February 2021 Syracuse Elfun Society Newsletter

In Memoriam

We have been saddened to learn of the deaths of the following current or former members of the Syracuse Elfun Society:

Robert E. Jenkins, 85, of Baldwinsville, NY passed away peacefully on October 28th at Ellis Hospital in Schenectady, NY.

John Donald "Jack" Reale, Sr., of Syracuse, N.Y. passed away peacefully on Tuesday, November 24, 2020 at the age of 91.

Donald J. LaCombe, Ph.D, 88, of DeWitt, passed away Friday, December 11, 2020 after a short illness.

Richard J. Clark, 95, of East Syracuse went to be with the Lord peacefully at home on December 19, 2020.

Ben J. McKittrick, died December 29, 2020 at Elderwood in Liverpool.

Augustine A. "Augie" Albanese, 93, passed away Friday, January 1, 2021, in the comfort of his own home, surrounded by his loving family.

Complete obituaries for local individuals may be found online at Syracuse.com.

Social Events

Elfun Social Events are still on pause as we await vaccines, and herd immunity, and the end of yellow/orange zones, and ... and ...

Steve Auyer has done a wonderful job of keeping the membership involved via newsletters and other information. Carl and I never worked in Electronics Park, but so enjoyed receiving the Christmas Greeting.

As we progress into spring, we will attempt to organize some more Zoom presentations, perhaps from some local non-profits and/or medical and insurance providers. You can participate live in these meetings, or watch them later via the Syracuse Elfun Society website and YouTube channel. We also plan to hold the Annual Meeting as usual in May, also via Zoom. Meanwhile, stay safe and well, and let's hope for the day we will all gather together at some time in the future.

Cindy Chermak

More Comments on COVID-19

Since Cindy mentioned COVID-19, I thought that I'd pass on a couple of e-mails that George Kirkpatrick (our 100-year-old member) sent in response to that group e-mail that Elfun sent out when the group at the NYS Fairgrounds began accepting reservations for vaccinations:

"Steve, thanks for the info on the COVID-19 vaccine. I was a little slow in follow-up and ended up with a February 14th date for vaccination at the State Fairgrounds. The Post-Standard indicated there might be a second high density site, perhaps sat the OnCenter? I'd like to have something better than February 14th so let me know of any developments. Thanks, George Kirkpatrick (January 12th)"

"Steve, the outlook on the COVID-19 vaccine supply is dismal. I had called Oswego Medical Center (10 George Street) a couple of weeks ago and left my name, etc. and they called me Friday afternoon and said they had an opening Saturday morning (for a 100 yarr-old) so I went up and now I'm vaccinated!! When I got back to North Syracuse I had an e-mail for an opening Monday morning at the OnCenter!! Ho-hum, it never rains but, etc. Now I hope they

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save some Moderna vaccine for shot #2 in 4 weeks. I recommend you be 100 years of age to apply. George (January 19th)"

If what's happening locally sounds disorganized, news from other states makes it seem like we're in great shape compared to what folks in other states are putting up with:

- Folks with reservations being turned away because the vaccine planned for them had been used up on walk-ins with no reservations the previous day.
- Reservations being canceled because a scheduled delivery of vaccine never showed up.
- Waits of hours on the telephone to even ask if you can make a reservation.
- Reservation websites that crash partway through the process.

Oops! Some of those have happened here.

In Case You Missed Them

Copies of the following articles which appeared in THE WALL STREET JOURNAL were e-mailed as PDF files to our membership. If you missed an article, a request to the editor will get you a copy by return e-mail.

- October 29, 2020 - **GE Cost Cuts Offset Engine Drag**
- November 25, 2020 - **GE Plans More Cuts in Jet Unit**
- December 10, 2020 - **GE to Pay $200 Million in SEC Pact**
- January 6, 2021 - **GE Won't Claw Back Pay From Former CEO**

Neal Moves To Florida

During the January 8, 2021 meeting of the Board of Directors of the Syracuse Elfun Society, the following letter was read:

January 8, 2021 Syracuse Elfun Society Board of Directors Meeting

"Effective 1 January, 2021, I am resigning from the Syracuse Elfun Society Board of Directors. Due to events of this past year, namely Covid-19, I have been living with my son here in Florida and as of the first of December have become a Florida resident.

