

Grant Amateur Radio



Issue 6

Newsletter

June/July, 1999

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July 1,
7:00 p.m.



1999 GARC Officers

Pres.	Hal	KB8SUM
V.P.	Gordy	W8YGW
Sec	Al	WB8UJM
Treas	Jutta	N1WJM

Birthday Corner

Steve	7/1	KC8FBI
Stephanie	7/1	KB8QOZ
Raymond	7/7	N8AGB
Derrick	7/9	KB8NZT
Jerry	7/15	KB8PVY
Karen	7/16	KB8QMV
Kenneth	7/21	KB8IYM
Arthur	7/31	KC8CXO

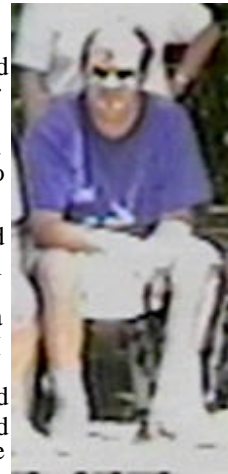
GARC MAY MEETING MINUTES

This would be the place that the minutes for the June meeting would be placed, that is if they had been received. I'm suspecting that this month they were written in invisible ink! Contact club secretary W8UJM for details.

K8RJ, Si lent Key

(N1DJS) Former club president and long time club member, John Pitcher passed away unexpectedly June 18th. He was 55 years old. He leaves behind a daughter, a son, one sister, and a radio club, that will forever miss him.

I did not know John as well as I should have, but the times I spent with him will be forever fondly cherished. His service and dedication to the club leaves a special void that no one else can fill. I had just recently spoke with him, where he renewed his club membership, and he had commented that he looked forward to renewed club service. He will be missed.



The Story of the DeBruce Grain Elevator Disaster of June 8, 1998.

(N0UJR) On June 8, 1998, at about 9:30 A.M., a massive explosion took place at the DeBruce Grain Company, of Haysville, Kansas (just outside Wichita). As a member of the FEMA National Urban Search and Rescue Team (USAR), based in Lincoln, Nebraska, I was sent as a part of the effort to aid in rescue of the trapped victims. I was one of two Communications Specialists activated with the team. We manage task force radio communications, PBX telephone system, and a variety of other tasks as needed.

The DeBruce elevator is the largest grain elevator in the world, fed by a single head house. There are 267 silos, arranged in three rows, each 120 feet tall, in a complex stretching over half

Editors Note N0UJR (our resident cartoonist) submitted this article to me that speaks of the importance of a disaster plan. As we develop our disaster plan for FEMA director, Jane Cahall, this article points out the disaster plan importance.

Man-Eating Chicken spotted at
GARC picnic

Area field day efforts successfull

GARC event calendar

Club by-laws

July minutes

MFJ PURCHASES HY-GAIN

MFJ Enterprises has acquired Hy-Gain, a well-known manufacturer of antennas, towers, and rotators. Hy-Gain was owned by Telex Communications of Lincoln, Nebraska.

The deal closed May 10, according to MFJ President Martin Jue, K5FLU, who declined to reveal the purchase price. MFJ planned to move the antenna manufacturing facility to

Mississippi and staff it with local employees. Jue said he anticipated production at the new site could begin within a few weeks.

"We bought everything--the whole deal," Jue said. "We're going to have to shift some things around to make room."

As it has done with other enterprises it's acquired, MFJ plans to keep the Hy-Gain name and operate the antenna manufacturer as a separate entity. Hy-Gain products will compete with MFJ's own line of antenna products, but Jue said the short-lived Ameritron antenna line would be discontinued in favor of the Hy-Gain line.

Former Cushcraft Production Manager Art Hambleton, K1ART, joined MFJ Enterprises last fall. Jue said Hambleton will be involved in the new Hy-Gain venture, but he was not sure in what capacity. Hambleton manned the Hy-Gain booth at the Dayton Hamvention last month.

Jue said Hy-Gain would immediately start selling the entire product line through the Amateur Radio dealer network. For the past year, Hy-Gain had sold its products factory-direct. MFJ said it expects there to be a "small transition period" as stock, parts, equipment, and production are moved to Starkville. As part of MFJ, Hy-Gain will continue its current product line and introduce several new ones--including two new verticals announced at Dayton.

