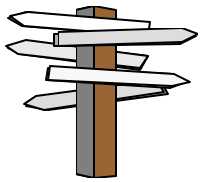
THE MINNESOTA LOGGER

Minneapolis/St. Paul Chapter 6 District 6 of the

International Society of Logistics (SOLE)

Minneapolis/St. Paul **Issue No. 259** **Date – February 2004**



Chapter Meeting This Month

February 10, 2004. Tuesday evening meeting with the Minnesota Chapter of the American Society for Quality (www.mnasq.org). Topic is "Supplier Qualification" with a speaker from Medtronic. The meeting will be held at Hennepin County Technical College, Brooklyn Park.

Chairman's Corner

A spirited ***Congratulations!!*** goes out to Joe O'Brien, CPL, as he wraps up his working career with his retirement from Lockheed-Martin in Eagan at the end of last month. Joe is a former Chapter Chairman and long time supporter of SOLE. Good luck in retirement, Joe!!

We welcome George Rumple as our newsletter editor filling in for Joe.

We are continuing our review of the Navy's spares reports one of which was released by GAO in August 2003 (see the October, November & January issues of this newsletter).

As we continue the analysis we are referring to the metric, "Supply Support Metric for Maintenance Tasks Completed," which is fashioned after the concept of the perfectly executed work order model (see diagram shown elsewhere in this newsletter).

We ended last month's discussion with the proposal that the analysis of the first two items in "the last 500 feet of the supply chain" lead us to the following conclusion:

$R(s=9) = (0.6379)*R_3*R_4*R_5*R_6*R_7*R_8*R_9$

This month we will examine the R3, R4, R5 and R6 factors and place a value on them.

>>>

Advance Notice – March Meeting

SuperValu Distribution Center Tour, (Hopkins, MN), **Thursday, March 18th**. Tour is starting at 5:00 p.m.

Be Sure to Note This on Your Calendar.

We Hope to See You There!!

From GAO Report 03-887:"Our analysis identified two key problems that contribute to the Navy's inability to achieve its supply goals for deployed ships: inaccurate ship configuration records and incomplete, outdated, or erroneous historical parts demand data. The Navy uses these data in models that estimate the types of parts (range) and the number of each part (depth) that should be stocked on board a ship during its deployment. However, because of data inaccuracies, the ships may stock all of the parts they are allowed to carry but still find they cannot fill a large number of parts requisitions from onboard inventories, thus failing to meet the Navy's supply performance goals.

For R3 we look for a value for *Forecast Anticipated Maintenance Events & Item Demand for Period of Deployment (Depth of Items.* This is the value that will represent the combined accuracy of forecasting that recommends both the use of/multiple uses of a part from the ASL during the planned deployment period as *predicted by the spares planning model*. It tests both the accuracy (output) of the planning model as well as the integrity of the data going into the model (input data quality). We read from the reports that delays in entering completed work orders into the reporting system results in under-reporting parts usage. In other words the input data quality is low. We will estimate that the model itself is 100% accurate if fed complete data. As a result the accuracy of the output is likely to be quantitative less in two aspects: under-prediction of the items that fail at least once and under-estimating the multiple number of failures that will occur in the period.

There is not an accuracy value given for the planning models in the Navy studies. The model's output for a particular NSN will depend on a number of factors including quality of data input. We do not have an estimate of quality of input data. Some of the data is missing and/or late in getting entered into the system. The model uses usage data as input from which the model projects MTBF and future failures. If 24 months of demand data are normally used by the model we might expect one equivalent month's volume of data is missing. That is 95.83% complete data.

We will use a 0.95 point estimate success rate for the forecast for R3.

For R4 we look for a value for *Obtain & Maintain Quality Items (Part*s). This is the value that will stand for the quality of parts – whether or not the part can properly function when first used. It can be estimated by the percentage of instances where the part functions properly when used. It can be calculated by the formula (1.00 – Dead on Arrival Rate Percentage x100).