This was my plan for several years, although I hadn't expected to execute that decision this soon.

I, as well as many others, have missed Cindy's social extravaganzas and Marv's work parties this past year and I will miss them in the future. Hopefully the opportunity for social interactions of the GE and Lockheed friends, which the Syracuse Elfun Society offers, will continue for many more years.

I intend to remain a paying member and would appreciate any hard copy information sent to my Florida address. Steve's "newsletter" can still be sent electronically. My e-mail and phone number have remained the same – nealschantz@gmail.com, (315) 546-5524."

We'll miss you Neal!

Chairman's Column

2021 is the craziest year I have ever experienced, and we are only one-month in. The one thing I can be certain of is that this period of uncertainty will carry on into the near future. Stay safe and practice social distancing. The Syracuse Elfun Society will continue to hold off on in-person events knowing we will be able to get together soon enough. As I mentioned in the last newsletter, call one of your fellow Elfuns on the phone and wish them well. We are go-

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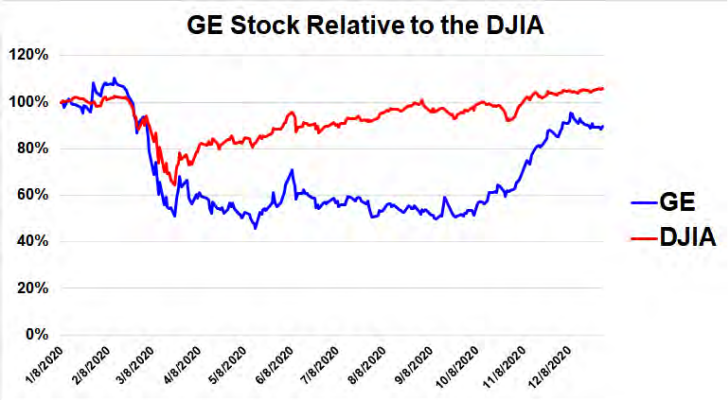
ing to have our May Annual Meeting remotely on Zoom and will announce a date and time soon, leaving time at the end for member's questions and answers. If you know what you are going to ask ahead of time, write down your questions and email them to me at carlchermak@gmail.com. This will give us time to prepare thoughtful answers.

GE Stock's 2020 Performance

If, back in 2019, someone had shown you the following chart as a prediction of how GE stock would perform in 2020, your response would probably be something like: "What the hell is going to happen in February and March?"

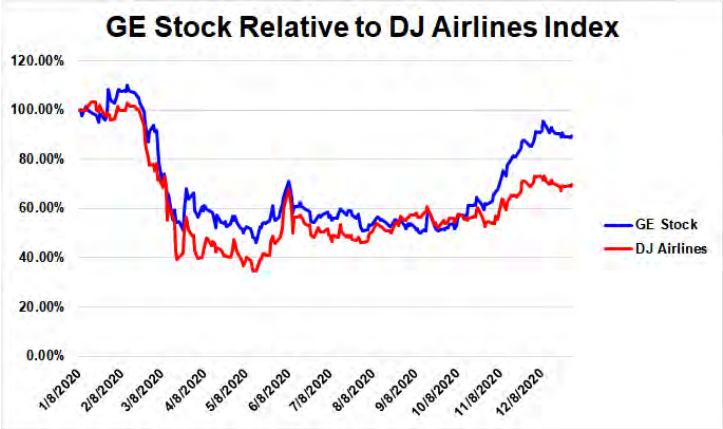
Of course, we now know that COVID-19 hit in February. Of GE's three major business areas: Aviation, Power and Medical, Aviation which was still struggling with a reduction in sales because of Boeing's problems with the 737-MAX aircraft, was then hit with additional problems as airlines around the world cut back flight schedules, purchases and maintenance.

