



**Chapter 24, Inc.
Madison, Wisconsin**

Society of Broadcast Engineers

July 1999

TELECOM INDUSTRY NEWS

By Neal McLain

OVERLAYS, AGAIN

I sometimes think I spend too much time in these articles discussing telephone numbering issues. But based on the feedback I've been getting from readers, telephone numbering seems to be an issue that readers find interesting. So here goes another one!

ILLINOIS ORDERS CUB "NUMBER POOLING" PLAN

The Illinois Commerce Commission (ICC) has ordered the implementation of "number pooling" in the Chicago area. This plan was proposed by the Citizens Utility Board (CUB), and was adopted by the ICC on June 30, 1999.

Under this plan, new telephone numbers are to be assigned in 1000-number blocks rather than 10,000 number blocks. Thus, for example, the 847-262-1XXX block could be assigned to a landline telephone carrier, the 847-262-2XXX block could be assigned to a paging company and 847-262-3XXX could be assigned to a cellular company.

This plan also makes a further requirement: all telephone companies presently holding unused 1000-number blocks must "donate" them back to the common number pool for reassignment to other carriers.

This plan has been successfully tested in NPA 847 (northern suburbs) for the past several months. The ICC's order extends the plan to the Chicago metro area's other four area codes: 312, 630, 708, and 773.

This plan is similar to the "number conservation" plan we discussed in the
(continued on page 4)

Next Meeting:

**Wednesday,
July 21, 1999**

**Annual SBE Chapter
24 Picnic**

**Mendota County
Park
Highway M in
Middleton**

5:00pm to 9:00pm

See You There!

(see map on inside)

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SBE's Short Circuits - July 1999

**By John L. Poray, CAE,
SBE Executive Director**

SBE, NFL FORGE COOPERATIVE EFFORT TO FREQUENCY COORDINATE ALL NFL GAMES

The Society of Broadcast Engineers and the National Football League have announced a cooperative effort to coordinate frequency use for all regular season and post-season NFL games beginning with the 1999 season.

SBE coordinators have, for many years, coordinated NFL regular season and playoff games, working with the

various networks, local stations and other users. The ever growing media demands of NFL games along with the enormity of playoff games, especially the Super Bowl, require a massive effort on the part of these local volunteer coordinators to coordinate the hundreds of requests for frequencies. Coordination is essential, not only to keep the users of these frequencies from interfering with each other but also with those of local broadcasters. This cooperative effort between SBE and the NFL will provide all licensed users of frequencies at stadiums around the country as interference free an environment as possible.

Through its local chapters and frequency coordinators, SBE will appoint a Game Day Frequency Coordinator for each team's home games. The Game Day Coordinator will be equipped by the NFL with a laptop computer, scanner, press box space and a telephone. The NFL will also provide database software and contact information for each team's personnel and local and network media. Event coordinators will work as volunteers. They will be offered \$150 reimbursement for out-of-pocket expenses. Should the coordinator elect not to accept the reimbursement, the

(continued on page 7)

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June Business Meeting Minutes

Chapter 24 of the Society of Broadcast Engineers met on Tuesday, June 22, 1998, at Babes Grill & Bar in Madison, Wisconsin. There were 12 persons in attendance, including 11 members (10 certified). The meeting was chaired by Chapter 24 Chair Kevin Ruppert.

Call to order: 6:59 pm. On unanimous voice vote, the minutes of the May meeting were approved as published in the June Newsletter.

Treasurer's Report (reported by Ruppert in Stan Scharch's absence): the Chapter balance is in the black.

Membership report: no report.

Newsletter Editor's Report (reported by Newsletter Editor Mike Norton): The deadline for the July Newsletter is midnight 7/2/98; the folding party is 5:30 pm 7/7/99 at WKOW-TV.

Sustaining Membership Report (reported by Fred Sperry): Recent renewals include Roscor Wisconsin, Video Images, and Token Creek Productions. In addition, sustaining member Skyline Communications has recently changed its name to SCI Consulting. The Chapter now has 25 sustaining members.

Program Committee: The July meeting will be the Chapter's annual picnic, on Wednesday July 21, after work, at Mendota Park.