We will use commercial high-tech industry DOA rates of printed circuit board assemblies to estimate the DOA rate. The Navy reports did not have an estimate for DOA rates. In 1994-1995 commercial equipment printed circuit board assemblies had between 3% and 5.5% DOA. An estimate is 5% will be used here for DOA.

That results in a 1.00 – 0.05 = 0.95 point estimate use rate for R4.

For R5 we look for a value for *Stock Range of APL Items on board Ship.* This is the value that will stand for the actual stocking of the range of items predicted. In other words did the ship's company actually stock the items that were forecast by the planning model. This will be reported by the ship's planners and can vary by ship and by cruise.

03-887, page 17: The study showed for a particular battle group that the ships were outfitted with 98.1 percent of the different types of parts (range) for the 90-day deployment period. The spread of sample data in the range of parts stocked was 97.0 – 99.1%.

We know from the reports that the shore station planners are limiting the stocking of the **range** of items to 98.1%. We will use a 0.98 point estimate use rate for R5.

For R6 we look for a value for *Stock Depth of APL Items on board Ship. .* This is the value that will stand for the actual stocking of the depth of items predicted. In other words did the ship's company actually stock the items that were forecast by the planning model. This will be reported by the ship's planners and can vary by ship and by cruise.

03-887, page 17: The study showed for a particular battle group that the ships were outfitted with 93.1 percent of the quantities of parts (depth) for the 90-day deployment period. The spread of sample data in the depth of parts stocked was 83.4 – 98.8%.

We know from the reports that the shore station planners are limiting the stocking of the **depth** of items to 93.1%. We will use a 0.93 point estimate use rate for R6.

Notice that for range and depth of APL items we have taken into account (1) the under forecasting of the sparing model in R3 and (2) the Navy's operating force's decisions to limit both the range and depth of recommended spares in R5 and R6 coming from the sparing model.

Our formula ended last month with the following values:

$R(s=9) = (0.6379)*R_3*R_4*R_5*R_6*R_7*R_8*R_9$

Using the data we derived above for R3…R6 we can fill in the formula:

$R(s=9) = (0.6379)*(0.95)*(0.95)*(0.98)*(0.93)*R_7*R_8*R_9$

Our formula has evolved into the following:

$$R(s=9) = (0.5247) *R_7*R_8*R_9$$

In the coming months we will look at the other factors R_7, R_8, and R_9, compute the result, and run a simulation of the variables using a range of input values to see the effect on the output. All this will provide information in understanding the Navy's spare parts availability problems.

Larry DeVries, CPL
Chapter Chairman

**********'

January 2004 Chapter Meeting Recap

We met on Jan. 15, 2004 for a Luncheon Meeting (11:30-1:30) with the local Twin Cities Roundtable of the Council on Logistics Management (www.clm1.org) at the Doubletree Park Place, St. Louis Park.

Several Twin City Roundtable reps gave very brief announcements on their Roundtable's activities. The Roundtable gives away a $2000 scholarship annually and it has an active liaison with the University of Minnesota with their *Supply Chain Club* plus they support a mentor program. On March 3rd they will sponsor an all-day program with breakfast and lunch on the subject, "Playing the Game". Topics include: Global Supply Chain, Technology & Radio Frequency Identification Devices (RFID). The keynote speaker will address the subject, "The Challenges of Being in Logistics".

The lunch meeting topic was a Case Study: "How Six Sigma and the Supply Chain Integrate" and the Presenter was Scott Sealing, Project Lead, Supply Chain Management, from United Space Alliance, a jointly owned company supporting NASA. United Space Alliance, headquartered in Houston, is jointly owned by Boeing and Lockheed-Martin (http://www.unitedspacealliance.com).

The business of USA is the launch of the space shuttle and all of the integration efforts associated with bringing together the wide-range of activities starting from last launch's recovery of useable components to producing the elements for the next shuttle launch. They do not do design or manufacturing but in their role they integrate all the activities necessary to meet NASA's schedule.