Your next question could be: "But a lot of companies were hurt by COVID-19, how does GE's performance compare to theirs?" So, while there are many measurements of how companies are performing, overall, the Dow Jones Industrial Average (DJIA) is supposed to be representative of manufacturing firms. GE's performance is compared to that of the DJIA below:



GE and the DJIA took roughly the same "hit" when the nature of the COVID-19 pandemic became known and the nation went into a shutdown. The DJIA slowly climbed back to end 2020 with a small gain for the year. GE struggled with the problems at GE Aviation but the changes in that business area began to take effect and GE stock ended 2020 down about 10% for the 2020.

Since GE Aviation was so impacted by problems in the airline industry, how well did GE perform relative to that industry? Dow Jones also has an index that tracks the performance of US airlines (DJUSAR). When you compare GE's 2020 performance against the DJUSAR index, the similarities are evident, with GE pulling ahead of the DJUSAR by about 20% by the end of 2020.



2020 was a tough year for GE for a number of reasons but it appears that under the management of

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Larry Culp's new team the company has put many of the Immelt issues behind it. We hope!

Speaking of the Boeing 737

This plane has an interesting history, and one that intertwines with GE Aircraft in many ways.

The Boeing 737 was designed as a 2-engine, short haul passenger plane with a range of about 2,000 Nm (nautical miles). The first model, the 737-100 was introduced in 1967 and was wildly unpopular – selling only about 30 aircraft. Boeing introduced the 737-200 the following year with about a 30% increase in flying range, and sold over 1,000 of this model.

The Pratt&Whitney JT8D-7 engine used on the first two 737 models was a "low-bypass engine" which meant that almost all of the air entering the jet engine passed through the combustion chambers and turbine stage of the engine before being exhausted. While this concept was popular with military engines it had reduced efficiency, and thus higher operating costs than a "turbofan engine" which had a larger compressor stage at the entrance to the engine with more of the air entering the engine bypassing the combustion chambers and providing better thrust and higher efficiency.

GE had been a major player in the military jet engine market since World War 2 but had been only marginally successful in getting into the commercial market in the 1950's and 1960's. In 1971 GE and Safran (formerly Snecma) of France formed a joint venture to pursue the commercial jet engine market. GE brought core engine technology to the joint venture and Safran brought compressor-stage fan technology. The CFM engines, as the joint venture was named struggled to enter the commercial market, receiving their first orders in 1979 for their CFM56-2 turbofan engine.

GE really wanted to replace the P&W JT8D-7 engines on the 737-200 with CFM56-3 engines on the 737-300, 400, 500 series that Boeing was developing. The problem was that the CFM56-3 turbofan design had a larger air intake because of the fan, and Boeing did not want to change the basic fuselage/wing design which meant that the larger engine would not meet ground clearance requirements.

By redesigning the engine attachment to the wing and the shape of the engine air intake cowling the CFM56-3 engine could meet the ground clearance (barely) and GE could propose their engine for the Boeing 737-300, 400, 500 series. Ever wondered why you see 737 engines where the bottom of the in-

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Model	Introduced	Produced	Passengers	Engine			Range
				Model	Manufacturer	Thrust	
737-100	1967	30	85-130	JT8D-7	P&W	14,000 LBF	1,720 Nm
737-200	1968	1,114	136	JT8D-7	P&W	16,400 LBF	2,300 Nm
737-300, 400, 500	1984	1,988	136-188	CFM56-3	GE	23,500 LBF	2,950 Nm
737-600, 700, 800, 900	1998	6,900 to date	149-189	CFM56-7	GE	32,900 LBF	3,050 Nm
737-900ER	2005		220	LEAP-1B	GE	27,000 LBF	3,205 Nm
737-MAX Series	2017	837 to date	138-204	LEAP-1B27	GE	28,690 LBF	3,215-3,285 Nm
P&W - Pratt & Whitney							
GE - includes CFM International and Safran joint ventures							

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take cowling is flattened? That's why.

So, GE beat Pratt&Whitney on price/performance, won the competition, and has provided all the jet engines, over 9,500 to date, for all Boeing 737 series aircraft since 1984!

