



LORAL
Data Systems

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(813) 371-0811



VOLUME XIII, NO. 1

JANUARY/FEBRUARY 1991

TELEMETRY SYSTEMS SALES SOAR

Telemetry Systems sales soared to the \$13 million level for December-January. Included in this record-setting total is the successful conclusion of four key contracts with Japan's Nippon Electric Corporation (NEC), Germany's Deutsche Airbus, Rockwell Corporation / Royal Australian Air Force (RAAF), and General Dynamics Corporation.

For NEC, Loral has begun the development of a state-of-the-art "Data Processing and Display System," which is to be part of the NEC Flight Test Control System (FTCS) being developed for the Japanese Defense Agency. When implemented, the FTCS will support flight testing of the Japanese FSX, an aircraft that uses some F-16 technology, and for processing airborne telemetry data for various defense-related projects.

This new system is built around an EMR System 90 type configuration. It accepts multiple PCM streams via two EMR 8715's equipped with the new high-speed 20 Mbps Decommutator cards. The System includes two VAX 6000 Systems and 22 state-of-the-art VAXstation 4100 Workstations. These workstations will be used to process data and display results during real time.



William Anderson
Program Manager

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ロラール
データシステムズ

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プログラム マネージャー

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Pictured above is NEC Program Manager Bill Anderson's Business Card shown both in English and in Japanese.
All user interfaces for NEC are to be in the Japanese language.

A separate subsystem provides playback of both PCM and FM data for output to strip chart recorders. EMR equipment provided for this function includes two EMR 4080 Frequency Calibrators, two EMR 8470 Digital Discriminators, four EMR 8320 PCM Bit Synchronizers, three EMR 8330 PCM Decommutators, two EMR 8350 Digital/Analog Converters, and two EMR 8336 PCM Simulators.

Continued on Page 5

LORAL EMPLOYEES HAPPILY MISSED THE FATAL FLIGHT

We have all complained about having missed a connection or that our flights were delayed. This was one time when there were no such complaints heard from three of our Customer Service representatives.

David Rice, Sr. Software Engineer, and **Chet Reynolds**, Lead Systems Engineer, were returning home to Lancaster, CA from a customer site in Huntsville, AL. Equipment failure in the plane they were to take back to Los Angeles forced them to wait three and one-half hours. When they finally arrived in L.A., and as they were heading for their flight to Palmdale, they learned from an airport TV that the Skywest 5569 they were scheduled to take had just been involved in a crash on the runway. David says he will never complain about a late flight again!



Pictured above is Paul Fleischer being interviewed shortly after learning of the crash of the 19 passenger twin-engine turbo prop plane on the runway.

Paul Fleischer was returning from Kwajalein Atoll and had tried to leave the island Monday, January 28 but was unable to get a flight. He left Tuesday, the 29th instead and spent three days in Hawaii. Paul was also scheduled to take the same ill-fated flight, Skywest 5569.

Paul Fleischer

This and That...And a Little More About Our Family...

Bundles of joy arrived at the homes of ...

Rick Mowrey, Prin. Software Engineer, SPS and his wife, Brenda, were the proud parents of a bouncing baby boy, Matthew Adam, who arrived on December 9th, weighing in at 9 pounds 13 ounces.

Bridgett Christian, E/M Inspector in QA, announced the arrival of her son, Dominique Eugene, on January 13, weighing in at 7 pounds, 4 ounces.

Mark Gibbins, LSA Specialist, SPS, and his wife, Shelley, announced the arrival of their son, Shane, who weighed in at 7 pounds, 11 ounces on January 18.

Paul Connett, Sr. Software Engineer, in Customer Service, and his wife, Kathy, announce the arrival of their daughter, Shelby Marie on January 31, weighing in at 7 pounds, 14 ounces.

Glenn Garbelman, SPS Technician, and his wife, Shannon, announced the arrival of their daughter, Brenna Elaine on February 4, weighing in at 7 pounds, 2 ounces and was 19 inches long.

Paul Dean, Machine Repair Dept, Operations, and his wife, Debbie, announced the arrival of their son, Cas Patrick, on February 6 who weighed in at 8 pounds, 13 ounces.

