193.

'85 Toyota MR2, ex. cond., 63K mi., loaded, \$5,700. 538-1479.

'79 Chevette, good parts car, does not run, \$300. Bob, 559-2325.

'87 Ford F-150, XLT Lariat pkg., 2-tone grey, ex. cond., \$8,750. Mike, 282-4258 or 333-2916.

'85 Ford Crown Victoria, V-8, mint cond., 32K mi., new tires, \$8,450. OBO. Al, x35155 or 280-9639.

'81 Dodge 024, 59K mi., 4-spd., ex. cond., \$1,900 firm. 282-6236 or 488-7999.

'81 Citation, good cond., reb. trans., new brakes. Don, x39313 or 486-6726.

'88 Subaru XT, red, ex. cond., 17K mi., 5-spd., AM/FM, AC, PW, PL, tilt, \$9,000. Kelly, 282-4485.

'65 Olds Starfire sport coupe, 106K mi., good cont., \$3,500. OBO. Tom, x38298 or 488-4089.

'84 Mitsubishi Cordice, 5-spd., AC, AM/FM cass., 100K mi., ex. cond., \$1,800. 484-5149.

'87 Ply Voyager, maroon, auto., AC, PS, PB, tilt, radio, super clean, 40K mi., \$8,450. OBO. Larry, x35842 or 326-3273.

'82 Le Sabre, clean, good cond., no rust, \$2,500. Jeff, 282-2897 or 585-3922.

'88 Ford Ranger Supercab XLT, V-6 auto., PS, PB, AC, AM/FM cass., cruise, tilt, 28K mi., ex. cond., \$8,750. x31188 or 424-7556.

'81 280ZX Nissan, 2-dr., 79K mi., good cond., \$1,900. OBO. 532-4237.

'81 Toyota Tercel, 4-dr., 5-spd., AC, AM/FM/ cass., new batt., 90K mi., runs great, \$1,500. Wally, x36440 or 326-2664.

'81 Chevy van, auto., full pwr., dual air, TV and wardrobe, mint cond., 86K mi., \$4,750 nego. Ray, x33954.

'89 VW fox wagon, AC, AM/FM cass./stereo, 4-spd., 4K mi., \$9,000. x33960 or 480-2873.

'80 Pontiac Sunbird, 4-spd. trans., 72K mi., runs good, \$975. 326-2633.

'83 Pontiac Bonneville Brougham, 60k mi., all pwr., \$3,800. Bill, x35421 or 482-7053.

'85 Ford F-150 PU, low mi., super cab, camper top, all extras. 473-2505.

'79 Chevy Luv PU, 96K mi., runs well, \$700. x34067 or 996-7067.

## Cycles

Suzuki GT 380 street bike, great cond., gar.-kept, 7,000 orig. mi., \$345. Jim, 282-4497 or 337-4953.

Suzuki 850 touring bike, foot rests, shaft drive, back rest, low mi., ex. cond., \$1,300. Patrick, x32635 or 488-1079.

'85 Suzuki Madura, 1,200 mi., under warr.,

## Today

**Cafeteria menu**—Special: meat sauce and spaghetti. Entrees: baked scrod, liver and onions, fried shrimp. Soup: seafood gumbo. Vegetables: green beans, buttered broccoli, whipped potatoes.

## Monday

**CLAUG meeting**—The Clear Lake Apple Users Group (CLAUG) for Apple II computer users will meet at 7 p.m. Jan. 8 at the Clear Lake Park Bldg., 5001 NASA Rd. 1. The program will include a presentation of Appletworks spreadsheets. Call x35591 or 488-1135 for additional information.

**Cafeteria menu**—Special: weiners with baked beans. Entrees: beef chop suey, breaded cutlet with cream gravy, grilled ham steak. Soup: beef and barley. Vegetables: buttered rice, Brussels sprouts, whipped potatoes.

## Tuesday

**Cafeteria menu**—Special: pepper steak. Entrees: fried shrimp, pork chop with applesauce, turkey a la king. Soup: celery. Vegetables: au gratin potatoes, breaded squash, buttered spinach.