The CFM-56 engines were used through the Boeing 737-600, 700, 800, 900 series with the higher efficiency LEAP-1B and LEAP-1B27 engines being used on the 737-900ER and 737-MAX Models. The 737-MAX series of aircraft is certainly a little different than 1967's 737-100.

More Photos From The Archives

We've run across more photos from the archives of the GE Photo Lab and they appear on the following pages. Want a copy of the image file for any particular photo? E-mail the newsletter editor.

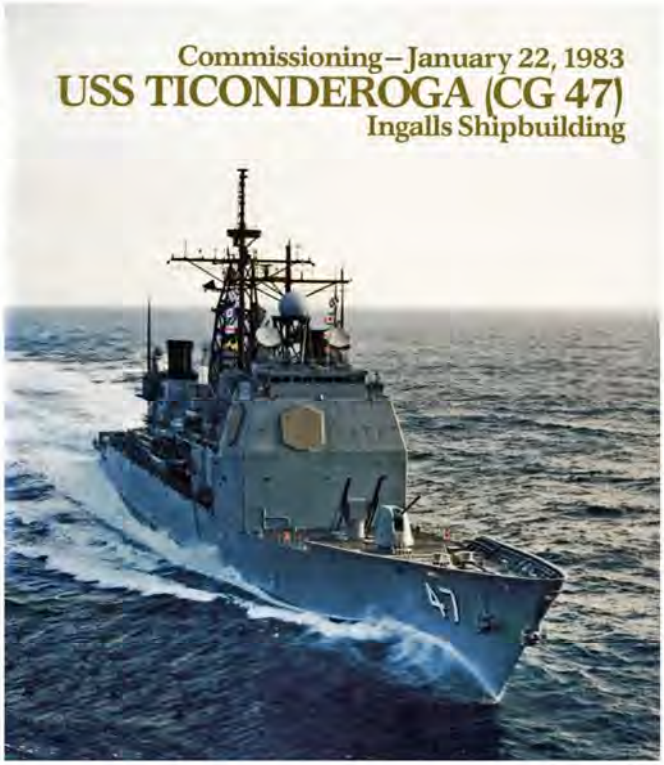
Syracuse Elfun Society Board of Directors

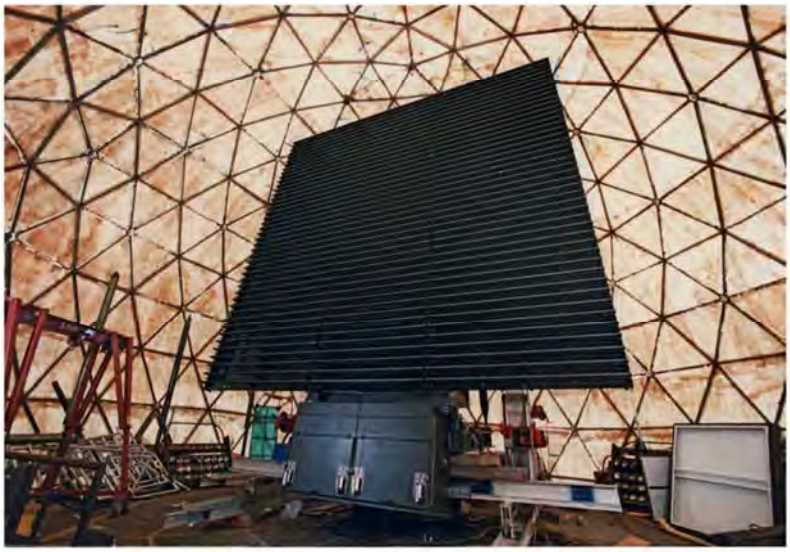
SyracuseElfunSociety.org

Position	Individual	E-mail	Phone
Chairperson	Carl Chermak	CarlChermak@gmail.com	315-637-0380
Treasurer	Joe Kinzel	jakinzel@msn.com	315-303-7347
Webmaster/DB	Bob Ruth	RuthRob@msn.com	315-451-0685
Communications	Steve Auyer	Steve.Auyer@gmail.com	315-451-7359
Seniors	Fred Wenthen	Fred.Wenthen@gmail.com	private
Social Events	Cindy Chermak	Chermak@msn.com	315-637-0380
Work Projects	Marv Hahn	MarvH@twcny.rr.com	315-699-2621
At Large	open		
At Large	Ray Terry	raygterry@gmail.com	315-677-3008
At Large	Nick Vaccaro	nvaccaro@twcny.rr.com	315-457-3632
At Large	Pete Scalzo	none	315-457-0598