Early Retirement...

Pat Lahmers, Photo Lab, retired on February 1, after 19 years. She and Bob plan to move up to Franklin, N.C.

Wedding Bells rang out for

Andy Van Ore, Finance, was married on December 23 to Debbie Perkins, Merritt Is., FL

Cynthia Morris, Av. Recorders, was married Jan. 1 to Ronald Elliott.

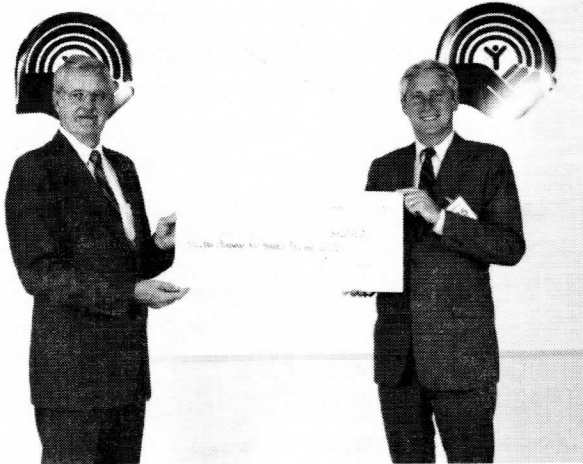
Kevin McGreevy, Maintenance Supv., was married in Venice on December 22 to Patricia Dempsey.

Kathy Boley and **Don Lignore**, both of Engineering Support Services were married on February 10 in Sarasota.



UNITED WAY CAMPAIGN CLOSES

The Loral Data Systems' United Way Campaign for 1990 has now been completed. Although we did not quite reach our goal, we should be very proud of all our efforts. The amount pledged was equal to that given last year. The total sum of company and employee contributions is \$54,203.50.



A donation ceremony was held on Tuesday, January 15, 1991. Joe Keller, President of Loral Data Systems, gave a check for our contributions to Art Wood, Jr., President of Northern Trust Bank and Sarasota Campaign Chairman.

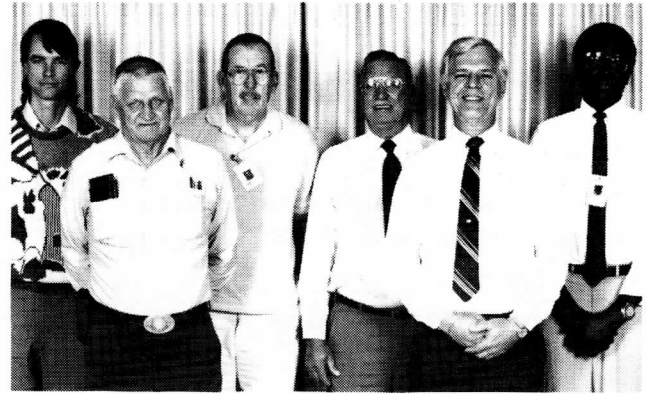


Pictured above are the committee members of the Loral United Way campaign for 1991. Loral Data Systems is the third largest contributor in Sarasota County and each of you in your unselfish willingness to share, made it so. On behalf of myself, the company, and United Way, I would like to say thank you.

Phil Luquette

HAPPY ANNIVERSARY !!

JANUARY 1991



Front Row: Frank Wakefield, 30 Yrs., Hans Kaiser, 25 Yrs., Back Row: Alex Hamilton, 5 Yrs., Richard Peck, 25 Yrs., Eldon Andrews, 40 Yrs., Jimi Graham, 20 Yrs. Missing: Peggy Huestis, 10 Yrs., Robin Healy, 5 Yrs.

FEBRUARY 1991



L to R: Troy Schleicher, 5 Yrs., Ed Domrzalski, Jr., 25 Yrs., Jon Wolf, 10 Yrs., Rita J. Jeannette, 15 Yrs., Betty Crabtree, 5 Yrs., Ann Murray, 10 Yrs.

LANCASTER, CA OFFICE



Wally Jones, 25 Yrs., Lyle Head, 15 Yrs., both shown with Jim Cummins, Site Mgr. Cust.Sup.