## Wednesday

**JSC Astronomy Seminar**—A luncheon meeting will be held from noon to 1 p.m. on Jan. 10 in Bldg. 31,

Room 193. A videotape of Dr. A. Dessler from Rice University discussing "The Tale of the Small Comet Hypothesis" will be shown. Contact Al Jackson, x33709, for information.

**Cafeteria menu**—Special: Mexican dinner. Entrees: fried catfish with hush puppies, braised beef ribs. Soup: seafood gumbo. Vegetables: Spanish rice, ranch beans, buttered peas.

## Thursday

**IEEE meeting**—Professor Roy Weinstein, director of the Beam Particle Dynamics Program at the University of Houston, will speak at the next Institute of Electrical and Electronics Engineers meeting at 11:30 a.m. Jan. 11 in the Gilruth Rec Center. Contact Marcia Taylor at x30195 before noon Jan. 8 for information and reservations.

**Cafeteria menu**—Special: hamburger steak with onion gravy. Entrees: corned beef with cabbage and new potatoes, chicken and dumplings, tamales with chili. Soup: split pea. Vegetables: navy beans, buttered cabbage, green beans.

## Jan. 12

**Astronomical Society meeting**—The JSC Astronomical Society will meet at 7:30 p.m. Jan. 12 in the Berkner Room of the Lunar and Planetary Institute. Dr. Mike Stanford will speak

on radiation concerns for manned lunar and planetary missions. Contact Bill Williams, x33849 or 339-1367 for information.

**Ground testing seminar**—An AIAA Ground Testing and Simulation Technical Committee lunch and learn meeting will discuss "Flow Diagnostics of Arc Jets" at 11:45 a.m. Jan. 12 in the Bldg. 3 cafeteria. Dr. Carl Scott of JSC's Advanced Programs Office will be the featured speaker. For more information, call Sivaram Arepalli at x35910.

**Cafeteria menu**—Special: barbecue link. Entrees: deviled crabs, broiled codfish, liver and onions. Soup: seafood gumbo. Vegetables: buttered corn, green beans, new potatoes.

## Jan. 23

**BAPCO meeting**—The Bay Area PC Organization (BAPCO) will meet at 7:30 p.m. Jan. 23 at the League City Bank & Trust. For information, contact Earl Rubenstein at 483-4807 or Ron Waldbillig at 337-5074.

## Jan. 31

**Thrift Savings Plan**—Federal employees wishing to join or make changes during Thrift Savings Plan Open Season must do so by Jan. 31. For information, contact the benefits area at x32681.

\$700 assume 30 mos. or \$2,799 cash. 538-1479. 3-spd. woman's bike, \$15; 10-spd. boy's bike, \$30; 26" man's trail blazer, 10-spd., wide tires, \$65; 26" woman's open road 10-spd. w/wide tires, \$65. OBO. 333-6558 or 339-1337.

'83 Honda XL 600R street legal, runs, \$625. Brad, 485-2101.

## Boats & Planes

'86 21' Rinker w/cutty cabin, 175hp Chevy V-6 w/OMC outdrive, incl. \$2,200 Shorelander trlr., \$8,495. Jim, 282-4497 or 337-4953.

'77 27' Columbia sailboat, 110, 150, Spinnaker, VHF, FM, new teak, \$14,000. 480-3613.

Dolphin SR sailboat and trlr., \$500. Bullock, 488-6526.

'78 15' Jemcraft w/80hp Johnson, new paint, runs good, galv. trlr. and accy's., \$1,100. OBO. 333-6558 or 339-1337.

## Audiovisual & Computers

Stereo, tuner-amp, turntable, cass. deck, two floor speakers, \$150. 332-2318.

Apple II plus PC clone w/mono monitor, mem exp., 80-col card, 2 floppy drives, S/W plus docs incl. dBASE II, many more, \$500. Larry, 282-3161 or 996-1013.

AT&T 6300 PC hard disk, int. 1200 Baud modem, optical mouse, 640K RAM, \$1,000. 486-5659.