Certification and Education (reported by Jim Hermanson): The next local examinations will take place August 18-28; the application deadline is July 5.

Frequency Coordination Report (reported by Tom Smith): WMSN (Madison) has coordinated a new 23 GHz link and WWRS-TV (Mayville) has coordinated an STL. In addition, Tom presented an extensive report about new FCC rulemakings.

National Liaison Report (reported by Leonard Charles): (1) Membership renewals, still \$55.00 per year, were due April 1. (2) The deadline for the annual awards competition is July 1.

Old Business: none.

New Business: (1) Ruppert reported that the annual rebate check had been received from the national office. (2) Ruppert announced that Vicki Kipp had agreed to serve as the Chapter's Special Events Chair. (3) Neal McLain announced he was organizing a meeting of the *Technical Club of Madison* at the Madison Community Tower on September 8, 1999, and needed a volunteer to conduct a tour of the grounds. Leonard Charles indicated that he would be able to provide assistance.

The business meeting was adjourned at 7:45 pm. There was no subsequent program.

Submitted by Neal McLain, Acting Secretary

SBE Listserver Info

Chapter 24 members are invited to join the chapter listserver. To subscribe, send an e-mail message to the following address: majordomo@broadcast.net

In the body of e-mail message type: subscribe msnbsbe. (The subject line can be left blank.) Instructions and a confirmation message will be sent to you. To post to the list, address you e-mail to: msnbsbe@broadcast.net

Also, join the Wisconsin SBE Chapters listserver. To subscribe, send e-mail to: majordomo@broadcast.net
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Membership Report

The National SBE office reports that Chapter 24 currently has 71 members listed. Of those, 41 are certified.

Chapter 24 mailed out 129 newsletters in July to members, sustaining members, and general managers.

Thanks to WISC-TV for maintaining the web server for the Chapter 24 Web page!

Thanks to WKOW-TV for providing copying and folding facilities for the Chapter 24 newsletter!



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AMATEUR RADIO NEWS

By Tom Weeden, WJ9H

• Wisconsin's Near Space Sciences is scheduled to launch a high-altitude balloon carrying amateur radio gear on July 17. NSS plans to equip the balloon with a voice repeater, GPS positioning, and live video camera. The downlink frequency will be 439.25 MHz in the 70 cm band, which corresponds to cable channel 60. The launch will take place early in the morning from about 50 miles northwest of Madison, and the radio equipment on board should have a range of several hundred miles.

• The next Space Amateur Radio EXperiment mission—set to launch July 20 aboard space shuttle Columbia—will field test a digital signal processing box NASA is looking at to improve the quality of shuttle communications audio. Students at five schools—in Texas, Rhode Island, Virginia, and Florida—are on the list to talk to the STS-93 crew via Amateur Radio, and the digital signal processing (DSP) experiment will determine if the intelligibility of the amateur communications can be improved. NASA will later determine if DSP can be successfully implemented for actual mission communications. The STS-93 Mission Commander is Eileen Collins, KD5EDS.

This shuttle mission, which will deploy the \$1.5 billion Chandra X-ray observatory into orbit, marks the first for a female commander. Other hams on board include Mission Specialists Michel Tognini, KD5EJZ, and Catherine Coleman, KC5ZTH.

• The FCC has discontinued its telephone line for amateur radio complaints, asking that hams send enforcement complaints by e-mail or US mail only. The new enforcement e-mail address is fccham@fcc.gov.

(Excerpts from July 1999 "QST" Magazine and "The ARRL Letter")

SBE CHAPTER OF THE AIR:

HamNet meets the second Sunday of each month at 0000 GMT on 14.205 MHz. Hal Hostetler WA7BGX is the Control Station. Any amateur operator is welcome and encouraged to participate.

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Telecom Industry News (continued)

April Newsletter. As we noted in that issue, this plan poses a problem: the NPA-NXX-XXXX number format is embedded into just about every one of the thousands of software programs that run telephone exchanges. These programs perform their routing and billing functions on the basis of the NPA-NXX combination; thus, they assume that every NPA-NXX block (10,000 numbers) identifies a specific telephone exchange. These programs are not capable of performing these functions correctly if two or more telephone exchanges share the same block of 10,000 telephone numbers. In other words, they cannot resolve routing and billing functions down to the 1000-number level.