EMR 8245 - THE NEXT GENERATION MULTIPLEXER/DEMULTIPLEXER

Loral Data Systems' Telemetry Hardware Product Development Group is presently developing a new multiplexer/demultiplexer system which is to be designated as the EMR 8245 Asynchronous Multiplexer/Demultiplexer System. The EMR 8245 will be used for high-speed telecommunications of multiple channels of asynchronous telemetry data over a single transmission link. The unit also has great potential for commercial telecommunication use.

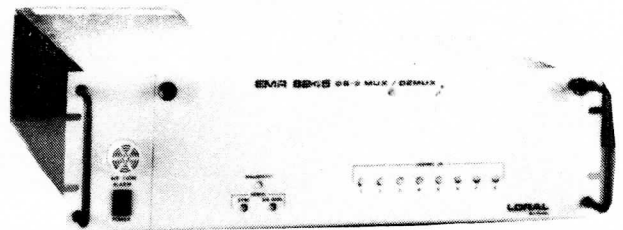
The EMR 8245 is being designed as a dual function unit that can be configured to either transmit or receive data and associated clock signals over a 44.736 Megabits per second (Mbps) T3 communications link. The EMR 8245 circuits will be contained primarily on three printed wiring assemblies (referred to as modules). The circuits of each module are designed as basic functional building blocks that may be easily configured, via switch settings, plugs and jumpers, to function as either a multiplexer or demultiplexer.

As a multiplexer, the EMR 8245 unit will be capable of accepting asynchronous serial PCM streams at up to eight input channels and combining them into a single time division output stream for continuous transmission over the T3 link to its associated demultiplexer. The EMR 8245 permits any data bit rate between 500 bps and 32 Mbps to be input to any channel. The multiplexer maintains integrity of the constant frame length and bit rate by inserting filler bits in unused positions of the transmission format.

As a demultiplexer, the EMR 8245 unit continuously accepts the T3 transmission from its associated multiplexer and reconstructs the one to eight asynchronous multiplexed channels. Each channel is output as a separate PCM stream according to its original multiplexer channel number and bit rate; that is, the PCM stream input at the Channel

1 input connector of the multiplexer will be output at the Channel 1 output connector of the demultiplexer. Filler bits in the received format words will be stripped and discarded.

As designed, it takes two EMR 8245 units to comprise a system; one unit remotely installed which functions as a multiplexer and the other locally installed in the main facility functioning as a demultiplexer, both linked together via an external T3 compatible link. The basic system to be offered will be designated as the 8245-001 and will consist of two EMR 8245 units complete with the capability of multiplexing/demultiplexing two data channels. Additional data channels may be employed in groups of two simply by adding a module in both units. It is expected that shipments will begin as early as February 1991.



The unique beauty of the EMR 8245 System is that, once it is configured as a multiplexer or demultiplexer and the type of channel input and output is selected, there is no further programming or setup required other than applying AC power to the units. The EMR 8245 System is also completely adaptable in its operation according to the number of active channels and their respective data rates. This is particularly important to the commercial world where no capability currently exists for transmission of data channel rates that fall between T1 (1.544 Mbps) and T3 (44.736 Mbps).

