Dated: December 17, 1987

UNITED STATES OF AMERICA

NUCLEAR REGULATORY COMMISSION

before the

ATOMIC SAFETY AND LICENSING APPEAL BOARD

In the Matter of	
PUBLIC SERVICE COMPANY OF NEW HAMPSHIRE, et al.	Docket No. 50-443-OL-1 50-444-Ol-1 On-Site Emergency Planning Issues
(Seabrook Station, Units 1 and 2)	

AFFIDAVIT OF TRAVIS N. BEARD

Travis N. Beard, being on oath, deposes and says as follows:

1. I am Senior Emergency Planner for New Hampshire Yankee at Seabrook Station. A statement of my professional qualifications is attached hereto.

2. On or about December 9, 1987 a document entitled "New Hampshire Yankee, Alternate Alerting System Design Description for the City of Newburyport, Massachusetts" ("Alternate Alerting System") was submitted to the Nuclear Regulatory Commission under signature of George S. Thomas.

3. I have personal knowledge of the contents of that report and supervised the compilation of information therein presented.

4. The Alternate Alerting System has been designed and installed to provide coverage, in combination with existing and back-up systems, to essentially 100 percent of the Newburyport population within the Plume Exposure Pathway Emergency Planning Zone.

5. On November 4 and 5, 1987, I participated in a validation test by Wyle Laboratories of the Alternate Alerting System which was conducted in the vicinity of Seabrook Station.

6. The report of the Alternate Alerting System attached hereto is a true and accurate copy of the report prepared under my supervision.

Travis N. Beard

STATE OF NEW HAMPSHIRE

The above-described Travis N. Beard appeared before me and made oath that he has read the foregoing affidavit and that the statements set forth therein are true to the best of his knowledge.

Before me,

Marilyn R. Sullivan
Notary Public
My Commission expires: April 29, 1992

TRAVIS N. BEARD

EDUCATION

Georgia State University: M.B.A., 1983
Texas A&M University: M.S., Health Physics, 1975
U.S. Naval Academy: B.S., 1963

EXPERIENCE

1986 to present:
Public Service Company of New Hampshire, New Hampshire Yankee Division

POSITION: Senior Emergency Planner
DUTIES: Manage the existing Seabrook Station emergency siren system and develop plans for alternate public alerting systems. Provide technical review for the site emergency plan and implementing procedures.

1980 to 1986:
Institute of Nuclear Power Operations
POSITION: Program Manager
DUTIES: Developed criteria for program review and assistance to nuclear utility emergency preparedness programs. Led emergency preparedness assistance teams in visits to nuclear power plants. Developed a workshop for utility radiological assessment teams. As member of INPO Evaluation and Assistance teams, evaluated utility radiological protection programs.

As Manager, Country Services, was responsible for development and implementation of methods for exchange of operating experience between INPO utility members and far eastern utilities. Planned and participated in assistance visits to Taiwan and South Korea.

1976 to 1980:
U.S. Department of Energy
POSITION: Emergency Planning Specialist, Project Officer and Health Physicist.
DUTIES: As Emergency Planning Specialist at D.O.E. Headquarters, conducted independent reviews of D.O.E. field office programs. Project Officer for Aerial Measurement System program. As Health Physicist at the Idaho Falls National Engineering Laboratory, conducted independent appraisals of contractor radiological safety programs. Supervised two engineering professionals as acting Branch Chief.

1975 to 1976:
Westinghouse Electric Corporation
POSITION: Senior Radiological Control Engineer
DUTIES: Investigated potential radiological health problems and conducted audits at the Naval Reactors Facility, Idaho Falls. Emergency planning coordinator for site.

1973 to 1975:
Texas A&M University, Graduate Student in Health Physics.

1963 to 1973:
United States Navy
POSITION: Naval Aviator

New Hampshire
Yankee

ALTERNATE ALERTING SYSTEM
DESIGN DESCRIPTION

FOR

THE CITY OF NEWBURYPORT, MASSACHUSETTS

December 9, 1987

Seabrook Station

TABLE OF CONTENTS

List of Figures

1.0 INTRODUCTION

This document describes the alternate alerting system for the City of Newburyport which is within the Seabrook Station Plume Exposure Pathway Emergency Planning Zone (EPZ). A brief overview of the Newburyport Prompt Notification System (PNS) is presented, followed by an outline of the governing regulatory requirements and description of how the requirements are met. Descriptions of individual systems are presented which include hardware and control systems, system response time, location and coverage and maintenance and testing programs.

2.0 NEWBURYPORT ALTERNATE ALERTING SYSTEM

The Newburyport public alerting system for the Seabrook Station has been designed and installed to provide coverage to essentially 100 percent of the Newburyport population within the Plume Exposure Pathway Emergency Planning Zone. This system meets the requirements of 10CFR50.47 and Appendix E (Reference 1) and is consistent with guidance contained in NUREG-0654/FEMA-REP 1, Revision 1 and Appendix 3 (References 2 and 3).

The City of Newburyport is located approximately 6 miles from Seabrook Station with the closest border 5 miles south of the plant. Newburyport has an approximate population of 16,400. Principal highways in Newburyport include Interstate 95, U.S. Routes 1 and 1A and State Route 113. Special facilities include a public school system with approximately 3300 students, a general hospital, long-term care facilities and day care center/nurseries.

The Seabrook Prompt Notification System is comprised primarily of fixed sirens strategically positioned throughout the Plume Exposure Pathway EPZ. A total of 147 fixed sirens had been installed in and around communities in New Hampshire and Massachusetts. Twelve fixed sirens are located in the community of Haverhill, which is outside the EPZ. In September, 1987, Newburyport municipal authorities removed six of eight sirens providing alerting coverage to the city and refused permission for the remaining two sirens to be used for emergencies at the Seabrook Station. Without the eight sirens, existing sirens in neighboring communities provide overlapping siren tone coverage for approximately 60 percent of the area covered by the original eight sirens.

3.0 DESIGN OVERVIEW

Prompt Notification System (PNS) coverage for the City of Newburyport is provided by: fixed sirens in neighboring communities and an airborne alerting system with a route alerting back-up system.

3.1 Neighboring Fixed Siren Coverage

Nine fixed sirens strategically positioned in neighboring communities surround Newburyport and provide a major portion of the alerting system for the city. These fixed sirens are part of the existing Prompt Notification System for the Seabrook Station Plume Exposure Pathway Emergency Planning Zone (Reference 4). Acoustical coverage from these sirens is depicted in Figure 1 of this report. (Reference 5). Approximately 60 percent of the city is adequately covered by these fixed sirens; an alternate alerting system comprised of airborne alerting with route alerting back-up provides coverage for the remaining Newburyport area.

