Supplemental Testimony of Westchester County Deputy Commissioner of Transportation, Raymond S. Jurkowski, on the Evacuation Plan for Indian Point

While some new issues have arisen since the preparation of my testimony back in June 1982, I would like to note for the record that our original statement remains basically unchanged and the concerns therein remain unresolved.

The issues that I will address in this supplemental testimony are:

I. Reactions to the Report Prepared by the Federal Emergency Management Agency, Dated December 16, 1982

II. Reliability of Equipment

III. Protection of Bus Company Personnel Within the EPZ

IV. Future Drills and Simulations

V. Insurance

I. Reactions to the Report Prepared by the Federal Emergency Management Agency, Dated December 16, 1982

The only transportation-related problem identified in the FEMA report is "the possible non-response of commercial bus drivers used for evacuation in Westchester County."

Other issues raised in our original testimony and those appearing on pages 26 and 27 of FEMA's Interim Findings report of July 30, 1982 have not been incorporated in the recent updated version, nor made part of the work effort by the Task Force set up to address plan deficiencies. Although FEMA has stated that REPG intends to fund a comprehensive transportation study, and that "a more effective solution is to be developed," we are uncertain as to how FEMA, the federal advisor to the NRC, views the severity and magnitude of not only our concerns but those raised during the public

hearings of this past summer. It is our belief that the identification and assessment in the final report of our problems and those perceived by the public would have cast a larger shadow on the status of preparedness and the practicality of implementation.

During the 120-day period, the County submitted a proposal by A.T.E. Management and Service Co., of Cincinnati, Ohio (See Attachment 1) to the utilities and state officials. The proposal addresses all the concerns we raised in the past regarding the transportation component of the evacuation plan. To date, we have not received a formal response from the utilities or the state and are not certain whether the proposed REPG study acknowledges all our concerns.

National Guard

At present we have serious reservations about the ability of the National Guard to mobilize and carry out its responsibilities in the few hours required under the plan. The additional four to five hours needed to mobilize the Guard can potentially retard our entire evacuation scenario. We, therefore, strongly recommend that the estimated mobilization times be tested and the impact closely evaluated before they are incorporated into any official plan.

We also anticipate complications arising from the Guardsmen's unfamiliarity with local roads and conditions. This situation is further compounded by the facts that we still do not have satisfactory bus route maps, that not all the required bus movements have been mapped and that not all evacuation routes have been verified as to their suitability for bus operations (See Attachment 2 for a sample route map and Attachment 3 for a typical example of required bus movements.)

Similarly, we anticipate further problems arising from the Guardsmen's unfamiliarity with operating different types of buses. The operation of school buses with tires in front of the driver versus transit coaches with tires behind the driver will require special training so that the vehicle can be operated safely over winding roads. Guardsmen will also have to be trained to drive not only conventional buses but advanced design coaches and possibly articulated buses as well as both automatic and manual transmissions. (See Attachment 4 for a brief description of the current training programs provided by the two largest bus companies participating in the plan and their suggestions for training the National Guard.)

Our critique of the Division of Military and Naval Affairs' Plan strongly disagrees with the assumption that sufficient numbers of public school bus drivers will respond to perform evacuation assignments, particularly since we have raised the concern that the majority of school bus drivers are laid off during the summer months and seek other jobs or take vacations. Therefore, a commitment must be obtained to back up the entire driver requirement of any plan that is finally adopted.

II. Reliability of Equipment

Approximately 72% of the buses required in the plan are school buses (See Attachment 5). Since the majority of these buses are idle during the summer months an assessment must be made as to the probable delay associated with making these buses ready for service.

III. Protection of Bus Company Personnel Within the EPZ

Under the current plan, five of nine bus garages are located within the area to be evacuated (See Attachment 6). Unless satellite base stations are identified outside the EPZ so that communications can be maintained, dispatchers and other essential personnel will be forced to remain in an evacuation zone for extended periods of time to direct the operation of their drivers during the evacuation and continuing through the reunion of family members at reception or congregate care centers.

IV. Future Drills and Simulations

In my original testimony I outlined two fundamental problems with the two wave evacuation scenario. First, it was our opinion that the natural reaction of parents would be to drive to the schools and rescue their own children, thereby creating traffic jams which would delay the buses and the evacuation of the general population, since the same buses are to be used in the second wave. Second, in a two wave evacuation, buses trying to re-enter the EPZ to begin the second wave will encounter contra-flow traffic, and drivers may be reluctant to re-enter the area a second time.