Donald B. Lignore

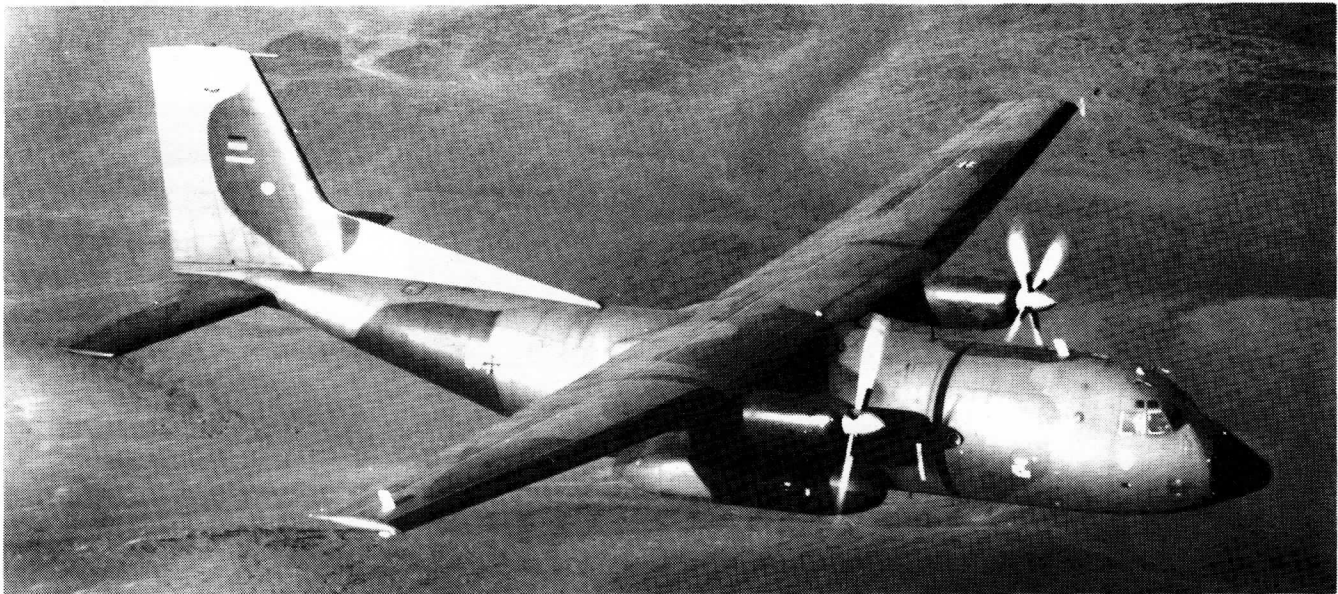
(This article which appeared in the November/December 1990 issue is reprinted in its entirety due to the omission of a critical portion of the text. Editor)

TELEMETRY SALES *continued from Page 1*

The System 90 software requirements for this project provide for some unique applications:

- The computer display screen must support Japanese characters. The full Kanji character set includes about 50,000 characters. A subset containing about 7,000 of the most commonly used characters will be supported by the software.
- The DEC 4100 Workstations support real-time 3-dimensional displays.
- The operating system will run the next release of DEC VMS, which is POSIX compliant.

For **Deutsche Airbus**, Loral is providing both an airborne telemetry system and a ground station telemetry system. These systems, which will be integrated into the overall Transal Upgrade Program, will perform both airborne telemetry data collection and ground station decommutation functions, but both will actually be loaded into the airplanes for which they are collecting and decommutating data. This project is in support of the German government's revitalization of its fleet of C-160 Transals, twin turboprop military transports that were jointly developed and produced by France and Germany. When completed, the revitalization program should add an additional 20 years of useful life to the fleet, which is already 20 years old.



**C-160 Transal Military Transport - Loral's "Airborne" Ground Station Telemetry
Is to Help Revitalize Germany's Fleet**

The airborne telemetry equipment includes both 5000 Series and 5500 Series standard products. In addition, special ARINC processor cards are to be developed. The ground station system being provided by Loral is an EMR System 90 type configuration with a ruggedized VAX 3400. It is to process three input data stream types; standard PCM, MIL-STD-1553, and ARINC data. The ground station front end outputs include standard display and archive data, DAC data, and data in a special format that is compatible with an AMPEX DCRSi Instrumentation Recorder. System delivery is slated for the end of the year.

Continued on Page 8

**WELCOME ABOARD
TO OUR NEW EMPLOYEES AT LORAL DATA SYSTEMS**

We are very pleased to welcome twenty-seven new employees to our company. They joined Loral Data Systems between April 1990 and January 1991. Due to the growth in our business these past few months we were able to hire many of our contract employees and they are now Loral employees.

These new employees are now in our Operations area, Software Engineering, Telemetry Sales, Recorders, Human Resources, Finance, and SPS. We wish them success in their new ventures.



Christopher Allen
Prod. Control Clk.
Operations



Eric Anderson
TLM, Sr. Sales Mgr.
Milpitas, Calif.