Existing coverage depicted in Figure 1 is for 60 dB(C) and 70 dB(C) coverage. The following is a list of those fixed sirens by town:

Town	Siren Type	dB(c) Rating (100 ft.)
Amesbury		
AM-6	Whelen WS-3000R	123
AM-7	Whelen WS-2000R	115
Newbury		
NB-1	Whelen WS-3000R	123
NB-4	Whelen WS-3000R	123
NB-5	Whelen WS-3000R	123
Salisbury		
SA-1	Whelen WS-3000R	123
SA-5	Whelen WS-3000R	123
SA-8	Whelen WS-3000R	123
West Newbury		
WN-2	Whelen WS-3000R	123

3.2 Airborne Alerting System

The airborne alerting system consists of an acoustical equipment package carried by a helicopter based at Seabrook Station. The helicopter and pilot will be maintained in a state of constant readiness. The airborne alerting system will be backed up by a (vehicular mounted) mobile alerting system which will be dispatched from Seabrook Station as necessary to supplement airborne alerting. The airborne system will achieve the same acoustical coverage and operability requirements as the original system of eight fixed sirens.

The helicopter facility is located at Seabrook Station between the north and south access roads (see Figure 4). This facility consists of a heliport office, helipad and adjoining runway, and helicopter hanger.

The helicopter will be pre-flighted and inspected daily by the pilot. Preventive maintenance procedures will be performed on-site periodically by a licensed mechanic. Additionally, a back-up helicopter has been arranged by contract with a vendor. (Reference 6).

The activation sequence for the helicopter alerting system is as follows:

- The Short Term Emergency Director/Site Emergency Director will contact the NHY Offsite Response Organization ORO at the EOC following an emergency classification requiring alerting (normally Site Area Emergency or General Emergency). The ORO is continuously staffed (not activated) by a Communications Coordinator. The Communications Coordinator will then contact the helicopter pilot by dedicated phone. Prior to full power operation, in lieu of the above, the helicopter pilot will be contacted via a 24-hour manned Seabrook site security station.

- The helicopter pilot launches and then communicates with the Communications Coordinator to coordinate activation of the alerting message/tone and timing.

Communications required for the helicopter alerting system consist of the existing telephone lines between the Control Room and the EOC, the EOC and the helicopter pilot plus a VHF radio system for communications between the EOC and the helicopter pilot once the helicopter is airborne.

Whenever an Alert emergency classification level is declared for Seabrook Station, the helicopter pilot will be notified. It has been determined that it will require approximately four minutes for the pilot to launch and proceed to Newburyport for alerting required for the Site Area or General Emergency classifications (Reference 7). Since the alerting route takes approximately 15 minutes to complete (See Section 4.0), the primary design objective of 10 CFR Appendix E Section IV D-3, (to essentially complete the alerting within about 15 minutes), is met.

NHY has contracted with a local vendor to provide the following services (Reference 6):

- o One primary and one back-up helicopter
- o Three primary and one reserve pilot(s) to provide 24-hours-per-day, 7-days-per-week coverage. Duty pilot to be based at Seabrook Station at the helicopter facility

Periodic Seabrook Emergency Plan training for the pilots will be conducted by New Hampshire Yankee.

4.0 HELICOPTER ALERTING ROUTES AND FLIGHT TIME REQUIRED TO COMPLETE ALERTING

The helicopter alerting flight path is depicted in Figure 3. The route will normally be flown at an altitude of 500 feet above ground level and at 40 miles per hour groundspeed as dictated by guidelines developed by Wyle Laboratories (Reference 8).

Whenever an emergency classification level is declared for Seabrook Station, the pilot will be notified.

The estimated time required to complete alerting is as follows:

Time(min.)	Event
0	Launch/Enroute to Newburyport
4	Begin Alerting Route
19	Complete Alerting Route

Note: Actual time from start of alerting to completion of alerting is 15 minutes.

Performance characteristics of the airborne alerting system were measured during field tests performed by Wyle Laboratories at Seabrook on November 4 and 5, 1987 (Reference 8). Based upon analyses of the test data, Wyle made predictions of the system's alerting capabilities and effectiveness and defined the system acoustic requirement operational procedures and the resulting effective coverage as described below:

4.1 Acoustic Requirements

Acceptable system performance was based on the following:

- The alerting message was assumed to correspond to a "known sentence" to the average listener. This pre-supposes that the public would be periodically reminded about the alerting process and the nature of the alerting message.

- The message is to be recorded by a trained speaker and shall be intelligible essentially 100 percent of the time when presented twice in succession to untrained listeners under ideal "laboratory" conditions at normal conversational voice levels.

- For alerting by voice, the average A-weighted sound level of the voice message when measured in the field with a sound level meter set to "Slow" response and A-weighting, must exceed the ambient average (Leq) sound level by 14 db(A).

- To achieve these levels for practical flight paths of the helicopter, the loudspeaker system will be driven with speech or siren signal levels by the Applied Electro Mechanics, Inc. (AEM) amplifier system (or its equivalent) to obtain average free field sound levels of 120 dB(A) for voice or 120 dB(C) for a tone on the speaker array axis at a distance of 100 feet.

To implement the acoustic requirements of the airborne alerting system, the following attributes were incorporated into the system:

- The AEM loudspeaker (28-bell array) is mounted in the left side passenger door of the helicopter with its axis of symmetry approximately 5 degrees below the horizontal (See photograph as Figure 5).
- The helicopter must fly on a straight and level path at an altitude of 400 feet to 600 feet above the mean ground level.
- The recorded voice message is to be played back continuously with a pause of 2 to 4 seconds between the end of one presentation and the beginning of the next presentation.
- Assuming that two successive presentations of the voice message last no more than 25 seconds, the helicopter must fly at speeds equal to or less than 40 mph ground speed.

4.2 Effectiveness

With the above attributes incorporated, the results are as follows:

- The width of the effective coverage band during a fly-by is expected to begin from 300 feet and end at 3500 feet to the left side of, and parallel to, the helicopter ground track within the urban center of Newburyport and 800 feet to 5700 feet in the outer fringe areas of the city.
- Within this effective coverage area, the intelligibility of the message, for an average listener outdoors, is expected to be 95%.
- Coverage may be reduced, depending on wind direction and speed. While the speech message or siren signal is being delivered, the wind should be coming from a direction between 0 degrees and 180 degrees relative to the helicopter heading. That is, the wind should be from either of the two quadrants on the right side of the helicopter. Alternate routes are planned to account for wind directional changes.

4.3 Mobile Siren Classification

The airborne alerting system meets the guidance of NUREG 0654 (p.3-16) and FEMA REP-10 (Reference 9, p.E-18) as a mobile siren vehicle.