1976 - A 25-inch GE color television set on one of the assembly lines in Electronics Park Building 5. This top-of-the-line set used the "YM" chassis which featured modular solid-state design, in-line gun picture tube with black matrix screen, Automatic "Color Monitor" system, Cable-Ready 72-ohm VHF antenna input, and illuminated channel numbers.

January 22, 1983 - First CG-47 Commissioned. CG-47 Ticonderoga-class guided-missile cruisers are multi-role warships. Their Mk 41 VLS can launch Tomahawk cruise missiles to strike strategic or tactical targets, or fire long-range antiaircraft Standard missiles for defense against aircraft or anti-ship missiles. The **AN/SQQ-89(V)** Sonar Suite includes the **AN/SQS-53** active sonar, and **AN/SQR-19** towed array sonar which are both produced in Syracuse. The DDG-51 Burke Class incorporated many lessons learned from the CG-47 Ticonderoga-class. The CG-47 cruisers were becoming too expensive to continue building, and were too difficult to upgrade. The DDG-51's design includes what is now better known as stealth technology, which improves the ship's ability to evade anti-ship missiles. She also uses a slightly downgraded version of the Aegis combat system, which allows for launching, tracking, and evading missiles simultaneously. Her all-steel construction provides good protection for her superstructure, while her Collective Protection System allows her to operate in environments contaminated by chemical, biological, or radiological materials. Her AN/**SQQ-89(V)** Sonar Suite includes the **AN/SQS-53** active sonar, and **AN/SQR-19** towed array sonar produced in Syracuse.





January 24, 1986 - General Electric Solid-State B3D Radar - In 1975 a need was identified for a lower cost, fixed site version of the **TPS-59** solid-state radar. GE developed the **GE-592** ("592" supposedly meaning that it had twice the capability of the TPS-59) radar to meet these needs. In 1976 Belgium issued a request-for-proposal for a solid-state air defence radar. GE proposed it's 592 design, won the contract, and shipped the radar, now designated the "**B3D**" in 1979.

November 2, 1986 - GE employees leaving work at Electronics Park. The west (Manufacturing) end of Building 5 is in the background.

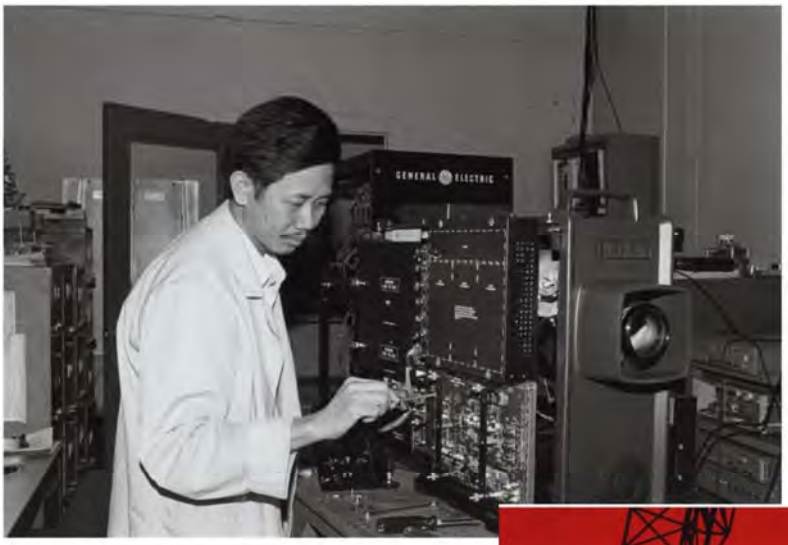
November 14, 1986 - GE's **Talaria Projector** in final assembly at Electronics Park.