Mac SE, IM RAM, 40 Mb drive, modem and printer, extras, \$2,600. 280-8517.

XY Write II word processing prog. w/manuals, \$25; Grappler GS to connect Mac to dot matrix printer, \$35. 488-4828.

Technics CD Player (Model SPL-520), ex. cond., \$200. OBO. Carlos, x38879 or 554-7727.

Apple IIc w/mono monitor, ext. drive, 300/1200 modem, mouse and asstmt., software, \$850. 538-1479.

PC AT, EGA, 40MG hard disk, floppy drive, 1 MB mem. enhanced keyb., parallel port, serial port, never been used, 1 yr. warr., \$1,895. 333-7098 or 474-7931.

PC-XT, Mono, 640KB RAM, 30MB hard disk, enhanced keyb., floppy drive, parallel port, serial port, 1 yr. warr., \$995. 333-7098 or 474-7931.

Peavey P.A. system, 400 W., 4 channel, 8 input, 2 columns, ea. w/4-10" spkrs., \$375; CPB bass pedals, \$150; acoustic lead amp, 400 W., 4-12" spkrs., \$225. Steve, x34176 or 486-8424.

Magnavox Camcorder, full sz. VHS-HQ, batt. and 120V supply/charger, \$700. 554-2929.

## Household

Sears upright vacuum cleaner, \$15. Bauch, 333-3382.

GE built-in dbl. oven, ex. cond., full sz. matt. and box springs. 488-2822.

DR table, leaves, 4 chairs, \$150; lg. Peruvian rug, fur, beautiful, \$100; 2 long foldup antique benches off a ship, covered, \$100 both; antique window bench, \$250; mis. 488-5564.

Cherrywood rocker, back and seat cushion, \$75. x39588 or 487-1883.

Beautiful antique bed, chest of drawers, vanity bureau, \$1,000. Phil, 282-3600.

Sofa pit group, 4 pcs., brn. blk., white and tan, \$300. Fran, 333-6277 or 339-3562.

China cabinet solid oak, bev. glass, 38 x 72 x 18, lighted, was \$2,200, now \$800. Fran, 333-6277 or 339-3562.

Blond mahogany 31" drum table, leather top, tripod legs, was \$750, now \$350; oriental silver chest, blk. lacquer, gold floral, was \$500, now \$250. x36358.

Whirlpool elec. dryer, guaranteed, \$75. 333-4734.

Formal DR, table, 6 chairs, hutch; sofa, 3 cushions, green/rust/brn.; beige recliner, BO. Ray, 283-5824 or 333-2977.

Solid oak BR wall w/chest of drawers, ex. cond., \$1,300; full sz. swing set w/slide, good shape, \$40. x30789 or 280-9974.

King sz. blk. lacq. semi-motionless waterbed, hdbd., mirrors, lights, \$350 nego. 484-5547.

Oak dining table, 7' x 3', w/6 cane-bottom chairs. Patrick, x32635 or 488-1079.

Sleeper sofa, matching loveseat, lt. brn. w/quail patt., \$375. Matt, x34285 or 486-7260.

Sofa, loveseat, mauve/gray, Sante Fe patt., ex. cond., \$450. Campbell, x38613 or 488-8421.

Queen waterbed, Hibernation semi-motion matt, 9 mos., pine mirrored hdbd./bookcase, heater, linens, \$325; twin bed frame, matt, \$30; wicker etagere, stand, chair, \$75 all. Steve, x34176 or 486-8424.

Heavy duty Italian bar, 8' long, \$250; 4-uphol. bar stools, \$25 ea.; sofa, matching chair, \$100; kitchen table, 4 chairs, \$75. Larry, x33168 or 488-7460.

G.E. frostfree refrig., 24 cu. ft. side by side, water/ice on the door, \$250. Ken, 280-0607.

## Lost & Found

Found 12/4, 1 yr. blk., bushy fem. cat, spayed, gold eyes, FM 528. 482-7603 or 483-1818.

6-spd. Raleigh bike

# 1989: THE YEAR IN PICTURES



JSC Director Aaron Cohen and Mission Support Director Ron Berry cut the ribbon during the grand opening of the new Central Computing Facility in Bldg. 46.