The following is a listing of the attributes of the helicopter alerting system for Newburyport as compared to the elements addressed in a FEMA design report for a mobile siren system:

Design Report Element	Helicopter Alerting System Attribute
Rationale for vehicle use	Replacement for previous fixed siren system
Siren configuration	28 speaker array mounted on left side of helicopter (see Figure 5)
Siren testing procedures and operability*	To be developed
Sound attenuation computations for 60dBC and 70dBC sound pressure levels and prediction of distances where those sound levels occur	Acceptable (References 8,10
Analysis showing alert signal to public within 15 minutes of decision to activate: - time required to execute necessary procedures - time required to position necessary equipment	Helicopter alerting system meets intent of 10CFR50, Appendix E (i.e. about 15 minutes)
Written agreements with entity controlling alerting equipment and operator	Signed contract; (Reference 6)
Geographic areas covered by vehicle	See Figure 2

*Operability as outlined in FEMA REP-10, Appendix 4 (i.e. reliability)

4.4 Availability

The overall availability of the helicopter alerting system is a combination of the weather and aircraft availabilities. The following is a listing of the overall availability taken from the contractor/Bid No. MOERP-67:

1. Weather - based on takeoff and in-flight minimums of 400 feet ceiling and ½ mile visibility:

   Note: Minimum conditions for flight will be based on pilot's judgement.

   94.8%

   (Includes information from Pease Air Force Base weather data; Reference 11)

2. Helicopter availability:

   99.8%

   (Based on Vendor/Bid No. MOERP-67)

Overall availability:

94.8% X 99.8% = 94%

4.5 Acoustical Equipment

The acoustical package used for alerting is shown on Figure 5. The package is designed by and manufactured by Applied Electro Mechanics, Inc. and features a 3150 watt amplifier system and an array of 28 speakers utilizing four amplifiers (to provide redundancy) mounted on the left side of the helicopter (Reference 12).

There are 28 speaker drivers, and the loss of a single driver does not impair operation of the system, or prevent the system from performing its intended function.

The power supply, Nicad batteries, operates each side of the dual amplifier, and a sudden discharge or loss of a single battery would affect only 1/2 of one amplifier or 1/8 of the system while still allowing the unit to perform its intended function.

The acoustical package is capable of both public address and siren tone modes. The siren tone has a fixed frequency identical to the tone of the fixed sirens in the Seabrook Station Plume Exposure Pathway EPZ.

5.0 Route Alerting System

The route alerting system has been established as a back-up system in the event the helicopter is unable to perform its primary alert function.

It is designed to provide a "defense-in-depth" approach to public alerting capabilities in Newburyport. It is also included "...As a provision for corrective measures to provide reasonable assurance that coverage approaching the design objectives is maintained..." (NUREG-0654 Appendix 3, p.4).

There are no specific regulatory requirements for such a back-up system. This system represents New Hampshire Yankee management's commitment to back-up alerting provisions for the City of Newburyport. The back-up system was developed to include acceptable dissonant sound levels for the sirens and messages on the route alert vehicles in accordance with NUREG-0654 (Appendix 3, pages 3-8 and 3-9) and FEMA REP-10 (page E-13). Route alerting as a notification method has been demonstrated as acceptable to the Federal Emergency Management Agency (FEMA REP-10, AN-1) and has been accepted as part of the Emergency Plans at other nuclear sites (e.g. Maine Yankee, Shearon Harris).

5.1 Acoustical Equipment

FEMA interpretation of the design objectives of notification systems states that acceptable siren sound pressure levels are: 70 decibels (dBC) in areas of more than 2,000 people per square mile, and 60 dBC in other inhabited areas (REP-10, page E-13). In addition, a discussion by FEMA on exercise activities (AN-1, page I-5) states that "...There is no hard and fast time requirement for completing the back-up route alerting progress: however, 45 minutes is a suggested objective for completing the process."

The back-up method will consist of four existing Seabrook Station security vehicles, each mounted with bar sirens and flashing lights for route alerting. The bar sirens selected for the route alert vehicles will meet the acceptable siren sound pressure levels noted above. Vendor specifications indicate sound levels of 119.5 dBC at ten feet per 100 watts. Each vehicle will utilize two 100-watt sirens mounted back to back in order to achieve maximum coverage (Reference 13).

5.2 Availability

The reliability of the system is ensured by its incorporation of regularly serviced vehicles currently in use by the Seabrook Station Security Department. Maintenance of the trucks is consistently provided as part of the Seabrook Station on-site maintenance program. The trucks are used on a daily basis, and as such are dependable, even in inclement weather. In addition, four trucks would further provide a "defense-in-depth" approach: If one of the four trucks fails, another security truck with mounted sound bars and flashing lights will replace the failed vehicle.

Another major factor in reliability for this method is the fact that a large portion of Newburyport can be demonstrated to receive prompt notification from sirens tone in neighboring towns. (See Figure 1; areas without sufficient siren tone coverage from nearby sirens are depicted in Figure 2.)

The route alert system is to be initiated whenever the helicopter is declared inoperable. Procedures will require the notification of four truck drivers. The Emergency Plan procedures will identify the routes and provide the necessary maps and pre-recorded cassettes of emergency information. Periodic Seabrook Emergency Plan training will be conducted covering the drivers' responsibilities and duties.

5.3 Operation

The sequence for activating the back-up system will initiate when the helicopter pilot has notified the Main Control Room Unit Shift Supervisor or designee of the non-availability of the helicopter (See Figure 6). The Main Control Room will verify the plant's mode of operation. If the operational status is Hot Shutdown (MODE 4), Cold Shutdown (MODE 5) or Refueling (MODE 6), the Main Control Room will take no further action. If the operating mode is Hot Standby (MODE 3) or greater, the pre-designated route alert drivers will be notified. The drivers will be placed in standby status. In accordance with the Emergency Plan, when an Alert is declared, all drivers in the standby status will be notified to report to their pre-designated vehicles.

Route maps, alerting and communication equipment and procedures will be made available to the trained drivers. Each route map has been verified for accuracy and time allotments.

The vehicle driver will activate the electronic loudspeaker and initiate the alerting message by cassette recorder. To ensure proper audible coverage, the vehicles will travel at an average speed of twenty miles per hour. This conservative speed was chosen in view of topography and proper travel time to provide an intelligible alerting message. Each driver will receive by radio any additional information and instructions.

6.0 SUMMARY & CONCLUSION

The above information demonstrates that the airborne alerting system described in detail in this submittal will meet the same performance objectives as the fixed siren system originally installed in the City of Newburyport. This is based upon the following considerations:

- By virtue of the coverage already provided by sirens installed and operational in surrounding municipalities, a large segment of the population of Newburyport will be notified of an emergency at Seabrook Station even in the absence of the fixed siren system originally installed in the City.

- With the substitution of the above alerting system for the fixed sirens, the public in the city will still be notified of an emergency "within about 15 minutes" of the notification of public officials.

