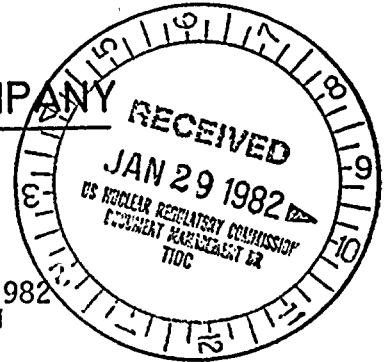


INDIANA & MICHIGAN ELECTRIC COMPANY

P. O. BOX 18
BOWLING GREEN STATION
NEW YORK, N. Y. 10004



DE HQ FILE COPY

January 21, 1982
AEP:NRC:0308N

Donald C. Cook Nuclear Plant Unit Nos. 1 and 2
Docket Nos. 50-315 and 50-316
License Nos. DPR-58 and DPR-74
Early Warning System Description

Mr. James G. Keppler, Regional Director
U.S. Nuclear Regulatory Commission
Office of Inspection and Enforcement
Region III
Glen Ellyn, Illinois 60137

PRINCIPAL STAFF			
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D/D		PAO	
A/D		SIQ	
DR&PI			
DE&TI			
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orig + 1

Dear Mr. Keppler:

This letter responds to a request from Mr. W. Axelson of your staff to provide additional information on the early warning system installed in the 10 mile EPZ surrounding the Donald C. Cook Nuclear Plant required by 10 CFR Part 50 Appendix E.

Attachment 1 to this letter provides a brief description of the Early Warning System including notification to the news media.

Attachment 2 is a map indicating the theoretical 60 db curve for siren coverage.

Attachment 3 contains copies of the local media responses to the early warning system installed at Cook.

Attachment 4 contains a copy of the Berrien County Emergency Preparedness Folder describing the local concept for nuclear emergencies.

Very truly yours,

R. F. Hering

R. F. Hering
Vice President

COPY SENT REGION *TH*

RFH/sg
cc: Attached

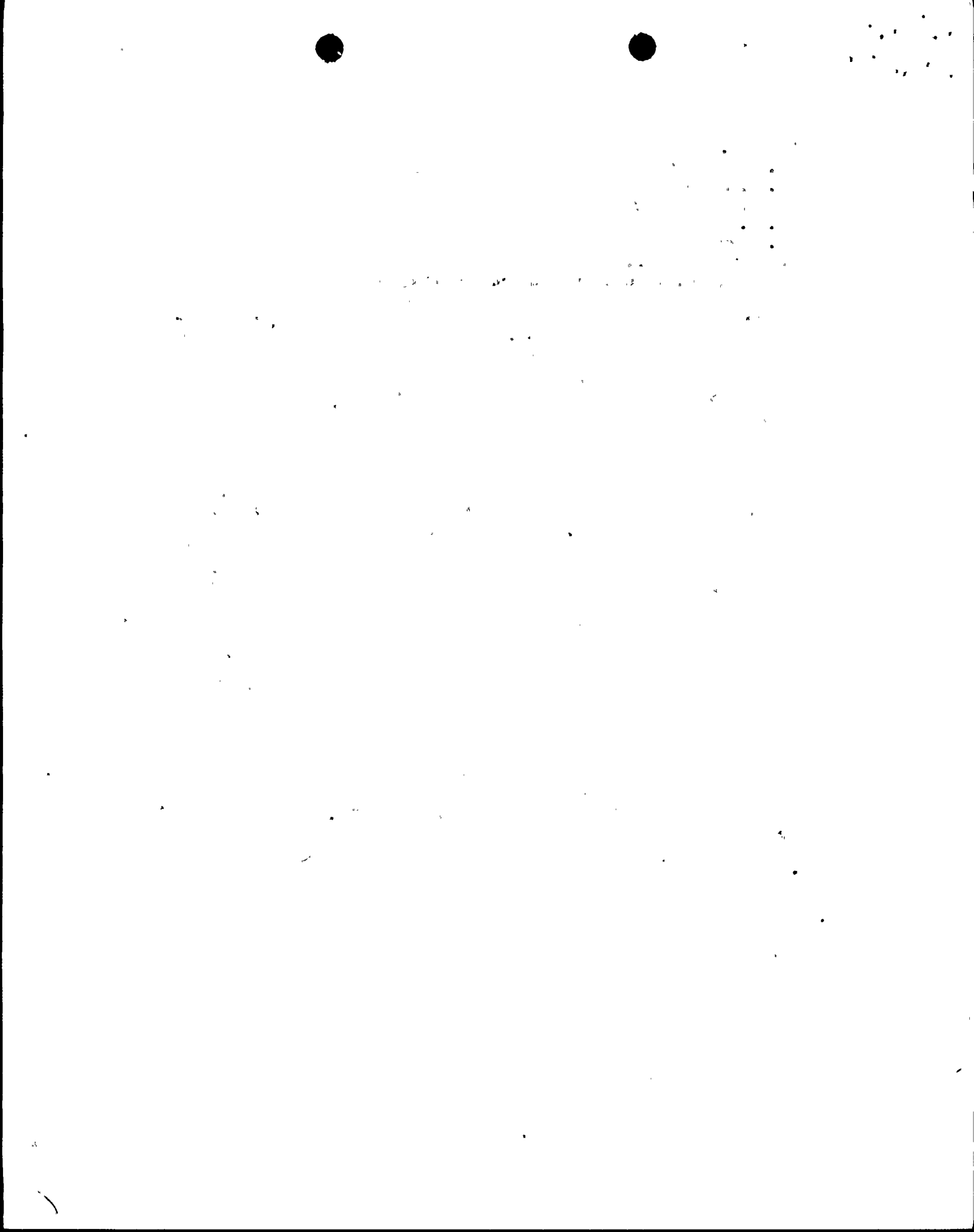
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JAN 22 1982