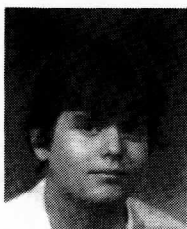
Ellen Attlesberger
Assembler
Operations



Marsha Borr
Sr. Human Res. Mgr.
Human Resources



Steve Carroll
Sr. Cont. Admin.
Instr. Rec.



Troy Clark
Assembler
Operations



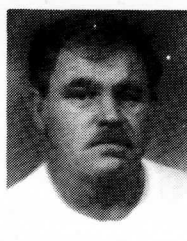
Donna Cori
Assembler
Operations



Betty Creasy
Assembler
Operations



Cheryl Eicher
Assembler
Operation



Kenneth Flippo
Assembler
Operation



Vincent Fogle
Assembler
Operations



Patricia Hall
Assembler
Operation



Penny Hattaway
Assembler
Operations



Bill Johns
Program Mgr.
SPS, Phoenix



Jeanne Keller
Assembler
Operations



Joyce Koscielny
Elec/Mech Assembler
Operations



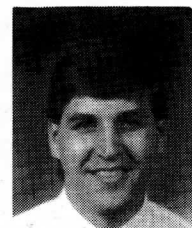
Joanne Lander
Assembler
Operations



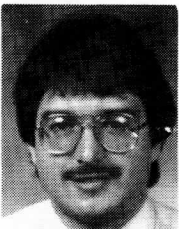
Juanita Lane
Assembler
Operations



Angela Maynard
Assembler
Operations



Tim Moloney
Assoc. SW Eng.
SPS



Ron Perrella
Assoc. SW Eng.
Telemetry



Bill Pierpont
Computer Opr.
MIS Dept.



Betty Powell
Assembler
Operations



Eileen Sandefur
Assembler
Operations



Debora Stewart
Assembler
Operations



Kristi Weaver
Data Entry Oper.
Procurement



Joel Weber
Sr. Sales Eng.
Telemetry

SOLID STATE FLIGHT DATA RECORDERS (SSFDR) SALES CONTINUE

The Aviation Recorders group has just recently announced receipt of orders from two important customers. While both Airborne Express and Comair have previously purchased LDS recorders, these new orders show their continued belief that LDS is the world's leading recorder manufacturer.

Comair (a regional airline with home offices just outside Cincinnati, Ohio) has ordered our new SSFDR Model F1000 and CVR Model A100A for installation of their existing EMB-120 aircraft. Once these recorders are installed Comair will fully comply with the FAA ruling that requires certain operators of passenger carrying aircraft to install both cockpit voice and flight data recorders prior to October 11, 1991.

Airborne Express (a package freight carrier based in Wilmington, Ohio) has selected our SSFDR Model 1000 and CVR Model A100A for a DC-8 and DC-9 they are are modifying to carry packages.

Both of these orders show the strong support in the airline industry for LDS recorder products.

Phil Wright

TELEMETRY SALES *continued from Page 3*

The **Rockwell** contract includes development of both a Flight Development and Recording System (FDARS) for collection of airborne telemetry data and a Flight Checkout System (FLCOS) for preflight validation and testing. When implemented, these systems will be used for certifying new avionics systems installed in the Royal Australian Air Force's fleet of F-111 aircraft.

The FDARS and FLCOS are upgraded versions of systems shipped previously for the McClellan Air Force Base (two systems in 1984 and 1986) and the Rockwell Pacer Strike Project. The FDARS provides four drawers of 5000 Series and 5500 Series equipment. The FLCOS includes a 1786 Telemetry Processing System supported by 600 Series PCM Data Acquisition equipment.

A new **General Dynamics Corporation** contract provides for immediate startup on an F-16 Telemetry Processing System for installation at Edwards Air Force Base. This EMR System 90 based ground station telemetry system is being built to match an F-15 test system already shipped to General Dynamics and installed in their Ft. Worth Facility. Both of these systems were evolved from the Lockheed Advanced Tactical Fighter (ATF) System, shipped in 1988.

The General Dynamics System is to replace an existing EMR 715 based system. The US Air Force has a second EMR 715 based F-16 Telemetry System at Edwards Air Force Base, located immediately adjacent to the General Dynamics System. The US Air Force is renovating its system to match the General Dynamics System through the purchase of new EMR equipment. The General Dynamics System is slated for September 1991 delivery.