How, then, can the State of Illinois impose a number-pooling plan that imposes routing and billing requirements that the rest of the world's telephone exchanges can't accommodate?

Here's the idea:

- **BILLING.** The plan requires that all number assignments within one NPA-NXX block must be in the same "rate center" so that distance-based billing functions are not affected. This requirement means that all of the physical telephone exchanges that share one NPA-NXX combination must be located within the same geographic area. Thus, all calls to any number within the NPA-NXX are billed at the same rate.

- **ROUTING.** The plan establishes a procedure whereby some neutral party would maintain a database of information about NPA-NXX combinations which have been split into 1000-number blocks. Each affected carrier would then download this information into its own routing

and billing software. From this information, each carrier would be able to reroute incoming calls to the proper carrier.

The identity of the "neutral party" that maintains the database is still unresolved.

This number-pooling plan was adopted at the behest of the Citizens Utility Board in an effort to forestall the need for other types of area code relief. It's expected to last somewhere between two years and indefinitely, depending on whose report you read:

- According to the *Chicago Sun-Times*, "Everyone who lives in the Chicago region and uses the telephone was spared a good deal of aggravation Wednesday when state regulators blocked any new area codes and 11-digit dialing for at least a couple of years." [1]

- According to the Citizens Utility board, "If the industry immediately complies with the number conservation plan, the need for new area codes in the Chicago metropolitan region could be delayed for several years and even averted permanently." [2]

So what happens if/when the number pooling plan has run its course, and area-code relief is again needed?

Two years ago, before the CUB first petitioned the ICC to consider number-pooling, the ICC had already ruled in favor of overlays. Indeed, it had even ordered one overlay: 224 was supposed to have been overlaid on 847.

The ICC had also stated that local calls within the overlay would require 11 digits rather than 10. Users would have to dial 1+NPA-NXX-XXXX for all calls, both local and toll.

And that raises another question: why 11 digits instead just 10? Only two states make this requirement: California and Illinois. Every other state which has implemented overlays has ordered 10-digit dialing for local calls; 11-digit dialing (1+NPA-NXX-XXXX) is required only for toll calls.

It's easy to understand why users don't like this plan: there's no way to distinguish a local call from a toll call. As the *Chicago Sun-Times* noted, "Consumers find them confusing, if only because it is difficult to know when one is making a long distance call."

The ICC does not address this question. Indeed, this issue is not even mentioned anywhere in the ICC's 19-page order, or in any of the CUB filings which led up to it.

PENDING FCC ACTIONS

The ICC might not have to decide these questions if the FCC changes its rules. The FCC recently issued a *Notice of Proposed Rulemaking* addressing a wide range of numbering issues. [3] This NPRM addresses, among other things, the following issues:

- **Mandatory nationwide number-pooling.** The FCC notes the success of the Illinois number-pooling experiment, and requests comment on nationwide implementation: "number pooling allows service providers in a given area to receive numbers in smaller blocks. One form of number pooling is thousands-block pooling, which allows numbers to be apportioned in blocks of 1,000, which may significantly increase the efficiency with which numbers are used. In Illinois, a number pooling test [in NPA 847] saved approximately 1,370,000 telephone numbers."

(continued on next page)

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Telecom Industry News (continued)

• **Local call dialing.** The Commission seeks comment on "other numbering resource optimization measures, including rate center consolidation and mandatory ten-digit dialing." Moreover, it notes that "if ten-digit dialing were adopted as part of a national numbering optimization policy, customer confusion resulting from inconsistencies in dialing patterns from one area to another would be eliminated." It does not, however, specifically address the question of 11-digit local-call dialing proposed by California and Illinois.

• **Alternative area code relief measures.** The Commission seems willing to take another look at its prohibition against "service-specific" overlays. As we noted in the April *Newsletter*, this issue always comes up in area code relief proceedings: if the wireless companies are using up all the numbers, why not put *them* in their own area code? In its 1995 *Ameritech* decision (ruling on Ameritech's proposed overlay of 630 on 312 and 708 in the Chicago area), the FCC decided that overlays must be "competitively neutral": all companies — cellular, paging, PCS, and landline — must draw from the same pool of numbers without regard to area code; overlays that discriminate against specific types of service are prohibited. Several state commissions have protested this rule, and the three states (California, Connecticut, and Massachusetts) have filed formal petitions for waivers.