## FEBRUARY

## MAY

Country Stars Kenny Rogers, Dolly Parton and Willie Nelson shone in Rocket Park. They put on a free show for employees that was taped and broadcast across the country.



## JUNE

Preparations for the 20th anniversary of the Apollo 11 lunar landing went into high gear. One of the original Lunar Landing Training Vehicles was returned to JSC for permanent display.



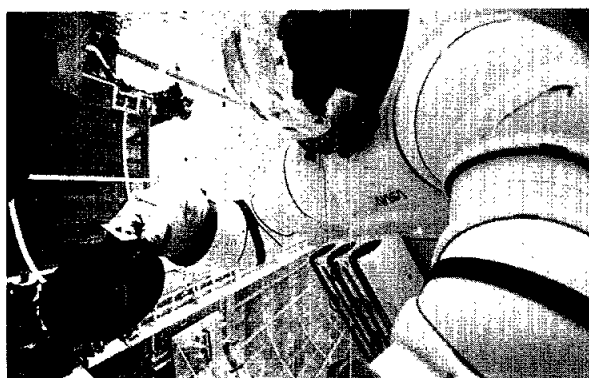
## JULY

Neil Armstrong, the first man to set foot on the Moon, returned to his friends and former co-workers during the anniversary events. He shook hands and talked with throngs of people at a re-creation of an Apollo splashdown party.



## AUGUST

Mission Specialist Jeff Hoffman worked in the Weightless Environment Training Facility (WETF) inside the AX5 space suit being tested for possible use on Space Station Freedom.



## SEPTEMBER

Rescue workers carried a simulated crash victim from his T-38 during the first ever mock mishap exercise at Ellington Field.



## JANUARY

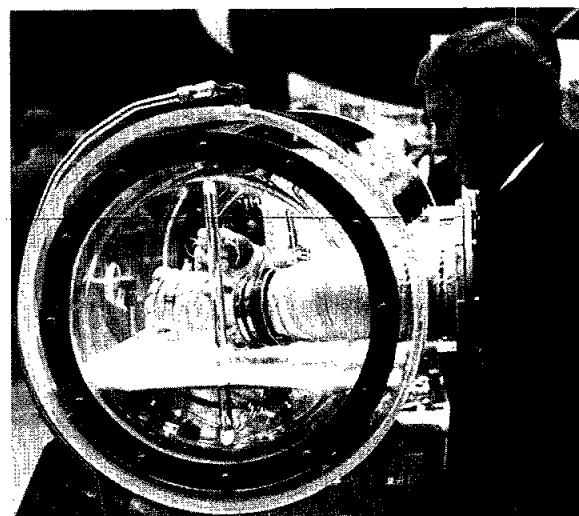


The STS-29 crew was full into preparations for the March mission. Mission Specialist Jim Bagian rappelled down the side of the Full Fuselage Trainer in Bldg. 9A during post-landing emergency egress exercises.



Bagian swooped down on his youngest daughter, Kimberly, during STS-29 welcome home ceremonies.

## MARCH



## APRIL

Vice President Dan Quayle toured the center, telling employees that the future of America's space program is "More in your hands than mine."

A harvest scene appeared in the fields surrounding JSC's buildings as grass and weeds were rolled and baled. The "harvest" was designed to save manpower and equipment wear and tear.

## OCTOBER



The Duchess of York made a celebrated visit to JSC, taking the commander's seat in the Full Fuselage Trainer.

## NOVEMBER

# JSC extends STSOC contract five years

By Linda Copley

JSC has extended the Space Transportation System Operations Contract (STSOC) with Rockwell Space Operations Co. (RSOC) for a five-year period plus three two-year options.

The modification defines the government's option to require RSOC to provide uninterrupted performance of the contract effort for the

next 11 years.

The value of the initial extension of the cost-plus-award-fee contract, from Jan. 1, 1990, to Dec. 31, 1994, is \$1.55 billion, with options to extend performance through Dec. 31, 2000. Options for incremental increase of effort during the period of performance also are included. The total estimated cost of the entire extension, should all options be exercised,

is \$4.59 billion.