Jue said customers can contact Hy-Gain

at 800-647-1800;

fax 601-323-6511;

<http://www.mfjenterprises.com>.

EASY OPERATION OVERSEAS NOW A REALITY FOR US HAMS

Operating in most of Europe and in some South American countries just got much easier for US hams. The FCC has implemented the European Conference of Postal and Telecommunications Administrations (CEPT) Recommendation T/R 61-01 that eliminates the need to obtain a special license or permit for US hams wishing to operate for brief visits to most European countries. In addition, the ARRL has begun issuing International Amateur Radio Permits to simplify operation by US hams in certain South American countries.

The FCC put the final pieces of the CEPT arrangement into place June 7 by issuing a Public Notice in English, German, and French that spells out the basic information about Amateur Radio operation in CEPT countries. To operate in a CEPT country, US hams only need a copy of the Notice, their original Amateur Radio document, and proof of US citizenship.

US hams holding any license class but Novice are eligible to operate in CEPT countries. A US citizen with a Technician ticket may be authorized privileges equivalent to a CEPT Class 2 (ie, VHF-only) license, while a US citizen holding a higher class license may be authorized CEPT Class 1 (ie, all amateur and amateur-satellite) privileges.

The authorization is for use of a portable or mobile station only, including stations set up at hotels or a camping site. Authorization is also granted for US hams to operate the stations of permanent licensees in host countries. The use of Amateur Radio aboard an aircraft is not allowed, however. To identify while overseas, US stations will use their assigned call signs preceded by the CEPT call sign prefix for the country or territory visited.

US stations operating in other countries must abide by the provisions of the ITU Radio Regulations as well as CEPT Recommendation T/R 61-01 and the regulations of the host

MORSE DEBATE MAKES PAGE 1 OF WALL STREET JOURNAL

Hams checking the prestigious Wall Street Journal for the latest business news and stock quotes June 2 also found some Amateur Radio news--smack in the middle of page 1 and above the fold. A story by Staff Reporter Lee Gomes headlined "TO HAM OPERATORS, MORSE CODE TEST IS LIKE LATIN EXAM; Does It Keep the Barbarians At Bay, or Is It Fueling The Decline of a Culture?" discusses the current code versus no-code debate in Amateur Radio.

"Morse Code is a dying language in the Digital Age, but it's still required reading for amateur radio buffs," Gomes' story begins. His report outlines the broad strokes of the controversy and the impending FCC streamlining that is expected to address future Morse code requirements for amateurs. It also quotes the FCC's Bill Cross, W3TN, as "the FCC's lead staff person on the question," and reports that the FCC "is contemplating relaxing the Morse Code requirement."

Gomes cites Bruce Perens, K6BP, of No Code International, who--in Gomes words--considers Morse code "an antiquated technology" and "a turnoff for young people." "Perens is in the minority," Gomes asserts. "Most licensees don't want any change in the requirement--especially since they have already passed the test themselves."

Taking the opposite viewpoint in Gomes' article is Nancy Kott, WZ8C, of FISTS, which Gomes describes as a "militant pro-Morse group." Gomes says Kott "all but accuses the no-coders of taking bribes from ham radio makers" and claims they want the code requirements dropped to attract more hams and sell more equipment.

Gomes reports that FISTS members fear a lot of bad, on-air behavior "without the screening provided by the Morse Code requirement." Perens, Gomes says, is not concerned about a "post-Morse ham world inhabited by barbarians." Perens points out for the article that applicants still will have to pass "rigorous tests" to get a ticket. Besides, Gomes quotes Perens as saying, "The riffraff have no reason to leave the Internet."

The article is silent on the issue of ITU regulations requiring a demonstration of Morse proficiency for HF operation and on the fact that a codeless class of Amateur Radio license already exists. And, at one point it refers to Morse code as "dits and duhs."

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a mile in length. The total capacity of the elevator is approximately 54 million bushels. The explosion is considered to be one of the worst grain dust explosions in history. All of the fatalities from grain elevator explosions in 1998 occurred in this one accident. 11 people were injured, and seven died in the explosion. Immediately after the explosion, it was believed that there were possibly 4 people trapped in the tunnels under the elevators.