At the July public hearings in Cortlandt, and as documented in FEMA's interim report, our suspicions were confirmed. Parents testified that they would not follow instructions against driving to schools to pick up their own children.

The point that I must stress again, is that as long as the same buses are required to operate in two waves, the potential for incalculable delay exists and no drill or simulation can test our fundamental concerns.

V. Insurance

At present, the issue of insurance liability has been raised by some of the bus companies as both a concern and potential disincentive to participate in the evacuation plan. Since many drivers or National Guardsmen could be operating privately owned equipment in unfamiliar territory, the potential for a serious accident and related liability is an unfortunate reality that must be seriously studied when contemplating an evacuation of this magnitude. The question of adequate coverage to protect all parties should be of paramount concern to all involved in this operation. Issues of indemnification or hold harmless provisions need to be further explored and the financial impact fully assessed.

Conclusion

We are now another six months down the road since the submission of our original testimony. The 120-day period has expired and FEMA has issued their updated report but we are still left with a transportation plan that in our mind is unworkable. The "human response factor" remains an unknown. Even the issues which can be addressed by "time and money" have not been agreed to by all parties. The operations portion of the plan is still extraordinarily bulky and unmanageable. The availability of adequate vehicles and drivers is still questionable. I must regretably repeat the final paragraph of our original testimony. "There are just too many "ifs"; too many new problems surfacing while our original concerns remain unanswered. We, therefore, must remain skeptical about the feasibility of the evacuation plan."

ATTACHMENT 1 - ATE Proposal

PROPOSAL TO PROVIDE

WESTCHESTER COUNTY

DEPARTMENT OF TRANSPORTATION

WITH AN EVACUATION MANAGEMENT SYSTEM

OCTOBER, 1982

II. DETAILED SCOPE OF WORK

The proposed scope of work for this project has been separated into nine (9) major tasks requiring a total of twelve (12) months to complete from the data of contract signature. A listing of these major tasks appears below followed by a detailed description of the role of each task in the completion of the project.

TASK	
1.0	Evacuation Demand Analysis
2.0	Evacuation Resource Assessment
3.0	Transportation Network Analysis
4.0	Transportation Resource Procurement
5.0	Evacuation Response Management System
6.0	Operator Response Management System
7.0	Testing and Simulation
8.0	Public Education and Information
9.0	Evacuation System Maintenance

1.0 Evacuation Demand Analysis

This major task is designed to establish the demand characteristics of the Emergency Planning Zone (EPZ) through four sub-tasks.

Sub-Task	
1.1	Demographic Analysis
1.2	Special Generator Analysis
1.3	Attitudinal Research
1.4	Public Needs Assessment

Information collected and analyzed as a result of this task will be used to establish the volume and specific characteristics of the transportation services required to execute a timely and safe evacuation. The general public's attitudes and their perceived needs are measured to incorporate the human response factors related to calculating demand.

Each of the sub-tasks is described below to provide a summary of the steps required to fulfill this need for demand-based information by time of day, day of week, and time of year.

1.1 Demographic Analysis

The demographic characteristics of the EPZ are very likely to have changed since the development of the most recent plan. In an effort to preserve as much of the data base from the original effort,

the first step under this sub-task will be to completely review the census data used by Parsons Brinkeroff Quade & Douglas (PBQ&D).

The second step requires updating the population statistics used by PBQ&D to achieve consistency with the 1980 census. Once the statistics have been updated, it will be necessary to analyze the changes that have taken place since the estimate used and the original report was prepared.

The objects of these analyses will cover the primary aspects of transportation-related demographics such as:

- general population
- auto ownership
- mobility impaired
- transit dependents

The magnitude of observed change between the PBQ&D population estimates and the actual 1980 figures will provide an indication of both the frequency and level of effort that should be applied throughout the life of the plan to maintain the demographic data base at an acceptable level of accuracy. The fourth step in this sub-task will provide a recommended statistical maintenance schedule and procedure.

Appropriate updated demographic statistics will be coded for data entry during a fifth step, for example, standardized census data tapes.

This process may be a relatively simple task if the updated statistics can be obtained in a format compatible with available data storage hardware.