*attachment 4 sent to Dir only
with orig. letter (booklet).*

FE 35

cc: John E. Dolan
R. S. Hunter
R. W. Jurgensen
W. G. Smith - Bridgman
R. C. Callen
G. Charnoff
Joe Williams, Jr.
NRC Region III Resident Inspector - Bridgman



Attachment 1
EARLY WARNING SIREN SYSTEM
DESCRIPTION

1.0 Introduction

The Donald C. Cook Nuclear Plant - Early Warning Siren System (EWSS) has been installed within the ten mile plume exposure pathway Emergency Planning Zone (EPZ) in order to provide an alerting mechanism to be used for early warning of the population within this 10 mile EPZ in the event of a radiological emergency occurrence at Donald C. Cook Nuclear Plant or in the event of some other emergency as identified by the appropriate governmental authorities.

1.1 Regulatory Requirements

Title 10 of the Code of Federal Regulations (10 CFR) Part 50 Appendix E establishes the requirements whereby nuclear power reactor licensees must provide a notification system ("physical means") for alerting and providing prompt instructions to the public within the plume exposure pathway EPZ within about 15 minutes. Where there is a decision to activate the notification system, the State of Michigan and the Berrien County Sheriff's Department (BCSD) will determine whether to activate the entire notification system simultaneously or in a graduated or staged manner. The responsibility for activating the public notification system shall remain with the appropriate local governmental authority - the Berrien County Sheriff's Department.

1.2 Development of the System

AEP contracted with a consultant to provide for a survey and a priority listing of recommended alert systems which should be used to notify the public within the ten mile EPZ in the event of a radiological emergency. Additionally, representatives from within the AEP System were assigned to an Early Warning Study Group to review the consultant's report and develop a cost-effective early warning system for the D. C. Cook Nuclear Plant that met the intent of the NRC regulation requirements.

1.3 Early Warning Equipment: Functions

- A. Sirens - To give an audible signal to residents within a 10 mile radius surrounding the plant to tune in a radio or TV to receive emergency information or instructions.
- B. Siren Activation Radio Receivers - These receivers activate the sirens when coded from the BCSD.
- C. Receiver/Recorders - These special radios are located in major news media locations serving the general area at the Cook Plant.

The radio will alert the media operator to listen for a message transmitted by the BCSD. The radio is equipped with a tape recorder to store the message if the media location is unattended at transmission time.

- D. Encoder - This device modulates the BCSD radio transmitter to permit remote operation of sirens.