Mark Hanigan

NEW MICROFILM APERTURE CARD SYSTEM FOR EDC

Engineering Document Center (EDC) recently completed the installation of a new microfilming system which is used to create 35mm film chip embedded aperture cards. This system has replaced an existing camera system which had been in use since 1978.

A microfilm aperture card is a 35mm film chip embedded in a 3" x 7" card. The film chip contains the photographic image of a drawing. An original silver-halide "master" card comes directly from the camera. Then any number of diazo duplicate cards can be produced by a duplicator. The master is stored in EDC and the duplicates are filed in satellite libraries which are located in Manufacturing and Engineering. The satellite libraries are used by personnel from a wide variety of departments for quick access to drawing information without having to obtain a drawing hardcopy.

The new system has made an immediate impact on EDC and its customers. Prints of a much higher quality are now being generated and delivered. Maintenance costs are minimal and drawing information is being provided in a more timely and accurate manner. Information required to encode the aperture cards is now downloaded directly from the IBM mainframe computer in MIS.

Microfilming of the Engineering drawings is governed by four Military Specifications. Compliance to these specifications was taken into consideration during the procurement selection process. The new system meets all current military specification requirements and allows EDC to process military specification contracts. Prior to the installation of this system, jobs were sent to third party vendors for microfilming, creating additional processing time.

The new system is made up of four individual pieces of equipment. The first is the 3M Model-2800 Processor Camera. The second is a 3M Model-520 Duplicator-Printer. The third is a 3M Model-948 Encoder which titles and punches the cards. And finally, there is a personal computer which controls the system and also communicates with the MIS mainframe to transmit and receive drawing file information for encoding.

Special thanks go to *Bob Heaton* and *Bill Kirby* who worked in close contact with EDC personnel and software systems personnel from 3M to ensure a smooth system startup.

Ron Basham
Mgr., Design/Drafting, EDC



Joan Brothers of EDC is shown using the new Processor Camera

CHRISTMAS ADOPT-A-FAMILY PROGRAM

This past Christmas the Technical Communications department "adopted" a needy family for Christmas through the Manatee Adopt-A-Family program. They were assigned a family consisting of a single mom and six children; the children ranged in age from 10 months to 14 years. Each participant in the program purchased and wrapped a gift for one family member. The mother had also requested food, so many brought canned food or donated their Christmas Kash 'N Karry gift certificate from Loral. Some of the gifts included tricycles, dolls, a remote control car, clothes, and games. Participating in the program were *George Emigh, Carolyn Peet, Bill MacNeill, Mike Andreotta, Jim Horvath, Mark Hanigan, Diana Montgomery, JoAnn Tonkin, John Wood, Jan Ammen, Carol Byrne, Sue Nurczyk, Ann Murray, Greg Sutton, April Wampler, and Neal Plume*. The photo below shows some of the gifts for delivery.



IMPORTANT INSURANCE DATA FOR INCOME TAX PURPOSES

1990 MEDICAL INSURANCE PREMIUMS FOR EMPLOYEE AND DEPENDENT COVERAGE, (NOT INCLUDING LONG TERM DISABILITY)

<u>WKLY</u>	<u>1/1 - 5/4/90</u>	<u>5/5 - 12/31/90</u>	<u>TOTAL COST</u>
Employee	2.58 X 18 Wks.	3.55 X 34 Wks. =	\$167.14
Employee & Spouse	5.16 X 18 Wks.	7.41 X 34 Wks. =	344.82
Employee & Child(ren)	5.15 X 18 Wks.	7.41 X 34 Wks. =	344.82
Employee, Spouse & Child(ren)	7.74 X 18 Wks.	11.27 X 34 Wks. =	522.50

1990 DENTAL INSURANCE BENEFIT PREMIUMS

Employee	.70 X 18 Wks.	.81 X 34 Wks. =	\$ 40.14
Employee & Spouse	1.62 X 18 Wks.	1.86 X 34 Wks. =	\$ 92.40
Employee & Child(ren)	1.62 X 18 Wks.	1.86 X 34 Wks. =	\$ 92.40
Employee, Spouse & Child(ren)	2.31 X 18 Wks.	2.58 X 34 Wks. =	\$129.30

SHARING TQM

In December of 1990 Loral Data Systems shared some of its continuous improvement ideas with a local chapter of a national quality organization, the ASQC. The American Society for Quality Control is an organization for quality control professionals which meets locally at the Brenton Reef Restaurant on a monthly basis. Consisting mostly of Quality and professional engineers it provides for its members such things as: the means to network with other professionals, development of leadership skills, keeping abreast of the latest trends, a local involvement with other quality professionals, and the chance to share knowledge.