November 16, 1987 - "*Cleophus Durden, foreground, an employee of GE's Radar Systems Department, checks and inspects a box of cables for a* ***Peace Shield Radar*** *prior to shipment at the Farrell Road Plant.*" The Peace Shield Radars played a key role when Iraq invaded Kuwait in 1991.

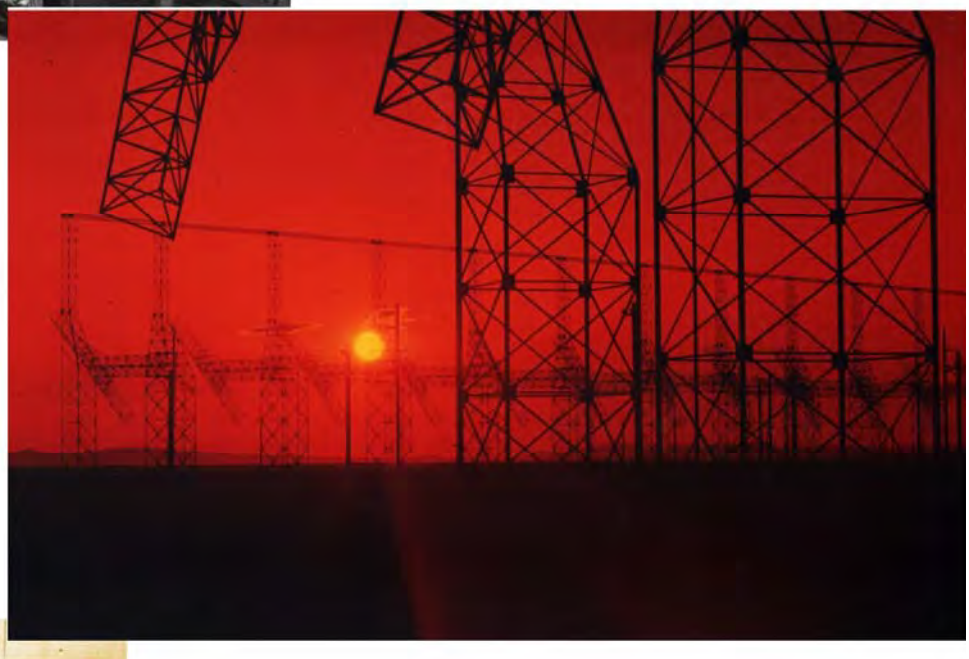
January 19, 1988 - Final assembly of the **FPS-117** Central Array Enclosure in the high bay assembly area of Building 5 at Electronics Park. The field-replaceable, solid-state row power supplies, row transmitters and row receivers that made the system so reliable are being installed in the enclosure.

June 14, 1988 - "*GE has updated and modernized offices at the Electronics Park and Court Street facilities. Here, Steven Piczkur, Douglas Angers and Chris Campbell are shown in one of the new offices at the Court Street facility*".

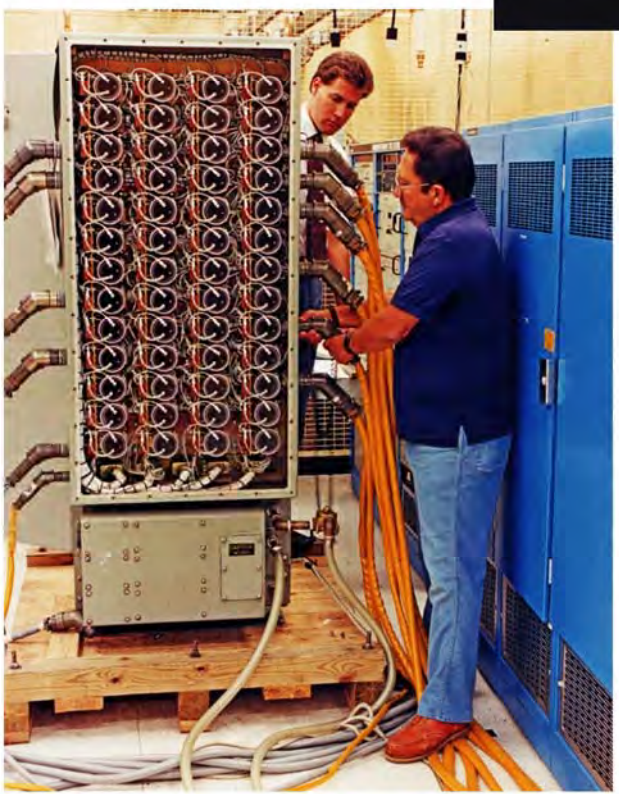
July 25, 1988 - Final assembly of a control console in the high bay assembly area of Building 5 at Electronics Park. The photo does not identify the equipment the console is used in. From the dark color of the cabinet it is likely that it is for an Air Force program as cabinets for Navy programs were the "standard" gray color.