2.0 Early Warning Siren System (EWSS) Equipment: Description

A. Sirens

The EWSS is composed of 14 strategically located sirens, designed and placed to meet the criteria established in 10 CFR 50, Appendix E. The sirens were manufactured by the Alerting Communications of America Corporation. The system has the following composition:

- 9 - Hurricane Sirens - Output: 130 db
- 4 - Penetrator Sirens - Output: 125 db
- 1 - Banshee Siren - Output: 115 db

B. Siren Activation Radio -

The receiver is manufactured by Plectron Corporation. The radio frequency (R.F) receiver contains a sub audible and two audible activation tones for activation of each siren.

- C. Receiver/Recorders (Plectron Corporation)- contains an R. F. Frequency receiver. The receiver is equipped with flashing audible alarm, battery backup, and 30 min. tape recorder. Activation tones (dual) are coordinated with the Plectron encoder.

- D. Encoder (Plectron) - Contains logic and tone oscillators which are injected into the BCSD radio frequency with three tones to activate each siren, one subaudible and a combination of two additional audible tones.

2.1 Activation:

The activation of sirens is accomplished by the BCSD radio dispatcher in accordance with the local and state emergency plan requirements. The dispatcher, after receiving instructions, will key the proper tones into the transmitter to perform siren activation.

The activation of the Receiver/Recorder in the media locations is accomplished the same way as the siren activation except all receiver/recorders will be activated at one time. The media receiver/recorders turn off 10 seconds after the R. F. is turned off.

3.0 Usage & Control:

The BCSD has complete control of the activation equipment. The sirens and radios can be used for any emergency.

4.0 Monthly Tests

Monthly tests of the sirens are conducted by the BCSD on the first Saturday of each month to verify that equipment is operational.

5.0 Communications:

The communications in this system consist entirely of the BCSD fire radio system. The necessary tones for activation of sirens or receiver/recorders in media locations are produced in the encoder located at the BCSD dispatcher console.

Attachment 2
Siren Location

Attachment 2 depicts the 5 and 10 mile radius area extending out from Donald C. Cook Nuclear Plant into Berrien County indicating the theoretical siren coverage.