- Computations made by Wyle Laboratories indicate that the siren tone produced by the speaker array mounted on the helicopters would produce sound pressure levels which are consistent with the FEMA criteria for mobile siren capability.

Further, for the rare circumstances in which the helicopters would be unavailable, New Hampshire Yankee has provided a back-up route alerting capability intended to achieve the objective of notifying the public in the City of Newburyport of an emergency. The siren system chosen for the route alert vehicles will produce sound levels which meet the FEMA design objectives for mobile siren vehicles.

List of References

(1) "Code of Federal Regulations, Title 10, Chapter 1, Part 50, Appendix E"; Office of the Federal Register; Washington, D.C.; January, 1987.

(2) "Criteria for the Preparation and Evaluation of Radiological Emergency Response Plans And Preparedness in Support of Nuclear Power Plants"; NUREG-0654/FEMA REP-1, Revision 1; U.S. Nuclear Regulatory Commission/Federal Emergency Management Agency; Washington, D.C.; November, 1980.

(3) "Means for Providing Prompt Alerting and Notification of Response Organizations and the Population"; Appendix 3 of NUREG-0654/FEMA REP-1, Revision 1; U.S. Nuclear Regulatory Commission/Federal Emergency Management Agency; Washington, D.C.; November, 1980.

(4) "New Hampshire Yankee Seabrook Plan for Massachusetts Communities"; Seabrook, New Hampshire; September, 1987.

(5) "New Hampshire Radiological Response Plan Revision 2; Prepared in cooperation with New Hampshire Civil Defense Agency Technological Hazards Division"; Seabrook, New Hampshire; August, 1986.

(6) Agreement Contract No. MOERP-67 between New Hampshire Yankee, agent for the Seabrook Station Joint Owners, and Contractor, dated December 8, 1987. (Proprietary)

(7) "Airborne Acoustical Alerting System Bid No. MOERP-67;" November, 1987. (Proprietary)

(8) Wyle Laboratories, Inc. letter to New Hampshire Yankee dated December 7, 1987.

(9) "Guide for the Evaluation of Alert and Notification Systems for Nuclear Power Plants"; FEMA REP-10/November 10, 1985; Federal Emergency Management Agency; Washington, D.C.; November, 1985.

List of References

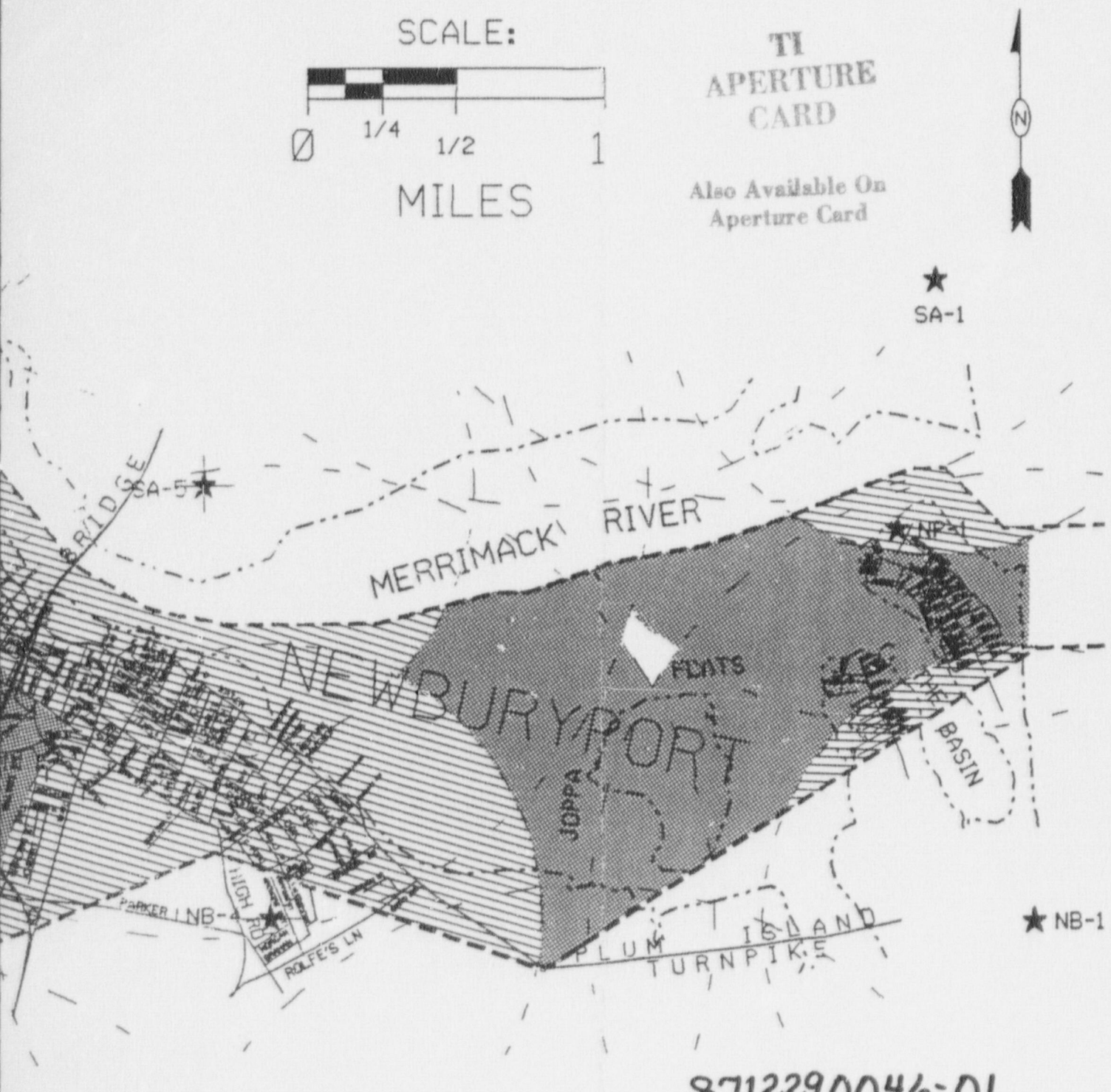
(10) Wyle Laboratories, Inc., letter to New Hampshire Yankee dated December 8, 1987

(11) Pease Air Force Base, percentage frequency of occurrence data for Ceiling vs. Visibility 1967-1970 and 1973-1979, U.S. Air Force Environmental; Technical Applications Center, Ashville, N.C.

(12) Applied Electro Mechanics, Inc., letter to New Hampshire Yankee dated December 3, 1987

(13) "Electronic Siren and Speaker Product"; (Catalogue) Scientific Prototype Manufacturing Corporation; New York, N.Y.