Comments on this NPRM are due July 30, 1999; reply comments are due August 30, 1999.

DO WE STILL NEED THE "N" IN THE NXX CODE?

This happens to be my pet question.

Recall the format of the North American Telephone Number:

NPA-NXX-XXXX

where the N in the NXX code must be in the range 2-9, but can't be 0 or 1. In areas with seven-digit local-call dialing, this restriction is necessary in order to avoid conflicts with initial 0 (operator) and initial 1 (toll and special codes).

But what about areas with 10-digit local call dialing? Could we eliminate this restriction? In other words, could we redefine the number format to be:

NPA-XXX-XXXX

If we could do this, such combinations as 303-012-4567 and 720-123-5678 would be valid numbers. On the face of it, this plan would increase the supply of available numbers by 25%.

Even the FCC thinks this might be possible. In its NPRM it notes, "mandatory ten-digit dialing works as a numbering optimization measure by freeing up more numbering resources for use, through the reclamation of protected codes, and potentially through permitting the use of either "0" or "1" as the first digit of an NXX code (the fourth, or "D" digit, of a ten-digit telephone number)."

I posted this question on the TELECOM DIGEST list. [4] The list moderator, Patrick Townson, answered as follows:

"At the present time, many of those three-digit combinations as per your examples are used. They are non-dialable, of course, for billing purposes only. Things like 'non-subscriber calling cards' from AT&T (calling cards issued where there is no specific telephone

number to relate it to), tie-line circuits between PBXs, the older style 800 number which had its termination on a circuit of its own not related to any specific seven-digit number as most are today, etc. Many of them are also dialable by telephone operators only as a way to reach the 'Inward' operator in some other city.

"A miscellaneous billing account in Chicago for example might be something like 312-173-2901. Like an actual, dialable prefix, some of those non-dialable 'billing purposes only' three digit combinations are assigned to local telco, some to AT&T, some to MCI, some to Sprint, etc so that clearinghouse functions can be handled with ease, with the area code and first three digits determining which telco is to get the associated charge or credit. If a toll ticket for example was to be billed to the number (example) 305-099-7234 then telco's back office could look at it and determine that the charge should go to Sprint to some miscellaneous account at their office in Miami.

"... The numbers you suggest are already 'known' by telco computers, its just that they are known to serve other things than actually connecting to a live customer. To assign them now as phone numbers would require all sorts of changes in things like the operator's routing tables for inward, billing functions, and whatever else. I suspect a lot of backoffice bureaucrats would be hostile. Besides, there are other ways to expand the supply of numbers, and telco would rather inconvenience the public with area code overlays and eleven digit dialing anytime in preference to having to be inconvenienced itself in its own internal functions. PAT]"

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FCC Rulemakings

Compiled By Tom Smith

FINAL RULEMAKINGS

**WT Docket No. 99-87, RM-9332,
RM-9405; DA 99-950
Revised Competitive Bidding
Authority**

The FCC has extended to deadline for comments on this docket by request of the Land Mobile Communication Council. Comments are now due on August 2, 1999 and replies are due on September 16, 1999.

This notice was adopted on May 19, 1999 and was published in the FEDERAL REGISTER on June 7, 1999 on page 30,288

**MM Docket No. 97-138, RM-8855,
RM-8856, RM-8857, RM-8858,
RM8872**

**Review of the Commission's
Rules Regarding the Main Studio
and Local Public Inspection Files
of Broadcast Television and Radio
Stations**

The FCC has modified its rules concerning studio location and access to the stations public file. The FCC also released an updated version of "The Public and Broadcasting" which is required to be in all stations public file. This document is available only via the FCC web site.

The new rules governing studio location now allows broadcasters to place their studios within either the principal community contour (city grade) of any station, of any service in its community of license or 25 miles from the reference coordinates of its community of license. It is up to the license to choose which limit to use.