The final product of the demographics analysis task will be an updated population distribution map capable of supporting service design activities throughout the course of the project and at the conclusion of the project can be used in the Emergency Operation Center (EOC). As is the case with all of the other activities proposed for this project, it is the consultant's intention to take full advantage of all previous work. In keeping with this objective, all exisiting PBQ&D base maps will be used during the tasks and steps required to update the evacuation demand estimate.

1.2 Special Generator Analysis

One of the most important aspects of evacuation planning involves the accurate maintenance of a special generator inventory where large numbers of people are likely to be without access to transportation during an event requiring evacuation. Examples of such facilities include:

Schools, including BOCES

Day care centers

Senior citizen centers

Hospitals

Institutions

Extended care facilities

Sheltered workshops

An equally important aspect of special generators is their potential impact on traffic flow during an evacuation. This category of generators includes these which attract and concentrate significant numbers of automobile users at single locations. Examples include:

Employment sites

Universities

Sporting events

Shopping

Campgrounds and parks

Cultural events

Steps similar to those applied to the demographic analysis apply to the consideration of special generators. All lists and other data available from the PBQ&D plan will be reviewed thoroughly and confirmed for accuracy. In addition, special transportation-related characteristics will be identified for each generator to insure that appropriate resources can be applied during an evacuation. The need for specialized transport to serve non-ambulatory persons is a particular concern that will be addressed in the special generator analysis.

Special generators are time sensitive with populations that fluctuate both throughout the day and at certain times of the year. It will be the object of this task to measure the potential impact of this

characteristic on the resources that would be required during an evacuation.

A complete data base maintenance procedure will be produced as a result of this task to assist in the continued insurance of accuracy. Special generator contact lists will also be developed to support the need to communicate with the administrators/owners of special generators to confirm transportation needs and/or to record changing needs.

All special generator information collected will be coded for data base entry.

1.3 Attitudinal Research

Knowledge of transportation-related human behavior factors both within and in the vicinity of the EPZ will be used as a parameter in the development of evacuation service design. To support the need for this knowledge approximately 2,000 households will be interviewed by telephone, with about 85 percent of the sample from inside the zone and the remaining 15 percent outside the zone.

An effective questionnaire will be used to measure the existing level of evacuation planning awareness, the presence of family-based evacuation planning, probable destinations of evacuation flow, and the circumstances under which respondents feel they should be evacuated. The firm of CRI Research of Minneapolis, Minnesota, is proposed as the subcontractor to ATE for the collection of the data.

A team of ATE staff experts will review and analyze the results of the survey and measure its significance with respect to transportation needs and impacts. The results of this survey should be significant to the measurement of unbiased public attitude toward evacuation planning and should provide a useful forum in which accurate assessment of public need can be conducted.

1.4 Public Needs Assessment -

In order to produce an effective evacuation plan that has earned credibility with the public, it is essential to involve those who would be affected. Given the tone and nature of past public hearings on the matter of plant safety, a number of evacuation needs assessment workshops are proposed to provide a structured, participative format designed to focus on public needs related to evacuation planning.

Workshops will be held in each of the 22 Emergency Response Planning Areas (ERPA's). Results of these meetings will be used to identify issues that should be addressed in the plan.

Records of these meetings along with the levels of participation achieved will be fully documented and related directly to the contents of the plan. This process of public input documentation will assist greatly in establishing credibility and acceptance.

2.0 Evacuation Resource Assessment

The objective of this task is to determine the level of resources available to implement an emergency evacuation. There are four major sub-tasks associated with this assessment:

2.1 Transportation Assessment

2.2 Communications Assessment

2.3 Facilities Assessment

2.4 Support Equipment and Supplies Assessment

Information collected and analyzed as part of this task will be used in conjunction with the results of Task 1.0 to insure that sufficient resources are available in the event of an emergency and that they are efficiently used. The required steps associated with each sub-task are contained below.

2.1 Transportation

A comprehensive review of the data base developed by PBQ&D will be undertaken to determine the initial level of transportation resources. Because this information has undoubtedly changed since its collection, it will be updated per the following classifications:

- Transit bus
- School bus
- Taxi

- Lift van
- Helicopter
- Ambulance/hearse
- Regular van
- Rail
- Over-the-road bus

The permanent location of all vehicles will be determined. In addition to charts indicating the location, number and type of vehicles which will be available for an evacuation, a map will be prepared graphically presenting this information. This will help WCDOT make the fast decisions necessary in the event of an emergency.