This dust explosion was unusual in that it appeared to propagate through almost the entire complex, both in the tunnels below, and the structures across the top of the silos. It appeared that almost no part of the elevator was untouched by the explosion. Many of the silos had their tops blown out. A prime example of the force of the explosion was a heavy steel door which covered one of the tunnel entrances, approximately 7 feet by 7 feet, weighing about 600-800 pounds, which was missing. Initially rescue workers wondered where it had gone, until someone looked up...and saw that it appeared to be "shrink-wrapped" into the I beams of the gallery floor 120 feet straight up!

Ironically, a fire safety inspection was due just minutes before the explosion took place, at 10:00 A.M. This undoubtedly would have led to the injury or death of even more people, had the explosion taken place a few minutes later. There were stories of other narrow escapes as well, such as that of a truck driver, who was loading grain, and at the instant of the explosion, saw a 500 pound motor fly past his windshield. All the glass was blown out of the truck cab, but he escaped with minor cuts and bruises.

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"Harold!!! What are you doing wasting money on more USELESS radio equipment!!!"

SCIENTIFIC "FIREWORKS DISPLAY" SET FOR JULY

NASA will set off its own Independence Day fireworks during a series of nighttime rocket launches from July 2 to 20, 1999. Designed to study "space weather" — the interaction of the solar wind with the Earth's magnetic field and atmosphere — the experiments will focus on improving our understanding of electrically charged atoms at the edge of space.

During the 19-day period, two suborbital rockets will be launched on each of two nights between 9:30 p.m. and 4 a.m. EDT from the

NASA Goddard Space Flight Center's Wallops Flight Facility, Wallops Island, VA.

Two of the experiment packages will release a chemical that will form large glowing clouds in space. These luminescent milky-white clouds should be visible to the naked eye for several hundred miles from the launch site, encompassing the mid-Atlantic region and portions of the northeastern and southeastern United States. The clouds should be visible for 10 to 20 minutes to the southeast of the launch site at about 70 degrees elevation (approximately three-quarters of the way between the horizon and the point of the sky that appears to be directly above an observer).

The chemical, trimethylaluminum, will be released in the ionosphere between 43 and 96 miles (69 to 154 kilometers) altitude. The harmless by-products will disperse across thousands of miles as they diffuse into the upper atmosphere. The experiments will take place in a region above the Earth that at first appears to be empty and very quiet. In fact, the Earth's upper atmosphere actually is bustling with activity. Here the solar wind (a fast-moving stream of particles emanating from the Sun), the Sun's magnetic field and Earth's magnetic field and atmosphere come together. Their interactions can create disturbances just above Earth's lower atmosphere.

These disturbances can affect radio, television and satellite communications. By better understanding these interactions in the ionosphere, scientists hope to gain information that will ultimately help improve the reliability of radio and satellite communications. The specific aim of these experiments is to explore metallic ion layers (regions of electrically charged particles) that exist about 60 miles (100 kilometers) above the Earth and to understand how their interactions with wind in the upper atmosphere create large electric fields and turbulence. The metallic ion layers are formed by material from meteors that have collided with the Earth's upper atmosphere.

Each mission will consist of a one-stage Black Brant V rocket and a two-stage Taurus-Orion rocket. The Black Brant V, which will carry instruments only, will be launched first. The Taurus-Orion, carrying the chemical package, will be launched approximately three minutes later.

The status of the launches can be found by calling the Wallops Flight Facility launch status line at (757) 824-2050 or on the Wallops web page at: <http://www.wff.nasa.gov>

Easy op continued from page 2

country. This means that US operators planning to operate in other countries must become familiar with that country's regulations and frequency allocations, paying special attention to regional differences.

Participating CEPT countries as of June 7 include Austria, Belgium, Bosnia-Herzegovina, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Hungary, Iceland, Ireland, Italy, Latvia, Liechtenstein, Lithuania, Luxembourg, Monaco, Netherlands, Norway, Portugal, Romania, Slovak Republic, Slovenia, Spain, Sweden, Switzerland, Turkey, and the United Kingdom. For updates, visit the ERO Web site, <http://www.ero.dk> and click on "Implementation," then "Decision/Recommendation," then "T/R-61-01".

The ARRL has begun issuing the International Amateur Radio Permit (IARP) that allows US amateurs to operate from Argentina, Brazil, Peru, Uruguay, and Venezuela without having to obtain a special license (the US and Canada also are CITEL signatories). The IARP is valid in any country that is a signatory to the CITEL Amateur Convention.