STSOC, one of the largest aerospace contracts of its type ever signed, began providing services to JSC in 1986 at an initial four-year cost of \$822 million. Subsequent follow-on awards, of which this newest contract action is the first, could result in a total contract period of 15 years and a total value of about \$5.5 billion. The management-

oriented contract covers the people and administration of the six major functions within shuttle operations.

Work provided under the contract by STSOC includes maintenance and operations of Space Transportation Systems (STS) facilities, including the Mission Control Center, crew trainers and simulators, flight design and crew activities planning systems, the Shuttle Avionics Integration Laboratory,

Software Production Facility and Flight Design Computational Facility.

Also included are flight preparation activities such as flight planning and flight data generation, orbiter software reconfiguration, direct mission support by means of simulations and flight, and sustaining engineering support for these activities. Contract work is performed at JSC and at RSOC's facility near the center.

## Nominations open for sixth quality award

Nominations for the sixth JSC Quality Partnership Award must be received by Jan. 19 to qualify.

The award recognizes JSC employees and contractors not employed in safety, reliability, and quality assurance disciplines for significant contributions to quality at the center, and will be presented at the end of the month.

The nominee must have made a contribution to improving quality at JSC within the 12-month period immediately preceding January 1990. Qualifying contributions include any action that promoted quality awareness or increased quality on any JSC hardware. Quantitative data measuring the achievement should be included, if possible.

The nominations should include a brief biographical sketch of the nominee, as well as a brief summary of their contributions. The name and work address and phone number of the nominator, which can be any JSC federal or contract employee, should be forwarded with the nomination to H.T. Briggs, technical assistant, Quality Assurance and Engineering Division, Code ND.

## Lottery will fill child care slots

A lottery to determine which children will fill the JSC Child Care Center's allocated slots is scheduled for 10 a.m. Feb. 3 in the Gilruth Recreation Center ballroom.

Space Family Education Inc., the non-profit corporation established to govern the child care center, will be selecting a total of 62 children—20 infants, 12 toddlers, and 30 preschoolers. The facility is scheduled to open May 1.

At least one parent of each child considered must belong to the corporation in order to be eligible for the lottery. All on-site civil service and contract employees are invited to join the corporation by Jan. 26 in order to enter their child's name. However, children of civil servants will be given selection priority over those of on-site contractors.

No new membership applications will be taken after the Jan. 26 deadline, including on the day of the lottery itself. Membership applications are available in Bldg. 45, Rm. 158.

A general membership meeting to discuss lottery procedures will be held at 4:30 p.m. Jan. 18, in the Bldg. 30 auditorium. All corporation members and employees interested in placing their child in the facility should attend.

## Energy conservation guidelines established

(Continued from Page 1)

- Use after-hours air-conditioning and heating only if essential;
- Turn off work-area lights at the end of normal business hours; and
- Power down all non-essential equipment, including personal com-

puters and test equipment, when not in use and at the end of the day.

Weitz said he would immediately begin shutting down all nonessential air-conditioning systems at 6 p.m. Special arrangements may be approved by Center Operations.

## Countdown begins for 33rd shuttle mission

(Continued from Page 1)