The FCC, in conjunction with this rule change, also changes the rules concerning the location of the station's public file. The FCC now requires that the public file be placed at the main studio of a broadcast station. Previously, the public file was to be placed at some location in the city of license.

Because of the new rules allowing the public file to be located outside the city of license, the FCC will now require stations to make available information from the public file via telephone request and the stations will have to pay the postage for any request from a person living in the stations service area. This includes requests for "The Public and Broadcasting".

In another change to the public file rules, the FCC now requires that e-mails comments to stations be retain in the public file along with the previously required written letters that arrive via the Post Office.

This notice was adopted on May 25, 1999 and released on May 28, 1999.

PROPOSED RULEMAKINGS

**MM Docket No. 93-177, RM-7594
An Inquiry into the Commission's
Policies and Rules Regarding AM
Radio Service Directional Antenna
Performance Verification**

The FCC has proposed a complete overhaul of the rules concerning the measurement of directional antenna systems for AM stations. This is at the request of a number of engineering consultants who have claimed that with computer modeling of AM directional antennas fewer measurements are required to verify directional operation.

The FCC had previously conducted a Notice of Inquiry on this issue.

Among some of the changes, the FCC is proposing that the number of radials around the antenna and the number of measurement points on each of the radials be reduced. These measurements are taken when doing a proof of performance of the antenna system. Also, partial proofs will be simplified, base current meters can be eliminated when using an approved antenna monitor, and impedance measurements may be simplified. The FCC is also proposing changes concerning critical arrays, including the relaxation of the designation of some arrays as critical.

Most of the rules for AM directional systems are covered in this notice and anyone using or interested in AM antennas should be interested in reading this notice.

The notice was adopted on May 28, 1999 and released on June 11, 1999.

(From the FCC web site www.fcc.gov)

Telecom News (conclusion)

So it appears that the NXX code won't be changed to an XXX code.

[1] Robert Manor: "New area codes halted." Chicago Sun-Times, July 1, 1999.

[2] Press release, Illinois Citizens Utility Board, June 30, 1999.

[3] In the Matter of Numbering Resource Optimization, CC Docket No. 99-200, "NOTICE OF PROPOSED RULEMAKING." Adopted: May 27, 1999. Released: June 2, 1999

[4] TELECOM DIGEST <<http://hyperarchive.lcs.mit.edu/telecom-archives/>>

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Short Circuits (continued from page 1)

NFL will offer to make a \$150 donation to the local SBE chapter. The NFL will also provide each event coordinator with a booklet of standard event operating procedures authored by SBE. Also provided will be a parking pass and two All Area Passes will be provided the Game Day Frequency Coordinator for each game.

The Game Day Frequency Coordinator will work to coordinate frequencies with local and visiting team radio stations, the television networks, equipment suppliers and other users of spectrum within the stadium and its surrounding environment. Problems that cannot be resolved by mutual consent will be reported to the NFL and a cooperative effort will be made to find amicable solutions.

Rick Edwards, SBE's national Frequency Coordination Chairman, has already begun working with local SBE chapters and frequency coordinators to identify local event coordinators and a back up for each NFL city. Rick can be reached at Rick@cityscape-siting.com or at (954) 757-5757.

NATIONAL ELECTION BALLOTS TO BE MAILED BY AUGUST 3

Close to 5,000 voting members will receive ballots this year for the annual election of national officers and members of the Board of Directors. Ballots will be mailed to all voting

members in good standing no later than Tuesday, August 3. Voting members include Members, Fellow, Senior, Life, Sustaining and Honorary Members. Associate, Student and Youth Members are not eligible to vote. Ballots must be returned by mail or in person, and be received no later than 5:00 pm EST September 2. Ballots will be opened and counted beginning at approximately 6:30 pm that evening. A volunteer Board of Tellers from Chapter 25 in Indianapolis will tabulate the results.

A brief background of each candidate will be provided with the ballot along with the voting record of current members of the Board over the last year. If your address has recently changed, contact the SBE National Office to be sure our database is up to date and that you receive a ballot in the mail.