The Class 1 IARP--available to Tech Plus and higher class licensees--requires knowledge of Morse code and carries all operating privileges. The Class 2 IARP--equivalent to the US Technician ticket--does not require knowledge of Morse code and carries all privileges above 30 MHz. An IARP is not a license, but it certifies the existence of a license.

Complete information on CEPT and IARP operation, including an IARP application form and a copy of the FCC Public Notice on CEPT, is available from the International Operating page on ARRLWeb, <http://www.arrl.org/field/regulations/io/>.

Earlier this year, the FCC simplified operation in the US by hams from other countries. Alien visitors to the US holding an amateur license issued by their home country may operate here without submitting any FCC paperwork--provided there's a reciprocal operating agreement in effect between the two countries.

The new procedures affect operation only in participating CEPT (European) and CITEL (Central and South American) countries. They do not change the procedures for US hams wishing to operate overseas in countries that are not CEPT participants or CITEL Amateur Convention signatories. Information on operation from these countries also is available on the pages of ARRLWeb.

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After local authorities worked ferociously for hours to try and reach the remaining four victims in the tunnels, it became obvious that conventional rescue techniques were not working. Most of the doors that allow grain to be emptied out the bottom of the silos, were blown off by the explosion, and the tunnels had largely filled with grain. As the grain was removed, more poured in out of the silos, and reaching the victims was impossible. A decision was made to call in a FEMA USAR team to assist in the rescue. The closest was in Lincoln, Nebraska. The team was paged at 4:00 P.M.

After being paged, I called in to see if it was a drill. It was n't. After about 4 hours of rapid equipment loading, the 64 member team departed on two charter buses, with two semi-trucks full of equipment. Included in the team are specialists in many areas, such as paramedics, technical rescue specialists, search dog handlers, physicians, structural engineers, logisticians, technical information specialists, and communications specialists. The team is sponsored by the Lincoln Nebraska Fire Department, and has many members that are also full time firefighters.

We arrived at the police check point about a mile from the scene at about 1:30 A.M. As we approached the site, there was a concentrated area of illumination, surrounded by the largest collection of emergency vehicles I have ever seen. There was the smell of smoke in the air

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from the dozens of fires still burning in the silos, and the dark silhouette of the elevator complex was just to the east. Many exhausted rescue workers were sleeping out in the open on cots.

We immediately began unloading our equipment, and setting up base camp on a large concrete slab about 100 yards from the elevator. As the camp quickly began to take shape, we issued radios to all team members. The radios are Bendix/King 5-watt, narrow band portables. They come with speaker/mics. They operate in the frequency range of 402-420 Mhz. We had one assigned simplex frequency, and one repeater pair. Initially the radios were all used in simplex mode, until the portable repeater could be set up.

Much to our dismay, we found that the portable repeater had somehow been left behind. We quickly improvised using two handheld radios, a gel-cel 12v battery, two clamshell battery cases, and a spare repeater controller box. We soldered pig tails on the clamshell battery packs, and connected power to the unit. It worked perfectly.

It was only a 5 watt output repeater, but for a two mile radius, it did most of what we needed. A shipping container made a makeshift enclosure. We used a pair of portable masts to mount receive and transmit yagi antennas. We selected a site as close as possible to the rescue operations site, and also in sight of the base camp. The massive steel and concrete structures of the elevator created some real problems with getting signals everywhere we needed. The crews working in the tunnels were virtually unable to make the repeater, so they operated simplex within their groups, and used a man at each tunnel entrance as a relay to the repeater. Even so, the effectiveness of the communications system was not as optimum as we would have liked.

Besides the radio system, a phone system had to be set up and maintained. We had a portable phone switch, which was connected to the outside phone network on the first day. Two satellite cell phones were also set up in the Command Tent. All power was supplied by our portable generators.

Once our main task of setting up all the communications equipment was taken care of, we also assisted in other odd jobs such as shuttling personnel and materials, being messengers, changing hundreds of handheld radio batteries at each shift change, and whatever else needed done. We worked in alternating 12 hour shifts, with half the crew on duty at any time. Often we all continued working, well after our shifts were over, especially if there were any tasks still needing completion. Many people worked straight through the first 24 hours, myself included.