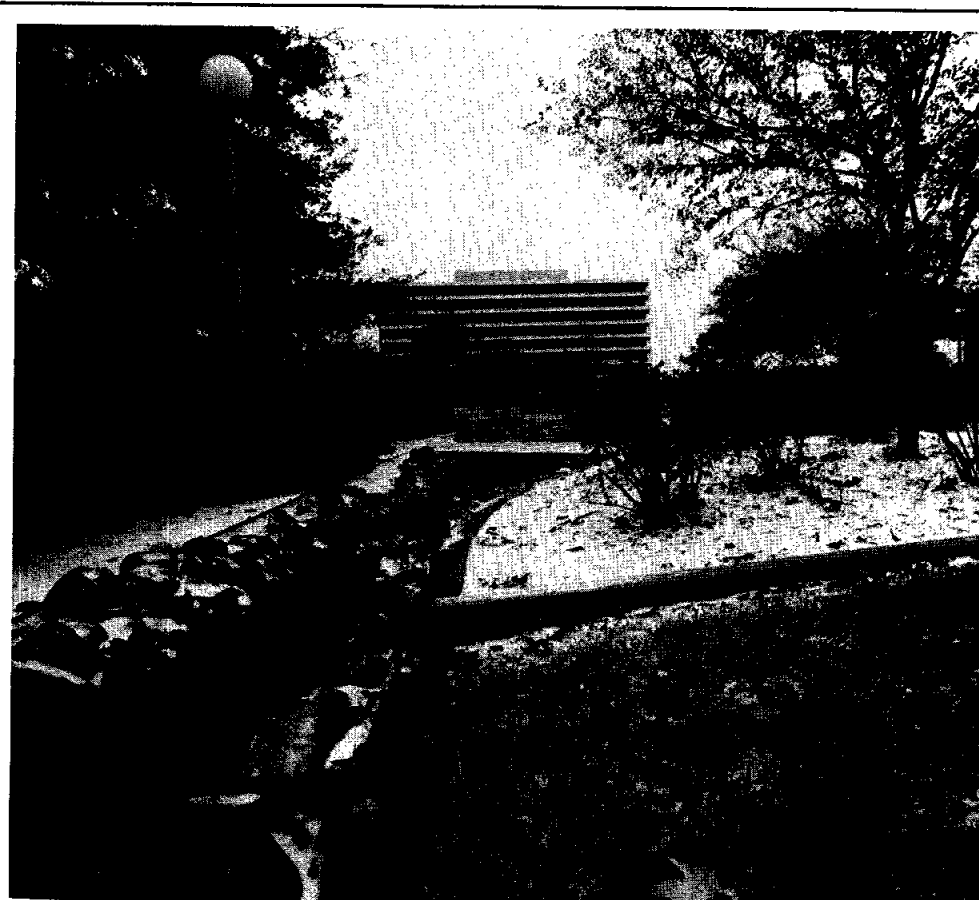
L-1 day tag-up to give final approval for launch from all project managers.

After a stand down during the holidays, the launch team has stepped up processing. Close out of *Columbia's* aft compartment, pressurization of the orbital maneuvering and reaction control systems and

ordnance installation are complete.

The crew will fly to Kennedy this afternoon for final launch preparations.

Commander Dan Brandenstein and Pilot Jim Wetherbee will practice landings in the Shuttle Training Aircraft while Mission Specialists Bonnie Dunbar, Marsha Ivins and David Low study the flight data file for the mission.



**S'NO JOKE, SNOW!**—Snow covered rocks line a stream between ponds at JSC after an out-of-the-ordinary snowfall at JSC the Friday before Christmas. Snowy, icy streets led JSC Director Aaron Cohen to close the center at noon and grant all federal employees administrative leave for the remainder of the day.

JSC Photo by Bill Blunck

## Grabe to lead STS-42; Oswald, Readdy in crew

Air Force Col. Ronald J. Grabe has been named to command STS-42, a nine-day mission aboard the Space Shuttle *Columbia* this December.

Stephen S. Oswald will be the pilot, and William F. Readdy will fly as a mission specialist. Mary L. Cleave, Ph.D., and Norman E. Thagard, Ph.D., were assigned as mission specialists in June 1989.

*Columbia's* cargo bay will carry the International Microgravity Laboratory (IML-1) in which five NASA astronauts and two payload specialists will conduct a variety of studies and experiments in materials processing and life sciences.

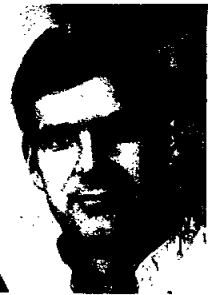
The two payload specialists will be named in the near future.

Grabe, commanding his first shuttle mission, will be making his third flight in space. He flew as pilot on STS-51J in October 1985, and on STS-30 in May 1989.