Scott's presentation was on the SCOR model and United Space Alliance's incorporation of Lean Manufacturing & Six Sigma which USA has termed "Lean Six Sigma". A representative of United Space Alliance was on the 2003 SOLE Conference program last August in Huntsville talking on the same subject. The speaker then emphasized their use of Supply Chain Operational Reference (SCOR).

Prior to choosing these initiatives the USA had a number of cost savings initiatives that were ongoing but they were judged to be under funded, uncoordinated, and being implemented within the existing "silos" of the four major business units. The project savings were estimated under the existing business processes. Projected savings did not include those that could be obtained by revised, more efficient business processes.

In addition to the use of the SCOR model USA has incorporated a number of Six Sigma trained personnel into the organization: a Senior Champion (1) reporting to the CEO; Deployment Champions (5 – 1 for each major kind-of-business); 39 Black Belts that are full time on this initiative; and a number of Green Belts, most of whom are part-time on the initiative while being full time employees.

The SCOR effort identified four major flows in their business: Operational Strategy, Materials, Work, & Information. There were four major business units identified plus the teams identified a need and added a fifth business unit – Logistics, which was determined to be necessary to operate.

The implementation of Lean Six Sigma has identified inefficiencies in the various work flows and **has identified millions of dollars of potential savings**. The teams are now focusing on implementing the highest priority projects.

The SCOR model identified 12 different elements of a balanced scorecard - one scorecard for each of the five business units. Each scorecard contains the metric and an industry benchmark as well as the USA actual performance measure. A shortfall is often shown based on industry best practice developed from the "As Is – To Be" diagram. The "Gap" shows the shortfall as a gap in performance between best practice in the industry and the performance of USA resulting from a performance comparison.

Scott indicated that the SCOR project brought much needed credibility and visibility to the Lean Six Sigma projects.

A recommended book by the speaker is "Supply Chain Excellence" by Peter Bolstorff and Robert Rosenbaum. That was used as a practical guide for the project.

Some obstacles to the initiative, in addition to human inertia, are legacy business systems that were brought over in the creation of USA from merged business units and the funding/cost accounting methods used by those systems. USA has adopted a new ERP system to address the legacy business system problem.

The meeting was well attended and the topic was very timely. A copy of the presentation slides is promised by the presenter to the Chapter Chairman.

**********'

Chapter Web Page

News of our Chapter is on our SOLE web page http://www.sole.org then Member Services > SOLE Web Sites > Dist 6 Cha 6 Minneapolis – St. Paul (Twin Cities).

Check this out when you need an update or make a referral of a potential new member to SOLE.

**********'

GAO Study on Operation Iraqi Freedom

Report: **Defense Logistics: Preliminary Observations on the Effectiveness of Logistics Activities During Operation Iraqi Freedom**, GAO-04-305R, December 18, 2003; Government Accounting Office. Download from (http://www.gao.gov/docdblite/summary.php?recflage=&accno=A09039&rptno=GAO-04-305R)

Abstract: "Operation Iraqi Freedom (OIF) is one of the largest logistics supply and support efforts that the U.S. military has ever undertaken. For example, of the $28.1 billion that the Department of Defense (DOD) has obligated for OIF, the services and the Defense Logistics Agency have reported that $14.2 billion is for operating support costs and $4.9 billion is for transportation costs. This operation required the movement of large numbers of personnel and equipment over long distances into a hostile environment involving harsh desert conditions. Congress asked us to study a number of issues related to logistics support to deployed forces. In April 2003, shortly after the onset of OIF, we began work that focused on DOD's accountability and control over supplies and equipment shipped to that theater of operation. Based on the early results of this work, we subsequently broadened our scope to include other logistical issues, such as the deployment of support units and the transportation of supplies and equipment.