The next step in this sub-task is to determine the operating characteristics of all operators in the area. This is crucial to assess vehicle availability at different times of the day and during different seasons. For example, the seasonal use of school buses, which do not operate during the summer, is critical information because it is doubtful that these vehicles could be used after sitting idle for two to three months without extensive preparation to insure air is in the tires, fluid levels are satisfactory, etc. Each operator will be contacted to determine the following:

- Peak vehicle requirement
- Off-peak vehicle requirement
- Service hours
- Seasonal service variations

- o Special activities (i.e., level of charter service)
- o Number of employees by classification

From this information, tables will be prepared indicating vehicle availability during different times of day, days of the week and during different seasons.

2.2 Communications Assessment

The purpose of this sub-task is to review and catalogue the communications resources of each operator. Each operator will be contacted to determine the type of communication equipment used and its strengths/limitations.

During an evacuation, it could be necessary to contact vehicles already in the field to issue new instructions. This sub-task will pay particular attention to the mobile radio communications capability of all vehicles. Items to be reviewed include:

- o Frequency assignment
- o Area of coverage
- o Compatibility with other operators

2.3 Facilities Assessment

The purpose of this sub-task is to review the list of emergency evacuation facilities already compiled to determine their capability and

capacity in an emergency. Facilities identified as Reception Centers and Congregate Care Centers will be visited to assess each faciliy's capacity, communications capability, accessibility restrictions, and the amount of vehicular support equipment available. Impediments to smooth vehicular flow will be identified and catalogued for future inclusion in developing the operations plan. Hours of normal operation of each facility will be catalogued.

2.4 Support Equipment and Supplies Assessment

The objective of this task is to establish the level at which each operator can support his own operations (i.e., in-house maintenance capability) to insure that all vehicles committed to the evacuation will be available and operable. This is of particular importance with the operators of school buses as indicated in Section 2.1.

Vehicular support equipment, especially tow trucks, will be identified and catalogued. Tow trucks will be needed during an evacuation to tow not only any buses which break down, but also to remove stalled cars which would obstruct evacuation routes.

3.0 Transportation Network Analysis

An analysis of the transportation network was conducted during the formation of the current evacuation plan and should be updated to reflect changes in the population, new traffic generators, and public perception needs and attitudes from Task 1.0 of the work program. In addition, the network analysis portion of the project should be used to:

Confirm network capacities under varying conditions

Measure structural integrity of the system

Identify geographic barriers

Define evacuation routes

Locate vehicle staging areas

Calculate travel lines

Design re-entry routes

A more complete discussion of each of these tasks appears below.

3.1 Confirm Network Capacities

A preliminary review of the existing plan indicates that an extensive effort has already been devoted to network capacity analysis; however, changing populations, new traffic generators, new highway segments and revised evacuation routes will be considered as new input for the existing traffic model if it is determined that the new data will have a significant impact. It is ATE's intention to utilize a subcontrac-

tor for this portion of the work program who is familiar with the DTS and the county's existing traffic network data base.

3.2 Measure Structural Integrity

This portion of the work program will also be subcontracted and involves the inventory and confirmation of links in the existing network which are unable to support high capacity vehicles. In addition, consideration will also be given to the use of the parkway system under this subtask.

3.3 Identify Geographic Barriers

Potential geographic limitations to movement will be identified, catalogued and mapped for the purpose of isolating links over which high capacity vehicles may not be safely operated or where access to these vehicles may be limited by natural barriers, such as rivers, streams, forests, etc.

3.4 Define Evacuation Routes

It has been assumed that the automobile evacuation routes from the current plan will remain unchanged; however, it has become apparent, based on a review of the plan, that high capacity vehicle evacuation routes will require complete reconstruction.

This process will involve data collected under Tasks 1.0, 2.0 and 3.0, as well as a complete review of PBQ&D route rationalization material for the current plan. Once the data has been assimilated and reviewed, routes will be redesigned to serve the general population and special generators, taking into account the need for special modes.

Each route will be "sample operated" with a high capacity vehicle to insure suitability of roadway selection. Each route will be mileage measured and pick-up zones will be identified.