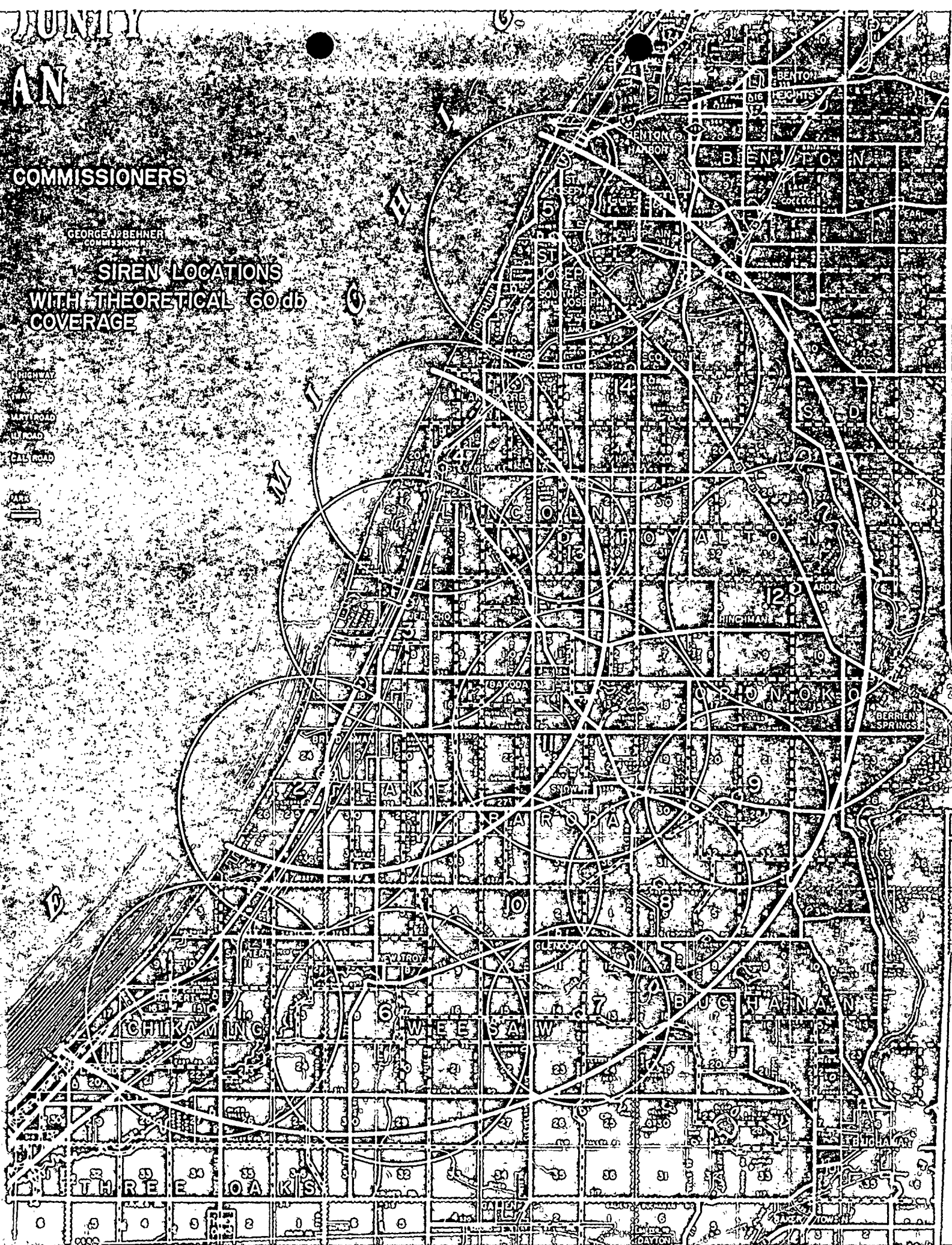
COUNTY AN

COMMISSIONERS

GEORGE J. BEHNER
COMMISSIONER

SIREN LOCATIONS
WITH THEORETICAL 60 db
COVERAGE

Highway
Way
Municipal
Road
Railroad



Attachment 3

Local Media Response to the Early Warning Siren System.



The following article appeared in the NILES DAILY STAR

under date of 8/20 1981

Berrien, I&M explain siren warning system

By NANCY
HUDDLESTON
Daily Star
Staff Reporter

Indiana and Michigan Electric Co. and the Berrien County Sheriff's Department announced modifications to their emergency preparedness plan which includes installation of a siren warning system in a 10-mile radius around the Cook Nuclear Plant.

An emergency preparedness brochure, which will be mailed to all I&M customers in the area early next week, was presented at a Wednesday afternoon press conference at Bridgman.

The brochure was prepared to assist area residents in the event of a serious weather emergency, nuclear incident or other disaster in

the Berrien County area.

It contains information concerning the new siren warning system and what procedures residents of the area should follow if there is a disaster.

The 14 sirens will issue three signals, depending on the emergency, and will be controlled by the Berrien County Sheriff's Department.

An "alert" siren, a double-tone sustained signal lasting from three to five minutes, will warn residents of a serious weather emergency, nuclear incident, chemical spill or other disaster requiring shelter or evacuation.

An "attack" siren, a double-tone signal that moves up and down the tone scale, will indicate the immediate need to take cover from a nuclear at-

tack.

A "fire" siren, a rapidly alternating sharp high and low tone signal lasting from one to five minutes (normally 90 seconds), will warn of a fire.

The sirens will be tested for a 30 second to one minute interval on the first Saturday of every month at noon to verify that the equipment is operational.

Fred Thompson, emergency preparedness officer for the Berrien County Sheriff's office, said the sirens will be activated by radio signal and can be turned on all at once or individually.

Thompson also commented that he thought "the evacuation services will work much smoother with the sirens."

Both Thompson and I&M officials noted that emergency planning at the Cook Plant is not a recent development. I&M prepared an emergency plan for the Cook Plant while it was still under construction and Berrien County has had an emergency plan since 1975.