The first problem to overcome was finding a way to clear the tunnels under the silos, to reach victims who might be trapped in voids. Within a short time, our rescue crews had devised a clever method of dealing with the grain pouring in out of the silos. A heavy plywood sheet was pushed into the grain pile, just below the silo opening. Then heavy shoring was installed, and the board jacked up against the silo opening. This stopped the grain from pouring in, and allowed vacuum trucks to remove the grain with large hoses. Access was gained and the tunnels cleared a few feet at a time. In addition to the grain, there were large amounts of twisted metal in the tunnels which had to be removed. This was what remained of the silo doors and conveyor belt framework. More evidence of the power of the blast.

In walking around the silo complex, I noticed that almost every silo had huge cracks, as though the walls had "flexed" during the explosion. There was some concern over some of the structure collapsing, so "crack sensors" were applied to the cracks in the area where the extrication operations were taking place. These devices sense minute changes in the cracks, and give an audible warning if change is detected.

After the shoring technique was perfected, and significant progress was made clearing the tunnels, partial remains of one elevator worker was uncovered, and later two more. Fires still burned in numerous silos for days, as it was feared that trying to spray them down with water

Continued from Grain Disaster Page 7

might stir up more dust and cause more explosions. Since they were contained in flameproof concrete containers, they were allowed to burn. It wasn't until weeks later that the fires were actually all extinguished.

At the time I remember feeling like I had taken over someone else's life. The sudden and unexpected shift from normal life to living at a disaster scene. It was also strange to see news reports on CNN about something I was personally involved in. Reporters hung out just outside the police check points. Soon we realized that the media had found our com frequencies, and were reporting developments faster than we could inform the local authorities, which was creating some problems. Our crews then started using codes over the radios to prevent information leaks. It wasn't that we needed to conceal information, it was that we needed to inform the proper local authorities first. We didn't want the families of victims hearing that they had lost a family member from the media first, and so on. Our use of radio codes did not stop the information leak for long, as apparently later one of the local fire rescue crew members had brought in a cell phone and was reporting information without authorization.

There was one little bit of humor that took place, as we were going through the police checkpoints from time to time running errands. The local Sheriffs cars had big lettering on the sides of their cars which spelled out "SHERIFF". Whenever a deputy would stand next to the car with the door open, the "S" went out of sight, and the letters then spelled "HERIFF". I couldn't resist pulling up to a deputy and saying "Hey, what's a HERIFF?" He looked puzzled for a moment, then looked at his car, and burst out laughing.

Rescue operations had to be halted twice due to severe weather. At one point we were under a tornado watch. The main concern was the hazard of debris blowing off the tops of the silos, and raining down on rescue crews. We did also have two shoring collapses, one of which trapped a rescue worker for a short time, but he was not injured. Strangely, the very same worker was accidentally struck on the head by a falling pipe on the last day. He was knocked unconscious for a short time, and was taken to the hospital, but was treated and released the same day. His helmet saved him.

The USAR team continued its efforts to find live victims for a total of six and a half days. With the overwhelming evidence that the blast was certainly and instantly fatal to all occupants of the tunnels, the decision was made that the time had come to cease operations. The fourth victim remained unfound until six weeks after our mission ended.

In the end, our communications system did its job. There were times when radio communications were not as consistent as we would have liked. As a result we received funding for an elaborate new set of radio equipment, including two 50 watt portable repeaters, a 50w UHF base station, a 50 watt VHF base station, solar panels for remote charging of repeater batteries, new low loss coaxial cabling, new antennas, and we also have two HF radios on order. More communication enhancements are also planned for the future.

In spite of our massive effort, no lives were saved, but at least the families of the victims had no more doubts as to the fate of their loved ones. Our efforts were successful in that there was closure for the families of the victims, and we completed our mission and returned home, with no rescue worker deaths or serious injuries.

According to one recent article, the ignition source of the blast was believed to be a failed conveyor belt bearing...one of 12,000. OSHA has proposed a 1.7 million dollar fine against the DeBruce Grain Company for gross safety violations. I was told by a Wichita fireman that on a safety inspection just three months previously, he had felt very fearful to even be in the elevator, because of the extreme amount of dust contamination, but the inspection was only for training purposes, and that they had no jurisdiction at this elevator.

Grant Amateur Radio Club
Post Office Box 192
Georgetown, OH 45121-1410

Mail to:

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