Vehicle assignments will be made to each of the routes to meet capacity requirements projected from Task 1.0. These assignments from the vehicle resource inventory in Task 2.0 will match particular modes with apparent user characteristics, e.g., ambulance with hospital patients, lift-equipped vehicles for the non-ambulatory handicapped, etc.

The end product of this sub-task will be a complete set of service/route maps by mode for high capacity vehicles and a general population evacuation route plan related to ERPA origins.

3.5 Locate Vehicle Staging Areas

Vehicle staging areas immediately outside the EPZ will be used in the service design for several purposes, including:

- Relocation for operators inside the EPZ

- Mobile dispatch centers
- Communication links

Transportation resources committed to evacuation assistance whose base of operation is within the EPZ will receive assignments to make pick-ups at prescribed locations, move to their designated reception centers, and return to a pre-assigned vehicle staging area to be dispatched to additional service or to remain on stand-by. Operating personnel from within the EPZ will be assigned to vehicle staging areas prior to their release.

Transportation resources whose base of operation is outside the EPZ will report directly to assigned vehicle staging areas for dispatch over routes serving the general population, thus allowing the on-line allocation of vehicles to routes as they become available. This mobile dispatch process will reduce the need for cumbersome communications and complicated instructions.

Vehicle staging areas will also be useful as communication links with the Emergency Operations Center (EOC), and because of their strategic location can be used to rescue disabled vehicles, redirect the flow of resources to critical areas, and as comfort stations for drivers.

3.6 Calculate Travel Times

This sub-task will be used to establish travel times for the high occupancy vehicle operations portion of the plan including mobilization

time, route running time and travel time to vehicle staging areas. These time estimates will be based on probable road network travel times, projected loading time, estimated vehicle occupancy, weather, and time of day, month, and year.

3.7 Design Reentry/Circulation Routes

For as long as the need for evacuation remains in effect it will be necessary to link Reception Centers and Congregate Care Centers to each other as well as link these facilities with other transportation resources for intra-and inter-state travel. The design of this system will define all necessary routes, develop approximate vehicle assignments, and produce probable schedules.

At the conclusion of an evacuation, it will be necessary to return citizens to their place of residence. Routes will be identified to facilitate a smooth re-entry process.

4.0 Transportation Resource Procurement

Tasks 1.0, 2.0 and 3.0 were designed to revise, update and improve upon the current evacuation plan. The next three tasks, 4.0, 5.0 and 6.0, have been designed specifically to meet the County's need to have a plan which can be successfully operated and that will achieve credibility with those who will both provide and use transportation services.

Procuring, monitoring and maintaining the resources to accomplish evacuation in a reasonable state of readiness is the objective of Task 4.0. These resources include:

4.1 Transportation

4.2 Facilities

4.3 Communications

4.4 Support Equipment

The following paragraphs describe, in narrative form, the objectives of each of the major sub-tasks.

4.1 Transportation

Transportation resource procurement includes two major objectives: vehicles and manpower. Task 3.0 was used to establish vehicle requirements, by routes, between various origins and destinations. Subtask 4.1 undertakes the fulfillment of these requirements by matching

the transportation resources identified in Task 2.0 with the service requirements from 3.0.

There are a number of barriers to meeting these requirements that will be addressed through the execution of this sub-task. Operators have expressed concerns regarding adequate insurance to cover potential liability, compensation for services rendered, disruption of normal service outside the EPZ, and the operational feasibility of the plan.

The public has expressed its concern about whether operators will reliably commit their resources to an emergency and whether operators can successfully respond to their needs. These issues must be successfully addressed in order to attract sufficient vehicle resource commitments. The process for addressing these issues will involve interviews with operators to more accurately identify their needs, development of a set of standards to support operating expense reimbursement, research of insurance liabilities, and drafting a master commitment agreement. The commitment agreement will morally bind operators while providing them with adequate and reasonable protection under emergency circumstances.

Once the draft commitment agreement has been accepted by all interested parties, the vehicle resource commitment to the recruiting process will begin. An attempt will be made to recruit as many resources as possible, placing those without designated roles into a reserve fleet.