I&M officials also outlined four incident categories of nuclear emergencies in the

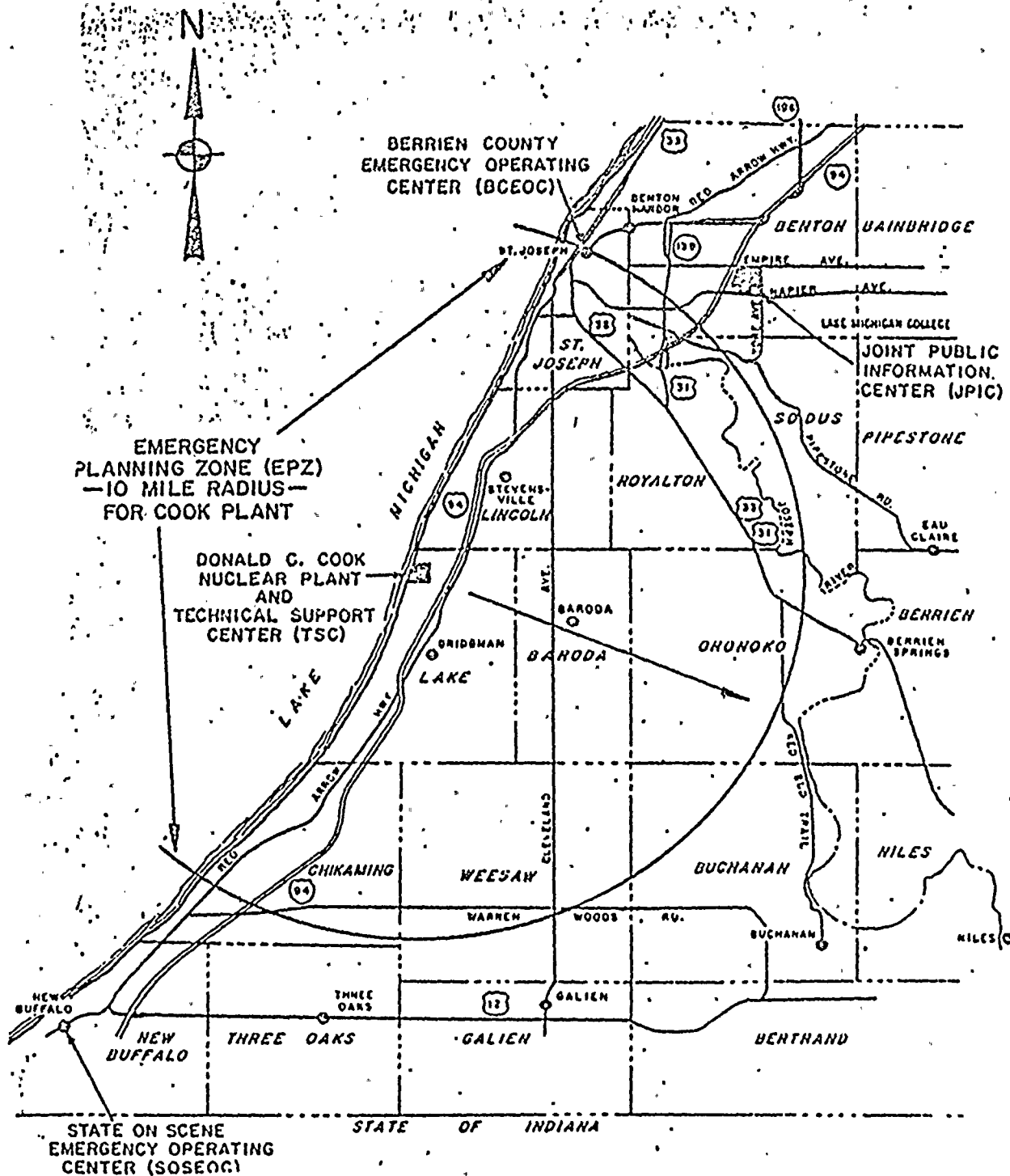
brochure. They are:

— Unusual event: A minor deviation from normal operating practices. No release of radioactive material is involved. No actions are required of the general public.

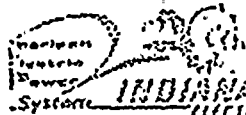
— Alert: Abnormal plant conditions that may result in a limited release of radioactive material. No actions are required of the general public.

— Site Emergency: Abnormal plant conditions possibly resulting in sufficient release of radioactivity to require precautionary measures of the general public in limited areas beyond the plant's site boundary. Sirens may sound, depending upon the incident, and the public will be told if sheltering or evacuation is necessary.