Lynn Bruick during presentation

It was the sharing of knowledge which led to the invitation to *Lynn Bruick*, Software Quality Assurance Engineer of Loral Data Systems, for a presentation at the December meeting. Lynn has a very impressive background in the software process. She holds an Associates Degree in Arts, an Associates Degree in Business in Data Processing, and a Bachelor of Science Degree in Computer Science. Lynn has worked as a software quality engineer for ITT Aerospace/Optical Division and for General Electric Simulation & Control Systems. She is familiar with numerous Department

Continued

of Defense, military, and NASA Quality Standards. Her present job for Loral consists of contract analysis, requirements review, documentation review, software review, software testing, product and process audits and change control.

She also would like to see a TQM Process Action Team formed to address Loral software development and its related quality issues.

The presentation began with a definition of TQM and its benefits. Lynn outlined a software development process team and showed a standardized software development life cycle. The core of her presentation was the application of TQM to the software development process. This application showed the need to define a company standard, train employees, measure the process, and to develop a team environment.

The presentation was well received by the organization's members and a lengthy question and answer period followed.

Phil Luquette

Note: Anyone interested in attending an ASQC meeting should contact Earl Tonkin, Ext. 6993.

MOBILE MAMMOGRAPHY AT LORAL

Once again, St. Anthony's Hospital's mobile mammography screening unit will come to Loral.

Screenings are scheduled for **March 20 and 21**. An additional date of March 27 will be held open for our use if we have an overflow of women taking advantage of the program.

This low cost screening is available for all female employees, retirees, spouses and contract employees and their spouses. The cost is \$60.00. Using our preventive care insurance makes "out of pocket expenses" only \$15.00. Medicare is now covering the costs of preventive mammography but certain conditions apply.

Call Debbie Graham, Ext. 5559 to schedule your appointment for this valuable service.

Debbie Graham, R.N., C.O.H.N.

EMPLOYEE ETHICS RESPONSIBILITIES

TO COMPLY WITH LORAL'S CODE OF ETHICS

- IF REQUESTED TO ENGAGE IN ANY ACTIVITY CONTRARY TO THE POLICY
- IF YOU HAVE REASON TO BELIEVE ANY OTHER EMPLOYEE OR REPRESENTATIVE OF THE COMPANY IS ENGAGED IN CONDUCT CONTRARY TO THE POLICY.

CHANNELS FOR REPORTING

- HIS / HER SUPERVISOR
- SUPERVISOR'S MANAGER
- PERSON DESIGNATED WITHIN THE DIVISION FOR INVESTIGATING REPORTS
 - COMPLIANCE MATTERS:
 - MARK MUSTICO - SPS GROUP
 - DAVE TAYLOR - ALL OTHERS
 - SECURITY MATTERS:
 - BILL SHAW - ALL GROUPS
- CALLING THE DIVISION HOT LINE NO. 6869
CALLS MAY BE ANONYMOUS. ALL HOT LINE CALLS WILL BE HANDLED CONFIDENTIALLY. YOU MAY CALL BACK TO LEARN WHAT ACTION WAS TAKEN.
- CALLING / WRITING LORAL CORPORATION VICE PRESIDENT AND CONTROLLER
BOB LAPENTA
600 THIRD AVENUE
NEW YORK, NY 10016 (212) 697-1105
- CALLING/ WRITING INDEPENDENT OMBUDSMAN
ROBERT GREGG
C/O HAZEL, THOMAS, FISKE, BECKHORN, AND HANES
3110 FAIRVIEW PARK DRIVE SUITE 1400
FALLS CHURCH, VA 22042 1-800-842-2651

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