The second major portion of transportation resource procurement involves the selection and training of qualified drivers. This portion of the sub-task will be perhaps the most difficult of all to bring to successful completion. Drivers from each committed operator will be recruited through a process that identifies concerns, successfully addresses those concerns, and establishes a need to volunteer. Interviews with local bus drivers, union officials and transportation operators will be utilized to identify the most apparent driver needs, e.g., disability insurance, safety precautions, etc.

Appropriate arrangements will then be made to address the drivers' needs and a draft commitment contract will be prepared. Following approval, a course similar to that which was followed for operator recruitment will begin. As recruits are processed they will be scheduled for training in a course of instruction designed to prepare them for direct participation in an evacuation. In addition to drivers, other support personnel such as dispatchers, mechanics, etc. must also be similarly attracted, committed and trained.

4.2 Facilities

It will be necessary to obtain participation commitments from both the Reception Centers and Congregate Care Facilities identified in Task 2.0. Once these commitments have been obtained, it will be possible to confidently use these facilities in the route design process. Although there are currently no known issues that would inhibit the use of these facilities, it will be appropriate to approach the procurement

of Reception Centers and Congregate Care Facilities in a manner similar to the approach used for vehicles.

A part of this task will also address the operational interface points with these facilities including contract persons, special alternative procedures that should be followed, and the identification of any restrictions that may apply.

4.3 Communications

In addition to the communications capability of operators involved in the evacuation plan, commitments from other communications support groups should also be obtained. Examples of such groups include the American Radio Relay League (Amateur Radio Operators) and the National Guard. The depth of this effort will depend upon the success of Task 2.0's identification of communication resources. Additional communications support will be important to the effectiveness of vehicle staging areas.

4.4 Support Equipment

Even though it is very likely that most support equipment can be obtained through operator commitments, it may be necessary to approach resources from other portions of the private sector to supply back up fuel supplies, towing service and shelter at vehicle staging areas.

5.0 Evacuation Response Management System

This major task will accomplish the development of a management, organization, and support system to coordinate evacuation response activities through the Emergency Operations Center (EOC).

Response time will be reduced to minimal levels by incorporating the results of Task 1.0 - 4.0 into a matrix of prepatterned responses to various, likely conditions. Once the EOC concludes that an evacuation is to be executed, the management system replies with instructions that identify which, and to what extent, each transportation company will be involved. Training to familiarize the evacuation response staff with the use of the management system will also be conducted. A listing of the major subtasks associated with the completion of this element of the project is presented below:

5.1 Response Management System

5.2 Response Management System Development

5.3 Data Input

5.4 Testing

5.5 Training and Implementation

5.1 Response Management System Design

Under this sub-task the complete conceptual design for the response management system will be designed to identify the critical

paths of internal communication and to specifically determine opportunities for electronically assisted decision making. In addition, an appropriate organization structure will be developed.

5.2 Response Management System Development

The first element in this sub-task is the identification and purchase of the appropriate data base management software that will support design requirements established in 5.1. Once the software is obtained it will be necessary to tailor programs and documentation to meet specific needs. Organization and staffing dimensions will be refined and a master operations manual will be constructed for use by the evacuation staff responsible for transportation.

5.3 Data Input

Data will be prepared and loaded into the electronic response system from Tasks 1.0, 2.0, 3.0 and 4.0 to provide the base information necessary to list operations plans based on prescribed conditions.

5.4 System Testing

Once data has been coded and added to the system it will be possible to test the responses based on hypothetical conditions. An easy-to-understand user's manual will be developed under this sub-task following full testing.

5.5 Implementation and Training

A complete user training program will be developed based on the user manual and the master operations manual. The program will be presented to all staff who would be called upon to support an evacuation effort. Following the training program, an unannounced drill will be conducted to measure the staff's ability to respond to an evacuation situation. Following the test, a post-test critique session will be held with employees to discuss any problems that may have surfaced during this drill.

6.0 Operator Response Management System

As discussed above in the description of Task 5.0, response time at the EOC can be reduced by providing a system of preselected instructions that correspond to varying conditions. Response time reductions for the transportation companies (operators) who have made a commitment to support an evacuation are achieved in a similar fashion; however, the emphasis in this task is to produce uniformity in the response.