Although major combat operations during the initial phases of OIF were successful, our preliminary work indicated that there were substantial logistics support problems in the OIF theater, as evidenced by (1) a backlog of hundreds of pallets and containers of materiel at various distribution points due to transportation constraints and inadequate asset visibility; (2) a discrepancy of $1.2 billion between the amount of materiel shipped to Army activities in the theater of operations and the amount of materiel that those activities acknowledged they received; (3) a potential cost to DOD of millions of dollars for late fees on leased containers or replacement of DOD-owned containers due to distribution backlogs or losses; (4) the cannibalization of vehicles and potential reduction of equipment readiness due to the unavailability of parts that either were not in DOD's inventory or could not be located because of inadequate asset visibility; (5) the duplication of many requisitions and circumvention of the supply system as a result of inadequate asset visibility; and (6) the accumulation at the theater distribution center in Kuwait of hundreds of pallets, containers, and boxes of excess supplies and equipment that were shipped from units redeploying from Iraq without required content descriptions and shipping documentation. For example, at the time we visited the center, we observed a wide array of materiel, spread over many acres, that included a mix of broken and usable parts that had not been sorted into the appropriate supply class, unidentified items in containers that had not been opened and inventoried, and items that appeared to be deteriorating due to the harsh desert conditions. We noted a number of factors that, in combination with other conditions, may have contributed to the logistics support problems we identified." End of abstract.

**********'

Navy Spares Challenges (continued)

In our analysis of the Navy supply challenges the "last 500 feet in the supply chain" appears to be summarized by following:

R1	Obtain Accurate System Configurations for Individual Systems and Sum to the Ship's Total Configuration
	*
R2	Obtain Accurate Allowance Parts Lists (APLs) to match the Ship's Total Systems Configuration) (Range of Items)
	*
R3	Forecast Anticipated Maintenance Events & Item Demand for Period of Deployment

	(Depth of Items)
	*
R4	Obtain & Maintain Quality Items (Parts)
	*
R5	Stock Range of APL Items on board Ship
	*
R6	Stock Depth of APL Items on board Ship
	*
R7	Stock & Maintain Accurate Inventory Levels on board Ship
	*
R8	Pull the Anticipated Item(s) from Shipboard Stock for the Maintenance Task As it Occurs during Deployment
	*
R9	Complete Maintenance Task Using Items as Necessary. Return Unused items to Stock. Forward Repairable items to Repair Cycle. Complete Work Order with Accurate Data.
	=
	Supply Support Metric for Maintenance Tasks Completed

The serial events above must be completed with the required high percentage for the numerical product of all tasks to be a sufficiently high percentage. The concept of describing the execution of "the perfect work order" applies here. In order for "Supply Support for Maintenance Tasks Completed" to be a sufficient percentage all dependent processes shown must be a high percentage as discussed in prior newsletters.

February 2004 Meeting

February 10, 2004. Tuesday evening meeting with the Minnesota Chapter of the American Society for Quality (www.mnasq.org).

Topic is "Supplier Qualification" with a speaker from Medtronic. The meeting will be held at Hennepin County Technical College, Brooklyn Park. Times are 5:00 PM Networking, 6:00 Pre-Dinner Presentation, 7:00 Dinner, and 8:00 After-Dinner Presentation. Cost is 20.00 Member, $25.00 Non-members. Pay at the door.

Please RSVP by noon on 5 February to the SOLE members as shown elsewhere.

FUTURE CHAPTER MEETINGS

2003-2004 CHAPTER SCHEDULE & TOPICS

Date	Event	Remarks
Tuesday Feb. 10	**"Supplier Qualification"**	**Joint meeting with ASQ**
Thursday March 18	**"Tour of SuperValu, Distribution Center"**	**Hopkins Plant. Tour begins at 5:00 p.m.**
Tuesday, April 13	**"QS9000/TS1 6949/DOE maybe FMEA"**	**Joint meeting with ASQ**
Thursday May 20, 2004	**"RR Train Logistics"**	**Meet at Jack Povlock's and review his RR progress**
TBD June 2004	**Tour TBD**	

Member Professional Biography

Larry Cork, CPL, Vice Chairman, Technical for the Minneapolis/St. Paul Chapter of SOLE.