MONTHLY HAMnet BRINGS SBE TO REMOTE AREAS

At 8:00 pm EST, 0000 GMT, on the second Sunday of each month, SBE Chapter 73 takes the air. Hal Hostettler, WA7BGX, of Tucson, Arizona, is the control station for the "meeting." Updates on SBE activities are given each month and participants can discuss technical issues and visit. HAMnet was originally begun to help serve members who lived too far to attend meetings of any regular chapter, but any amateur operator is welcome and encouraged to participate. Look for HAMnet on 14.205 mHz.

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Steve Paugh is the editor for the HTML Version of this Newsletter, available monthly on the SBE Chapter 24 web page.

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 HQ Tel: 847.468.5160 HQ Fax: 847.468.5161
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John Salzwedel
 3893 Terrace Circle DeForest, Wisconsin 53532
 Office: (608) 238-7575 Fax: (608) 238-4955
 Web Page: www.tokencreek.com E-Mail: tcp@titis.com

HARRIS CORPORATION



Communications Sector
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TOM HARLE
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Jan Reesman
 Sales Representative <http://www.belden.com>



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 Mobile **608-751-8284** Mobile **608-235-8559**



SBE Chapter 24 Newsletter
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Madison, WI 53713-3000

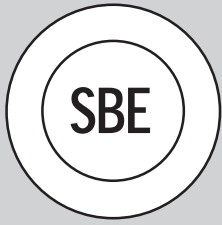


FIRST CLASS MAIL

Newsletter edited on Pagemaker 5.0 by: Mike Norton
 Contributors this month: Neal McLain, Tom Smith, and Tom Weeden.
 Thanks to Leonard Charles for his work on the Chapter 24 WWW page.

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JULY MEETING and PROGRAM

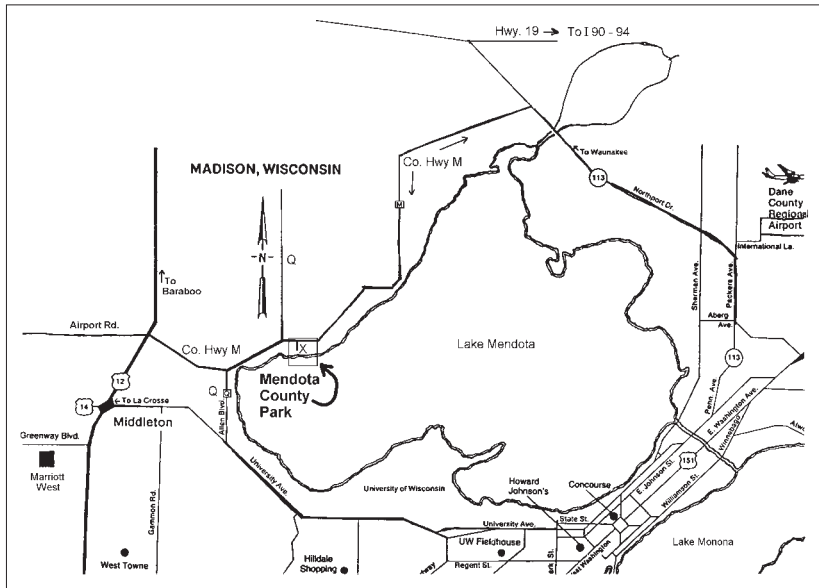


Society of Broadcast Engineers CHAPTER 24 MADISON, WISCONSIN Wednesday, July 21, 1999

Annual SBE Chapter 24 Picnic

Mendota County Park
Highway M in Middleton
5:00pm - 9:00pm

The Chapter will supply the meats and buns for sandwiches, with all the trimmings. We ask that you bring a dish to share and your own drinks.



We are bringing back the infamous horseshoe tournaments, and other games. This time we have cool prizes too!

Pack up the picnic basket and the family, and come out for some real fun!

Visitors and guests are welcome at all of our SBE meetings!

1999 UPCOMING MEETING/PROGRAM DATES:

Day	Date	Program
Thursday	August 26	Certification Night

Program Committee:	Kerry Maki 833-0047	Denise Maney 277-8001	Steve Zimmerman 274-1234	Mark Croom 271-1025	Steve Paugh 277-5139
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