Each operator will receive an operations manual that has been tailored to the service commitment each has made. By systematizing the operator's response, support materials such as driver call-up lists, dispatch check sheets, cost recovery procedures, and route and service assignments can be developed and supplied in universal formats. The sub-tasks required are listed below:

6.1 Operator Management System Design

6.2 Operator Management System Development

6.3 System Testing

6.4 Training and Implementation

6.1 Operator Management System Design

The design of this management system will include an identification of all of the operating procedures that must be developed to insure a timely and complete response. Those elements include, but are not limited to:

Stand-by status procedure

Active status procedure

Driver call-up procedure

Individual driver instructions (Run Guide)

Equipment preparation

Support equipment requirements

Relocation procedure

Communications procedure

Chain-of-command

Cost recovery instructions

Operations checklist

Dispatch procedure

Passenger handling policy

Decontamination procedure

6.2 Operator Management System Development

Following the complete conceptualization and design of the operators management system, procedures will be defined in detail to correspond to the roles of particular operators. Throughout this process regular contact and involvement with operators is expected.

6.3 System Testing

While this sub-task may prove to be difficult to accomplish, it is essential that simulations be conducted in the form of 'dry-runs" to insure that all of the required elements are in place and functional.

6.4 Implementation and Training

Once testing has been completed, instruction manuals will be prepared and ATE staff will assist operators in the conduct of in-house training and simulation exercises.

7.0 Testing and Simulation

Even though various forms of testing and simulation have been incorporated into the development and execution of several of the major tasks, a final examiniation of the system at work will confirm the operational capabilities of the plan.

The testing and simulation process will be conducted under the applicable regulations and procedures. Observation and evaluation will be conducted in an unbiased manner by a team appointed and approved by the Nuclear Regulatory Commission (NRC).

In addition, an ATE testing and observation team will be on-site to observe and evaluate the testing and simulation of the plan in an effort to supply an internal critique. Subtasks are listed below:

7.1 Coordinate Test Activities with Regulatory Agencies

7.2 Provide On-Site Observation and Evaluation

7.3 Conduct Debriefings

7.4 Develop Recommendations for Change

7.5 File Report

7.1 Coordinate Activities with Regulatory Agencies

Even though all testing will be conducted under existing regulations, it will prove to be beneficial to brief members of regulatory agencies involved in the test on the various aspects of the evacuation plan that have changed substantially, such as rerouting and the addition of vehicle staging areas.

7.2 On-Site Observation

ATE will provide an on-site evaluation team consisting of key project memebers to observe the test and evaluate performance against the prescriptions supplied by the plan. By using members of the project team, ATE expects to gain observations that will be useful in modifying the plan if necessary. New York State and/or the Utilities will be responsible for all costs associated with simulation and testing.

7.3 Conduct Debriefing

ATE will conduct debriefing sessions with WCDOT staff, participating operators and project team members in an effort to catalogue any observed inconsistencies between the plan and the simulation.

7.4 Develop Recommendations For Change

This sub-task anticipates the need for some modification of plans and procedures resulting from the post-test critique process.

7.5 File Report

A complete report from the observation team will be prepared and submitted detailing deficiencies observed and corrective measures taken.

8.0 Public Education/Information

Much of the creative direction for this campaign will come from the market research conducted in the evacuation zone. Among the elements which will be considered are:

- o Self Evacuation Guide/Information Aids
- o Routing, Maps and Schedules
- o Institutional Educational Program

The project marks a pioneering effort in educating the public on nuclear evacuation planning. The specific ways in which this program will be packaged and sold is important to the overall degree of credibility that the public lends to the overall education program. Historically, plans have failed because of conceptual inadequacies of their public information efforts.

ATE has a wide breadth of experience in the development of user information/education programs which promote the utilization of public transportation. ATE will lend this experience to the development of the public education/information tasks so that the overall plan may win a high degree of public confidence. Execution or actual production of the final printed materials will be the responsibility of the State and/or the Utilities.

8.1 Self Evacuation Guide

The Self Evacuation Guide is the basic interpersonal communications tool of the evacuation plan. It is vital that this document be as friendly and comprehensive as possible.

Much of the copy and graphic direction for the Self Evacuation Guide will come from the market research effort. As part of this task, ATE is compiling the printed materials from other nuclear projects so as to assess those factors which would make the guide more usable. ATE will prepare and provide graphic and copy direction to the Utilities to complete the guide.