SA-8
AM-6
AM-7
WN-2
NP-6
RIVER
MILL LA
EMERY LA
STOREY AVE
INTERSTATE



8712290046-01

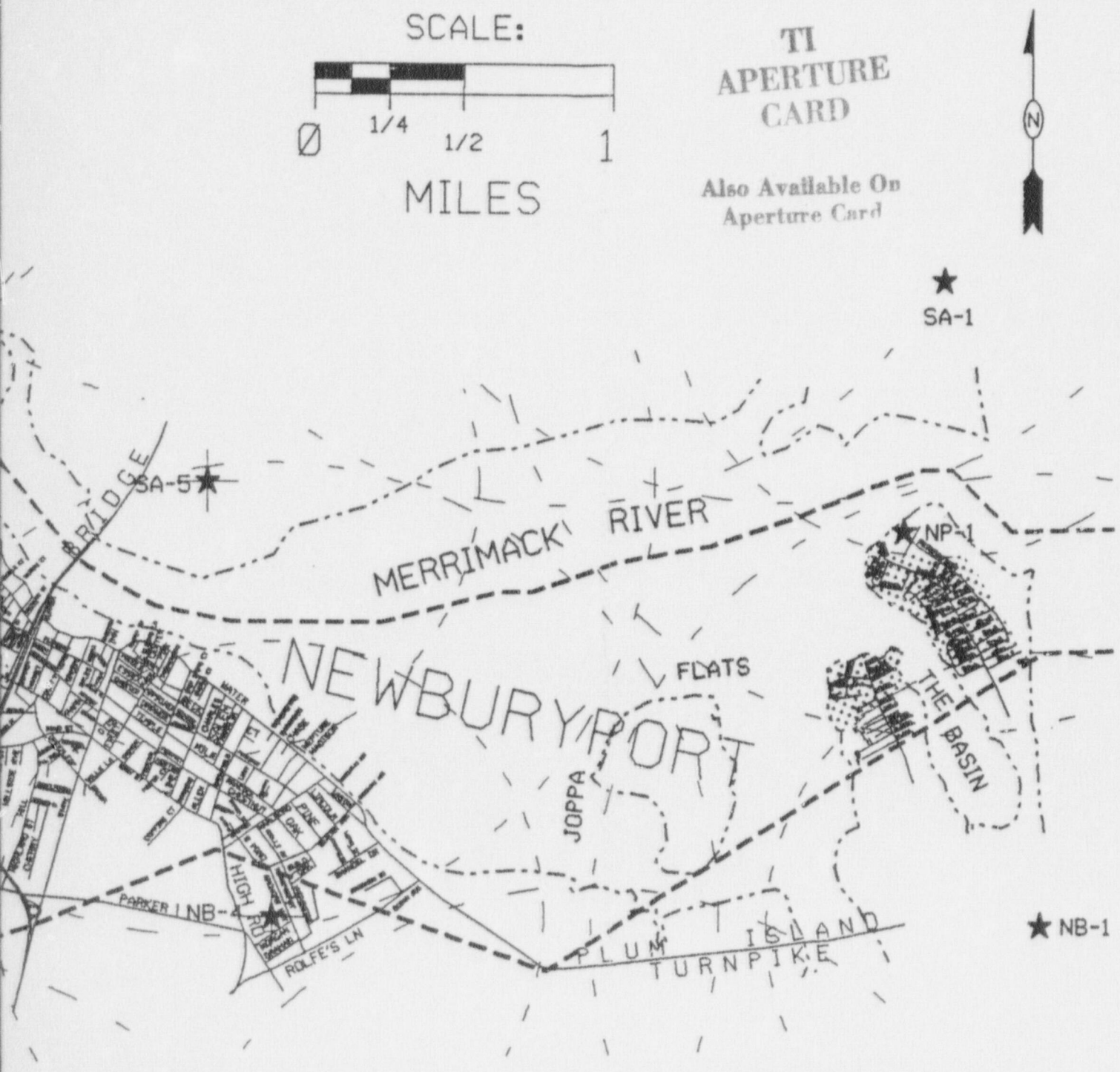
LEGEND:

- WATER LINE
- I-95
- MAJOR ROADS
- TOWN BOUNDARY
- STATE BOUNDARY
- FIXED SIREN POLE
- 70 db Sound Level
- 60 db Sound Level

SIREN COVERAGE FOR NEWBURYPORT MASS.

Figure 1


SA-8
AM-6
RIVER
AM-7
FERRY RD
HILL RD
MALDSLEY STATE PARK
PINE
MILL RD
CLINTON
MILL LA
EMERY LA
STERLING AVE
NP-6
LA VALLETTE
INTERSTATE 95
PARKER
WN-2
Requir
Levels



8712290046-02

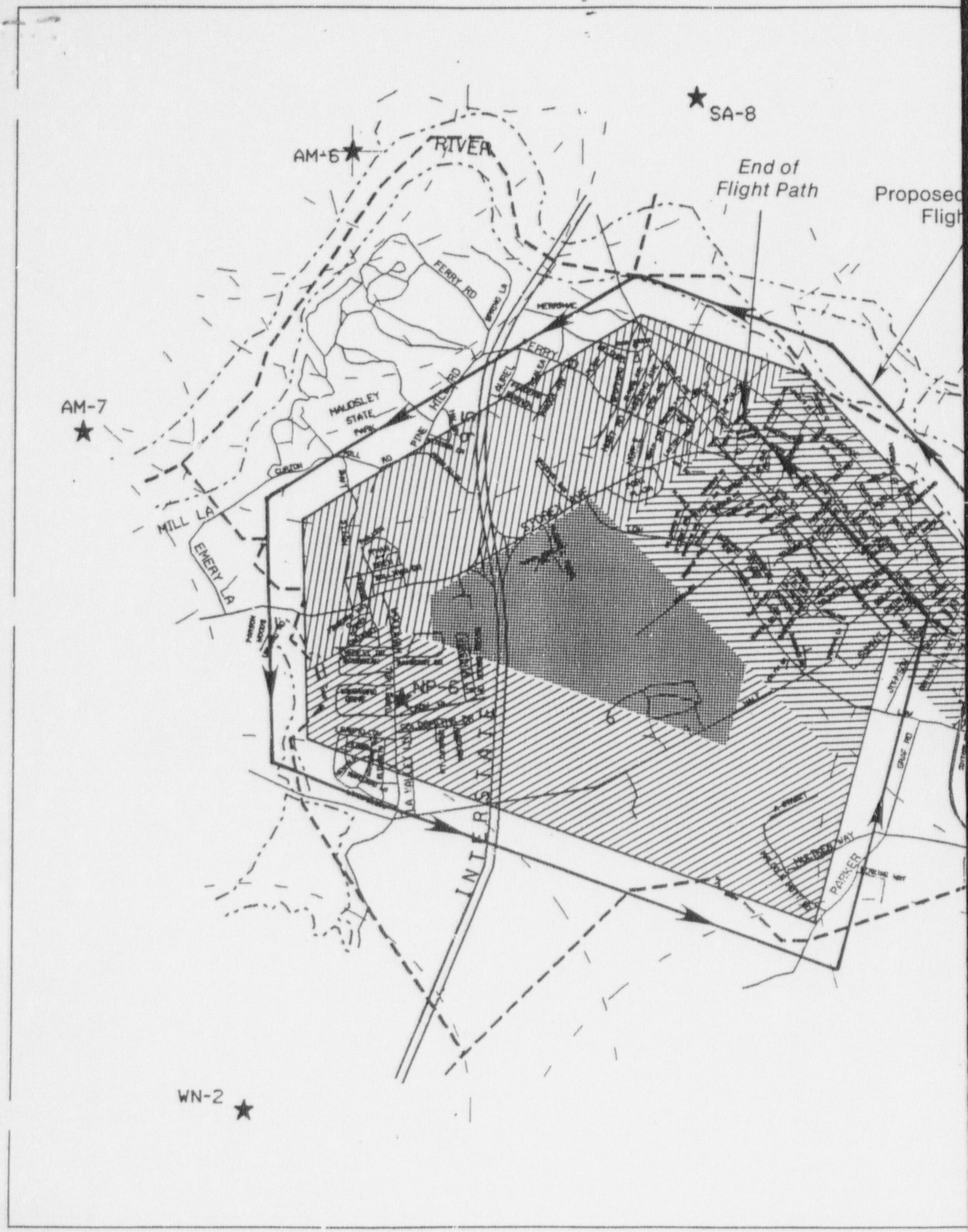
LEGEND:

- WATER LINE
- I-95
- MAJOR ROADS
- TOWN BOUNDARY
- STATE BOUNDARY
- FIXED SIREN POLE
- 70db SOUND LEVEL
- 60db SOUND LEVEL

SIREN COVERAGE FOR NEWBURYPORT MASS.

Figure 2

es Audio
of 70/60 dbc



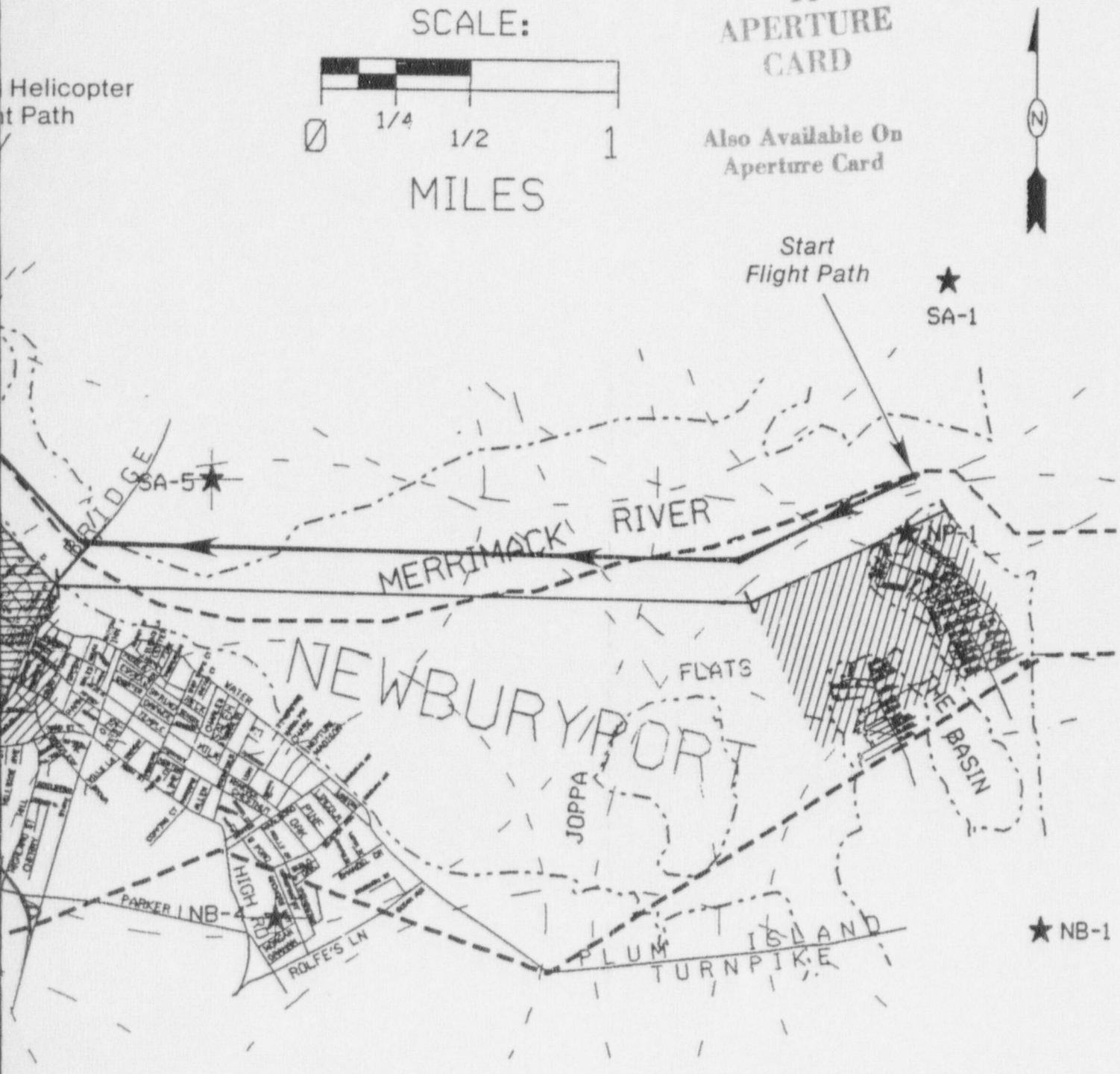
SA-8
AM-6
RIVER
End of
Flight Path
Proposed
Fligh
FERRY RD
AM-7
MAUDSLEY
STATE
MILL LA
EMERY LA
STONEY AVE
NP-6
INTERSTATE
PARKER
WN-2

Helicopter
t Path

SCALE:

Ø 1/4 1/2 1

MILES



8712290046-03

LEGEND:

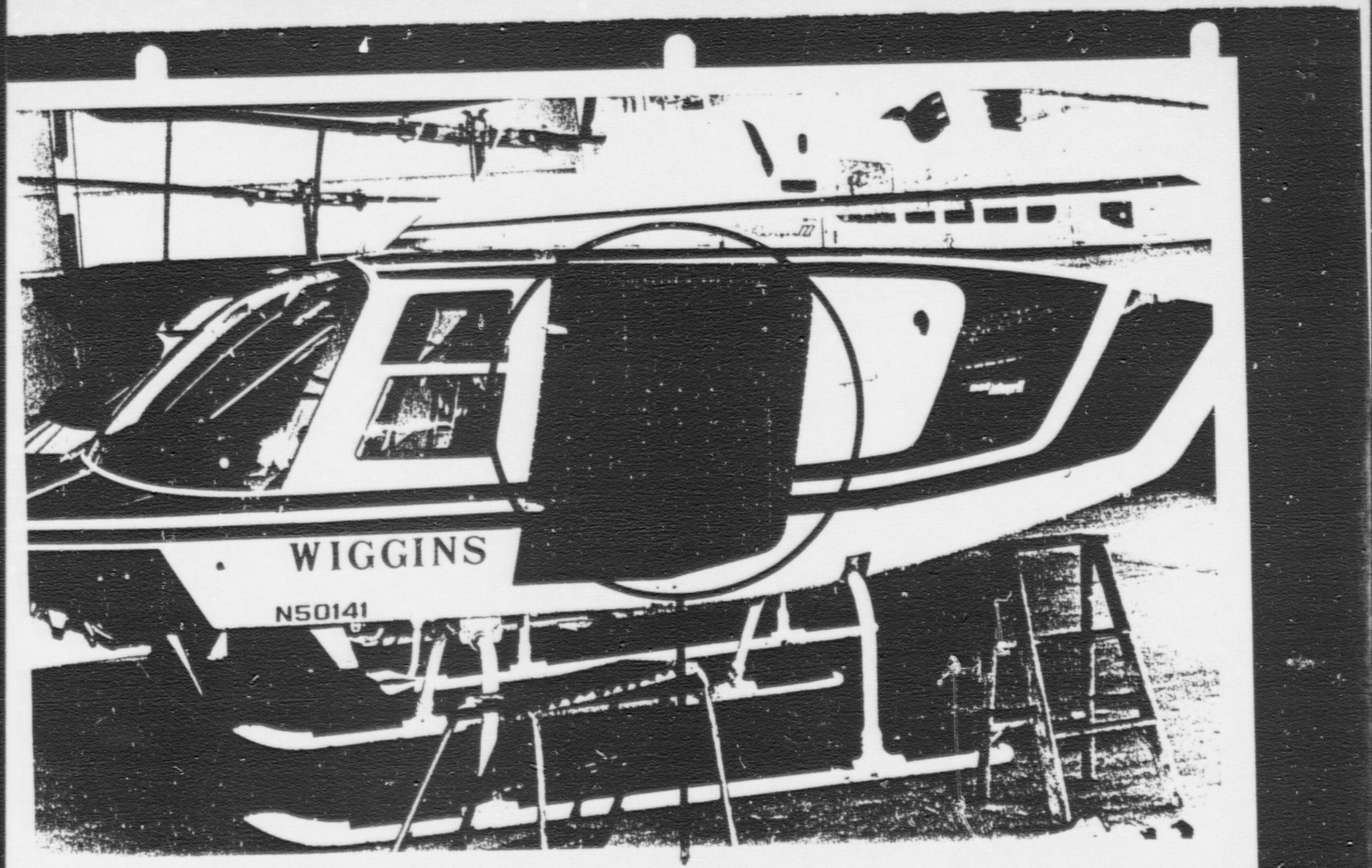
- WATER LINE
- I-95
- MAJOR ROADS
- TOWN BOUNDARY
- STATE BOUNDARY
- ★ FIXED SIREN POLE
- 70db SOUND LEVEL
- 65db SOUND LEVEL

SIREN COVERAGE FOR NEWBURYPORT MASS.

Figure 3

4 ACRE LAYDOWN
N11500
N11000
N10000
WHITE HOUSE
MAINT
BATCH PLANT
M-K LAYDOWN
(NEW PARKING AREA)
BLAST SHED
UE&C HNGR OFFICE
HELIPORT OFFICE
HELICOPTER PAD
PERIMETER LIGHTS
18 ACRE LAYDOWN
WIND SOCK
DUMP AREA
PERINI LAYDOWN
RAMP
CULVERT
TRNSTYL
WEIGH STA TOC32
GENERAL OFFICE BLDG
TRAINING SIMULATOR
PLANT R.R. SPUR
STUDWELD SHED
345 KV POWER LINES
SOUTH ACCESS ROAD
B&M R.R.
WORK SHOP
S GATE
NURSING HOME ROAD
18° (1968)
17°34'00" (MAG)
LEGEND
POWER LINES
FENCE
R.R. TRACK
GATE
PAVED
OPEN WATER
RIGHT OF WAY
LIGHT POLE
PORTA POTTY
WOODS
SALT MARSH
GUARD TOWER
PROPOSED ROAD