Larry is a native of Minnesota--he was born in the Twin Cities during World War II. After WWII, Larry's family moved around the Midwest from US Army camp to post to fort as his father's US Army assignments dictated. His dad retired from the Army at Fort Leavenworth, Kansas. By that time, Larry was a senior at the University of Kansas, so he remained in Kansas while the rest of the family moved to a suburb of Phoenix, Arizona.

Larry graduated with a BA in mathematics during the Viet Nam War. He joined the US Air Force, which selected him to be a Minuteman ICBM Missile Launch Officer. Following Training at Chanute Air Force Base (AFB), Illinois and Vandenburg AFB, California, Larry was certified as a Minuteman Crew member at Minot AFB, North Dakota. His tour at Minot was cut short, though, when the Air Force asked him to be one of seven

crewmembers to transfer to Whiteman AFB, Missouri. At Whiteman, the Minuteman missiles were being upgraded to more capable variants, the Minuteman F. The Strategic Air Command decided to use three-man crews for the modernized Minuteman missiles. On the three-man crews, Larry became a deputy and later certified on all of the missile command roles.

During his five years as a Minuteman ICBM crewmember, Larry earned an MBA from the University of Missouri, Columbia. He volunteered to become a weather officer, which resulted in he and his family being assigned at College Station, Texas while he attended Texas A&M to study meteorology. He expected to be assigned to Southeast Asia, but instead was assigned to Global Weather Station, where he and his small team forecast the weather for Southeast Asia.

After only two years at GWC, Larry and family proceeded to Incirlik Air Base (AB), Turkey. As a forecaster and chief forecaster, he lead teams of observers and forecasters in predicting the weather across the western Mediterranean, Caucus Mountains, Persian Gulf, and into northern Africa. The work was challenging and interesting, so Larry extended his assignment at Incirlik for an extra year, during which he and his family drove to Syria, flew to Greece, Spain, and Germany, and toured the former Soviet Union. He also began teaching college and university mathematics and statistics courses as a hobby.

The next assignment was a short one at the USAF climatology center at Scott AFB, Illinois, the Environmental Technical Applications Center, where he headed a small group studying electromagnetic propagation through the atmosphere, weather-based communications system failures, and wind shear at altitude. During this assignment, Larry earned a masters degree in meteorology from St. Louis University in St. Louis, Illinois.

Two years after arriving at Scott AFB, Larry departed for another overseas tour, this one as detachment commander for the weather forecasting operations at Kunsan AB, Taegu AB, and Kwang Ju AB, in the Republic of Korea. This enjoyable tour was interjected with periods of anxiety and tension following the assassination of the president of the Republic of Korea. Rioting and martial law followed the assassination, along with increased tension along the demilitarized zone (DMZ) and intense saber rattling to keep the North Koreans from crossing into South Korea.

Larry took another career shift then, becoming an Air Force management engineer (equivalent to industrial engineering) at Headquarters, Strategic Air Command (SAC) in Omaha, Nebraska. He established the Monte Carlo modeling and simulation shop at SAC, studying the maintenance personnel and equipment, and supply requirements for SAC bombers and tankers. The most intense study was to determine the effects of collocation of bombers and tankers. Ten years later, the Air Force reorganized and merged the Strategic Air Command and the Tactical Air Command into the Air Combat Command. Tankers and bombers were collocated, in some cases to bases that also had fighter aircraft or Minuteman missiles.

Larry finished his Air Force career at Kirtland Air Force Base, assigned to the logistics directorate. His team there managed logistics requirements to support avionic and electronic systems, including the Tri-Tac communication system. He conducted simulation studies used in evaluating the supportability of surveillance systems based on new and improved U2 aircraft, the TR1. These aircraft provide tactical reconnaissance to theater commands. Larry taught more math and statistics courses and became active in SOLE. He earned his CPL and served as the CPL course advisor, and was elected as Vice Chair, technical.