— General Emergency: Abnormal plant conditions possibly resulting in sufficient release of radioactivity to require precautionary measures of the general public out to as far as 10 miles from the plant. Sirens will sound and the public will be told if sheltering or evacuation is necessary.



AUG 23 1981



INDIANA & MICHIGAN
ELECTRIC COMPANY

NEWSPAPER CLIPPINGS

DISTRICT Cook Information Center

The following article appeared in the South Bend Tribune

under date of August 20, 1981

Warning system unveiled

By JAM KASCH

Tribune Staff Writer

BRIDGMAN — An emergency warning system that can alert residents within a 10-mile radius of the Cook Nuclear Plant of a serious nuclear accident or of severe weather was unveiled Wednesday.

Officials from Cook Nuclear and the Office of Emergency Preparedness in the Berrien County Sheriff's Department described at a news conference the siren warning system and the methods that would be

used to tell the public what to do. An education effort also is being launched.

C. Wayne Hasty, public affairs director of Indiana & Michigan Electric, said 74,000 brochures will be mailed to area I & M customers next week.

The 24-page brochure entitled "Emergency Preparedness in Berrien County" tells people what to do in the event of a serious weather emergency, a nuclear accident or other disaster in Berrien County.

Another 25,000 cards summarizing the information in the brochure will be distributed in public areas to inform visitors and others of the emergency actions which should be taken.

All new customers also will get the brochures, Hasty said.

I & M also is preparing a slide show to present to community groups.

To alert the public in case of any kind of emergency, including both weather and nuclear, Cook has installed 14 sirens within a 10-mile radius of the plant.

They would broadcast a double-tone sustained signal for three to five minutes to warn of a serious weather emergency, a nuclear accident, a chemical spill or other disaster requiring shelter or evacuation.

Fred Thompson, emergency preparedness director for Berrien County, said a nuclear accident would have to be classified as a "general emergency" before the sirens would be activated. In a rare case, a "site emergency" would require the sirens.

The nuclear industry describes a general emergency as abnormal plant conditions that possibly could result in release of radioactivity that would require persons within 10 miles to take precautions.

The following article appeared in the Herald-Palladium

under date of August 20 19 81

Immediate Information Available In Emergency

By **WILLIAM F. AST III**
Staff Writer

When Berrien County residents hear early warning emergency sirens go off, they can immediately find out what action to take by tuning in to a local radio or television station.

Officials of the Indiana & Michigan Electric Co. and Berrien County Office of Emergency Preparedness Wednesday unveiled a method to disseminate emergency information to radio and television stations almost as quickly as the new emergency sirens sound.

At the heart of the new method are "tone-activated civil defense receivers," which I&M officials yesterday distributed to local radio and television stations.

Speaking at a press conference at I&M's Donald C. Cook Nuclear Plant near Bridgman, Fred Thompson, director of emergency preparedness for Berrien County, described how the method works.

If an emergency occurs, his office will make a tape recording with information as to what areas are affected and what action residents should take, Thompson said. The tape would be broadcast at about the same time the emergency sirens are sounded, and the tape would be automatically recorded by the "tone-operated" receivers at the various stations, he added.

The stations then need only to replay the tape over the air to get emergency information to the public, Thompson said.

The 14 emergency siren

are located within a 10-mile radius of the Cook plant.

Also at the press conference, Wayne Hasty, public affairs director for I&M, said the company next week will begin mailing emergency preparedness brochures to Berrien County residents.

The brochures will tell residents what action to take if the sirens go off, Hasty said, but added the "key point is to tune to a local radio or television station."

Some 74,000 brochures will be mailed, Hasty said. The company will also print digests of the brochures on cards and put the cards at public places such as motels, he stated.