Figure 4

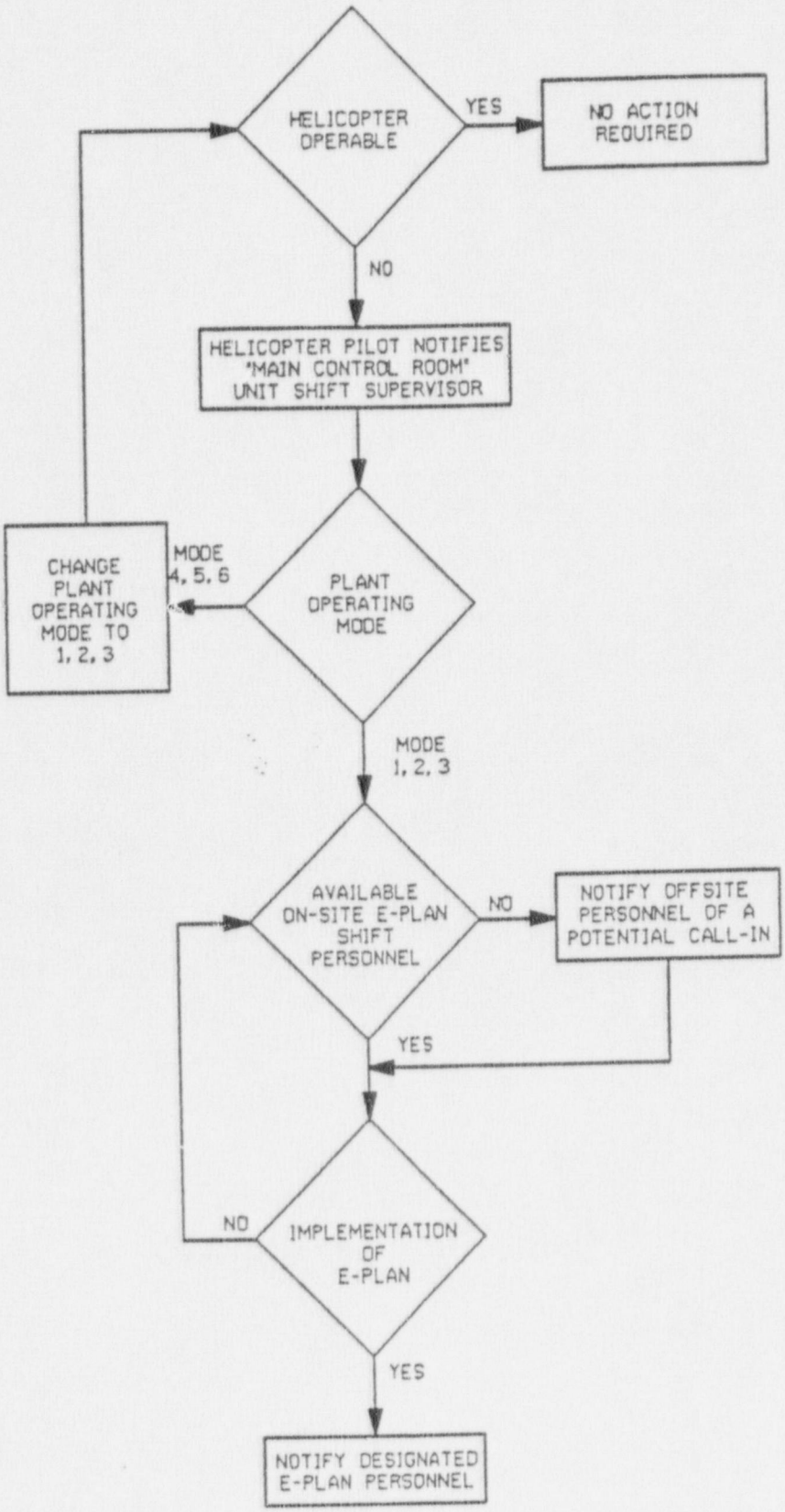


AEM Sound System

Applied Electro Mechanics, Inc.

Figure 5

Figure 6
ALERT AND NOTIFICATION BACKUP SYSTEM FLOW CHART



CERTIFICATE OF SERVICE

I, Thomas G. Dignan, Jr., one of the attorneys for the Applicants herein, hereby certify that on December 18, 1987, I made service of the within document by mailing copies thereof, postage prepaid to:

Alan S. Rosenthal, Chairman
Atomic Safety and Licensing
Appeal Panel
U.S. Nuclear Regulatory
Commission
Washington, DC 20555

Howard A. Wilber
Atomic Safety and Licensing
Appeal Panel
U.S. Nuclear Regulatory
Commission
Washington, DC 20555

Atomic Safety and Licensing
Appeal Panel
U.S. Nuclear Regulatory
Commission
Washington, DC 20555

Mr. Ed Thomas
FEMA, Region I
442 John W. McCormack Post
Office and Court House
Post Office Square
Boston, MA 02109

Administrative Judge Sheldon J.
Wolfe, Esq., Chairman
Atomic Safety and Licensing
Board Panel
U.S. Nuclear Regulatory
Commission
Washington, DC 20555

Robert Carrigg, Chairman
Board of Selectmen
Town Office
Atlantic Avenue
North Hampton, NH 03861

Judge Emmeth A. Luebke
Atomic Safety and Licensing
Board Panel
5500 Friendship Boulevard
Apartment 1923N
Chevy Chase, MD 20815

Diane Curran, Esquire
Andrea C. Ferster, Esquire
Harmon & Weiss
Suite 430
2001 S Street, N.W.
Washington, DC 20009

Dr. Jerry Harbour
Atomic Safety and Licensing
Board Panel
U.S. Nuclear Regulatory
Commission
Washington, DC 20555

Stephen E. Merrill, Esquire
Attorney General
George Dana Bisbee, Esquire
Assistant Attorney General
Office of the Attorney General
25 Capitol Street
Concord, NH 03301-6397

Atomic Safety and Licensing
Board Panel
U.S. Nuclear Regulatory
Commission
Washington, DC 20555

Sherwin E. Turk, Esquire
Office of the Executive Legal
Director
U.S. Nuclear Regulatory
Commission
Washington, DC 20555

Atomic Safety and Licensing
Appeal Board Panel
U.S. Nuclear Regulatory
Commission
Washington, DC 20555

Philip Ahrens, Esquire
Assistant Attorney General
Department of the Attorney
General
Augusta, ME 04333

Paul McEachern, Esquire
Matthew T. Brock, Esquire
Shaines & McEachern
25 Maplewood Avenue
P.O. Box 360
Portsmouth, NH 03801

Mrs. Sandra Gavutis
Chairman, Board of Selectmen
RFD 1 - Box 1154
Kensington, NH 03827

Senator Gordon J. Humphrey
U.S. Senate
Washington, DC 20510
(Attn: Tom Burack)

Senator Gordon J. Humphrey
One Eagle Square, Suite 507
Concord, NH 03301
(Attn: Herb Boynton)

Mr. Thomas F. Powers, III
Town Manager
Town of Exeter
10 Front Street
Exeter, NH 03833

H. Joseph Flynn, Esquire
Office of General Counsel
Federal Emergency Management
Agency
500 C Street, S.W.
Washington, DC 20472

Robert A. Backus, Esquire
Backus, Meyer & Solomon
116 Lowell Street
P.O. Box 516
Manchester, NH 03105

Mr. J. P. Nadeau
Selectmen's Office
10 Central Road
Rye, NH 03870

Carol S. Sneider, Esquire
Assistant Attorney General
Department of the Attorney
General
One Ashburton Place, 19th Flr.
Boston, MA 02108

Mr. Calvin A. Canney
City Manager
City Hall
126 Daniel Street
Portsmouth, NH 03801

Mr. Angie Machiros
Chairman of the
Board of Selectmen
Town of Newbury
Newbury, MA 01950

Mr. Peter S. Matthews
Mayor
City Hall
Newburyport, MA 01950

Mr. William S. Lord
Board of Selectmen
Town Hall - Friend Street
Amesbury, MA 01913

Brentwood Board of Selectmen
RFD Dalton Road
Brentwood, NH 03833

Gary W. Holmes, Esquire
Holmes & Ells
47 Winnacunnet Road
Hampton, NH 03841

Judith H. Mizner, Esquire
Silverglate, Gertner, Baker
Fine, Good & Mizner
88 Broad Street
Boston, MA 02110

Richard A. Hampe, Esquire
Hampe and McNicholas
35 Pleasant Street
Concord, NH 03301

Charles P. Graham, Esquire
McKay, Murphy and Graham
100 Main Street
Amesbury, MA 01913

Thomas G. Dignan, Jr.