By the time Larry retired from the Air Force, his son, Daniel, was in high school and his daughter, Debbie, was in junior high school. Larry, Jeanne, and their children settled down and grew roots in Minnesota. Larry worked for Sperry as an ILS manager, a tester, and a Monte Carlo modeler and analyst. The models were used primarily to evaluate the bus traffic capacity for trade off analysis. He earned a MS in software design, and continued to teach math and statistics courses at local colleges and universities. He served as the CPL training coordinator, was elected to serve as

Vice Chair, technical, was elected Chapter Chair, was elected as District Director, and was appointed as State Director.

Larry accepted a position as Assistant Professor at Cardinal Stritch University, leaving the defense industry for a more sedate pace as an academician. He taught math and statistics, computer science, and quality management theory and practice.

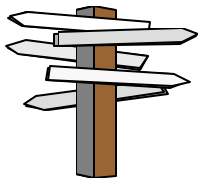
After five years, he resigned from Cardinal Stritch University to head software V&V for a commercial aircraft modernization project. He became a software testing, verification, and quality assurance contractor, and finally joined United Defense as the Software Quality Assurance manager for the US Army's top priority system, the Crusader Self-Propelled Howitzer (SPH). The SPH was successful technically (below budget, on time, meeting requirements), but was eliminated as part of the Department of Defense-pushed transformation of the military. Larry was included in the Reduction in Force (RIF) that followed the Crusader SPH contract termination.

Currently, Larry is taking courses toward a PhD in business, keeping an eye out for interesting jobs as a contractor or as a project engineer, and teaching mathematics and statistics. He is the Vice Chairman, Technical for the Minneapolis/St. Paul Chapter of SOLE.

**********'

THE MINNESOTA LOGGER

Minneapolis/St. Paul Chapter 6 District 6 of the
International Society of Logistics (SOLE)



MINNEAPOLIS/St. PAUL CHAPTER MEETING

MEETING DATE: **Tuesday, February 10, 2004**

LOCATION: Hennepin County Technical College, 9000 Brooklyn Boulevard, Brooklyn Park, Minnesota

TIME: 5:00PM: Networking; 6:00: Pre-dinner Presentation; 7:00: Dinner; 8:00: After-dinner Presentation.

MEETING TOPIC: **"Supplier Qualification"**

- **This month we will meet in conjunction with the Minnesota Chapter of the American Society for Quality at their February meeting**

PREDINNER PRESENTATION
NEW SUPPLIER EVALUATION AND SELECTION, PRESENTED BY MICHELLE REINERT

AFTER DINNER PRESENTATION
SUPPLIER RELATIONSHIPS AND PERFORMANCE, PRESENTED BY MIKE FEDOCK

- **The speakers are from Medtronic, Inc.**
- **We hope to see you there!!**

RESERVATIONS: Call for reservations not later than 6 February 2004:

Honeywell	Lockheed Martin	United Defense	Other
Jack Povlock, CPL	**Joe O'Brien, CPL**		**Ken Dacas**
(763) 954-6263	**(651) 456-3977**		**(952) 887-3855**

PLEASE POST

2003-2004 OFFICERS/COMMITTEE CHAIRS FOR CHAPTER 6 DISTRICT 6

Chairman: Larry DeVries (O) 612-743-3509, larrydev@earthlink.net

Vice Chairman Administration: Joe O'Brien (e) j.f.obrien@worldnet.att.net **(H) 651-452-6789**

Vice Chairman Technical – Larry Cork (O) 651-428-9146

Vice Chairman Operations: Ken Dacas (O) 952 887-3855

Vice Chairman Finance: Jack Povlock (O) 763-954-6263

Newsletter Editor: Joe O'Brien

Photographer & Newsletter Editor: George Rumple (O) 763-954-6617 (H) 763-427-7989

INTERNATIONAL SOCIETY OF LOGISTICS

J.F. O'Brien, CPL
1584 Clemson Drive
Eagan, MN 55122
e-mail: j.f.obrien@worldnet.att.net