The Nuclear Regulatory Commission has required that companies operating nuclear plants take steps to ensure the safety of nearby residents, Hasty said. Thompson said the new sirens in conjunction with the tone-activated receivers are an excellent way to cope with any general emergency, whether it concerns the nuclear plant, a weather emergency, or an incident such as the recent chemical



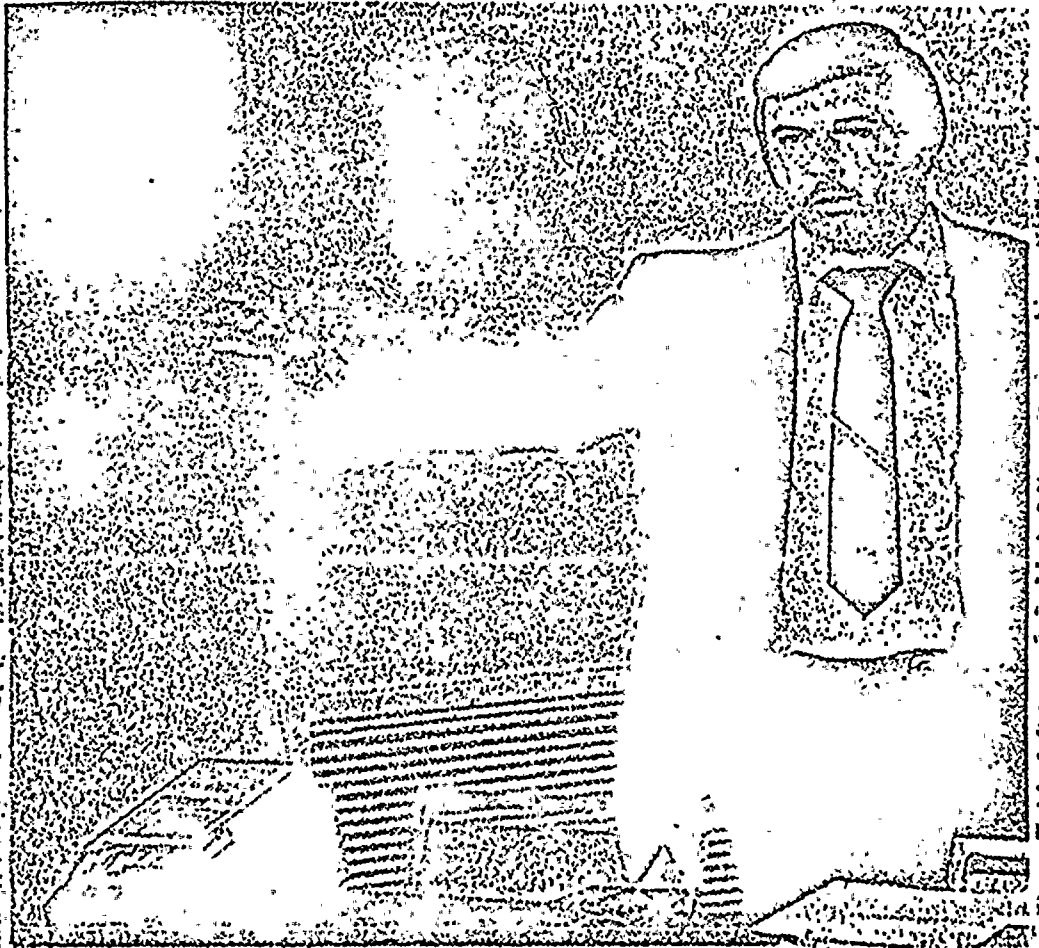
WAYNE HASTY
"Tune In"

spill in Bridgman.

Thompson said the evacuation resulting from the Bridgman incident went well but would have been even more effective with the new sirens. Some of the sirens would have been used in that incident had they been ready, he added.

Please call to the at _____

who is following this subject.



EMERGENCY RECEIVER: Fred Thompson, director of emergency preparedness for Berrien County, displays tone-activated civil defense receiver (lower left) that will be used to quickly get information to public in case of general emergency in county. Receivers, costing about \$600 each, were furnished to local radio and television stations by Indiana & Michigan Electric Co. as part of company's compliance with Nuclear Regulatory Commission safety regulations. (Staff photo)



Attachment 4

Berrien County Emergency Preparedness Brochure..

This attachment describes the emergency preparedness concept in Berrien County, including the Early Warning Siren System. This brochure was mailed to residents of Berrien County and distributed to nursing homes, apartment complexes and industry, Cook Energy Information Center, Berrien County Sheriff's Department and I&MECo's Benton Harbor and Buchanan offices.