November 23, 1988 - "*The final circuit card is being assembled into a GE **Talaria Projector** at Electronics Park in Syracuse, N. Y*".



June 5, 1989 - **Over The Horizon** (OTH) Radar array at sunset.



September 20, 1989 - One of the transmitter cabinets used in the **AN/SQS-53C** Sonar System undergoes test and checkout at General Electric's Farrell Road Plant building 2. The bow-mounted sonar array has 576 transducers, and the 576 power amplifiers to drive these transducers are mounted in multiple cabinets.

December 12, 1989 - *"Bench work operator Phillip Avery fabricates precision parts in the Aerospace Operations Division's machine shop at the Farrell Road Plant."*

April 26, 1990 - General Electric workers leaving Farrell Road Building 2 at the end of the 3:30pm shift.

September 30, 1990 - Aerial view of General Electric plant in Liverpool, NY. Buildings on the right hand side (front to back) are Building 7, Building 6 and Building 5. Building 10, the Power House, is at the upper left hand corner of the photo.

December 13, 1990 - After several years of disappointing performance in Syracuse's Ocean Radar and Sensor Systems organization, it was announced on December 13, 1990 that Thomas A Corcoran had been appointed Vice President and General Manager of OR&SS, and Syracuse GE Area Executive. This is a characteristic photo of Tom as he explained to Syracuse personnel how things are "...going to change for the better ….. or else..."

January 25, 1991 - On August 2, 1990 the Iraqi Army invaded and occupied Kuwait. From August 2, 1990 to February 28, 1991 **Operation Desert Shield** built up an international force of troops from 35 nations to defend Saudi Arabia and prepare for the second phase of the war, **Operation Desert Storm**, from January 17, 1991 to February 28, 1991. Nick Speno was employed by General Electric as a field service engineer during this period, installing radar systems in Saudi Arabia. Nick was evacuated from Saudi Arabia in January of 1991, returning to Syracuse on January 25, 1991 when this photo was taken at Hancock Field in Syracuse. "*General Electric worker just returned from Saudi Arabia, Nick Speno of Auburn is hugged by his daughter Janet Bodner(r) and surrounded by his grandchildren, from left; Matthew, 7, Michael, 9, and Michele, 8, Gauithier (looking toward camera) upon his arrival from Saudi Arabia at Hancock International Airport. He and other GE workers arrived on a chartered jet Friday morning.*"

September 18, 1991 - General Electric honors **Operation Desert Storm** vets who work for GE in ceremonies at GE's Electronics Park facility in Syracuse, NY.

September 17, 1991 - "*Erskine Clinton is honored with 10 shares of GE stock at festivities honoring* ***Desert Storm*** *veterans. At left is his wife Cynthia, both of Liverpool."*

1993 - Martin Marietta employee Jim Galloway performs tests on a sonar transducer at manufacturing facilities at Electronics Park, Town of Salina. The device being tested is one of the 576 sonar transducers used in each of the **AN/SQS-53C** sonar systems. The transducers are mounted in a cylindrical array, underwater on the bow of the Navy ship. The device in the blue box the transducer is sitting on, simulates the load that the transducer will see when underwater.

1993 - "*Martin Marietta team works on the sophisticated* ***AN/BSY-2 Submarine Combat System*** *at special facilities for the $1.8 billion program in Building 7 of Electronics Park, Town of Salina."*