This will be the third flight for Cleave, who flew as mission specialist on STS-61B in November 1985, and on STS-30 in May 1989.

Thagard's flight will be his fourth; he flew as mission specialist on STS-7 in June 1983, on STS-51B in April 1985, and on STS-30 in May 1989.

Oswald and Readdy will be making their first space flights.



Grabe

## Mission Control viewing room hours set

Details of STS-32 welcome home ceremony are still pending

The Mission Control Center viewing room is expected to be open to JSC and contractor badged employees and their families at designated times during the STS-32 mission.

Based on a Jan. 8 launch, the viewing room will be open from 11 a.m.-2 p.m. daily Jan. 10-Jan. 17, except on Monday, Jan. 15 (a federal holiday). Viewing times will cease the

day before landing.

Because of the many variables involved in mission operations for this flight, viewing times may have to be changed with little notice. Updates will be available on the Employee Information Service, x36765.

The viewing room will not be open to visitors during peak activity times, such as SYNCOM deploy and rendezvous and grapple with the

Long Duration Exposure Facility (LDEF).

Employees must wear badges and escort family members. Visitors will enter through the public visitors area on the northeast side of Bldg. 30, and should limit their stay to provide viewing opportunities to as many visitors as possible.

All JSC employees and their families are also invited to attend a

welcome home ceremony for the crew and families of STS-32. Because of the many variables in the STS-32 schedule, the time and place for the ceremony will be determined during the mission.

Updates on the time of landing and subsequent return-to-Houston information will be available throughout the mission on the Employee Information Service, x36765.

## Truly to combine offices for technology, exploration

(Continued from Page 1)

economy in artificial intelligence, robotics, telepresence and teleoperation, process automation, low-cost global and orbital transport, optical communication and data processing systems, supercomputers, wireless power transmission, closed-ecology biosphere operation, ultra high-strength, high-temperature and lightweight materials and many others.

The development of innovative technology has been a responsibility of the Office of Aeronautics and Space Technology for a number of years. That office already is engaged in cooperative projects with the

Department of Defense to develop advanced Earth-to-orbit transportation systems. One is the National Aero-Space Plane.

Truly emphasized that the merger of the two offices would not diminish the agency's strong devotion to aeronautical research. "NASA evolved from the nation's original aeronautical research organization, the National Advisory Committee on Aeronautics, and has worked on the cutting edge of aeronautics since its inception," he said. "Perhaps nothing we have done has benefited the country economically as much as this research."

During the merger process, particular attention will be paid to the institutional aspects of the new organization to ensure that it will have the personnel, equipment and facilities needed to carry out its new missions successfully, Truly said.

"The Office of Exploration has done a superlative job in helping the nation prepare to move into the next century in space," Truly said. "Now it is time to merge this first-rate creative organization into the technology development mainstream. This move coincides exactly with the onset of the next phase of the solar

system exploration effort which emphasizes technology development.

"Later, in the 1990s, Space Station *Freedom* will be in place and functioning and our technology programs will be well down the road. Primary attention will be shifting to the lunar and Mars efforts. In the interim, we will have time to evaluate the effectiveness of this new management structure resulting from this merger and to consider future changes to ensure its creativeness and efficiency when we reach the intense period immediately preceding our return to the Moon," Truly said.

## Space News Roundup

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Editor . . . . . Kelly Humphries  
Assoc. Editor . . . . . Linda Copley

## JSC earns recognition for quality improvement

(Continued from Page 1)

Three judges selected the trio of winners from seven finalists on Nov. 21.

The other two winners are the DLA Defense Industrial Supply Center in Philadelphia, and the IRS Cincinnati Service Center.

The 27-applicant field already had been narrowed by a panel of public and private experts.

In addition to receiving their awards, JSC and the other two prototype winners will be called upon to prepare

separate case studies.

After those are completed in May, the winners will collaborate on a quality and productivity improvement videotape.

Finally, each winner will present two workshops for other federal agency workers—one in the Washington, D.C., area and another in their home area.

"That is the main reason for these awards," said Victoria Elder, spokeswoman for OMB. "We use them as a teaching tool." NASA-JSC