8.2 Education Workshops

A thorough review of the plan's objectives, methodologies, and time schedule will help the public gain a better understanding of Con Ed, PASNY and Westchester County's concerns and needs with the plan.

The ATE project team, in conjunction with Con Ed, PASNY and Westchester County, will conduct community education workshops throughout the Evacuation Planning Zone and nearby areas. These workshops allow for citizen participation in the planning process, and establish a two-way flow of communication between the Utilities and Westchester County and the public they serve.

An important function of this task will be to review the entire planning process so that residents of the areas can gain a greater understanding of their roles in the plan.

ATE views the community education process as essential to establishing the rapport and cooperative relationships that must be associated with this plan if it is to be accepted as credible and, most importantly, if it is to be workable.

The proposed format of the workshops would be as follows:

- Introduction of participants
- Presentation of plan objectives (35mm slide presentation)
- Verbal presentation on the roles of Con Ed, PASNY, New York State, Westchester County, other agencies, and the public
- Presentation of research findings
- Presentation of test results
- Closing remarks

8.3 Evacuation Route Maps

ATE will create specific evacuation route maps for every cell in the evacuation zone for production and distribution by the State and the Utilities. These maps will be created using the graphic style which ATE uses on its managed public transit systems. This individualized approach accomplishes many things:

- o It allows for individual confidence and awareness of evacuation routes;
- o It allows for personalized distribution of the maps via direct mail by the State and the Utilities; and
- o It enhances the retention of the map.

ATE will review any specialized map needs in the evacuation zones, for example, braille or foreign language requests. These maps will be produced to scale. They will be typeset with type no smaller than 10 point and they will be offset printed for clear reproduction quality.

ATE will recommend a distribution technique following the community education workshop series.

8.4 Institutional Evacuation Response Plan

An institutional evacuation planning procedure is an important adjunct to the overall plan. It is important that the plan address the specific needs of large concentrations of people, whether it be in the work place, school, hospital or church.

Once an inventory of institutional needs is completed, it will be necessary to establish a special institutional public education effort working at the Personnel Director level. This effort will be much like those ATE has developed for its public transportation clients. The education program will include development of concepts for these items:

- o Surveys of employee and management attitudes
- o Feasibility assessments
- o Development of vehicle inventories
- o Selection and training of key personnel
- o Educational seminars for employees via audio-visual methods

8.5 Public School Education Program

A great deal of emphasis in the overall program must be placed upon the transport of public school children from the evacuation zone. In order to achieve this an "in-the-school" public information effort is mandated.

The effort should begin with public school boards and administrators who need to be made aware of the significance of pupil awareness of this program. Once access is gained into the schools it is vital that the program take on an educational posture, one that informs but does not create apprehension.

ATE has mounted special public transportation education programs in the schools of:

Minneapolis, Minnesota
Baltimore, Maryland
Indianapolis, Indiana
Louisville, Kentucky

Tuscon, Arizona

Lincoln, Nebraska

The success of these programs has been due, in great part, to their segmented approach to age groups. For example, second to fourth graders may receive an educational coloring book as part of the program while teenagers could see and hear an audio-visual presentation featuring a disk jockey from a local rock station.

A similar style will be warranted in Westchester County. It is recommended that the program receive the approval of every school board and administrator in the evacuation zone.

ATE will provide copy and graphic direction for the preparation of this program, which would be funded by the State and/or the Utilities.

9.0 Evacuation System Maintenance

Levels of demand and accessibility of evacuation resources can be expected to change over time. In order to properly maintain acceptable levels of data base accuracy upon which successfuly execution of an evacuation rests, procedures must be put in place that will institutionalize the updating process.

Demographic statistics are updated periodically through estimation techniques applied by county and state planning agencies. Special generator data should be reconfirmed on an annual basis through a telephone call to a contact person who can supply the most recently available information.

The addition or deletion of a special generator will have an effect on the plans as initially established which may call for both rerouting and vehicle reallocation.

Addition or deletion of a vehicle operator will have a similar effect, as would a change in fleet size, character of service, vehicle mix, or operating facility location. Annual renewal of the operator commitment contract is one method by which the pool of committed vehicles can be maintained at an acceptable level.

Annual renewal of the driver commitment is also recommended as a means of maintaining an adequate supply of operators. The annual renewal cycle will indicate turnover rates and in turn set levels of recruitment and training efforts required over time.

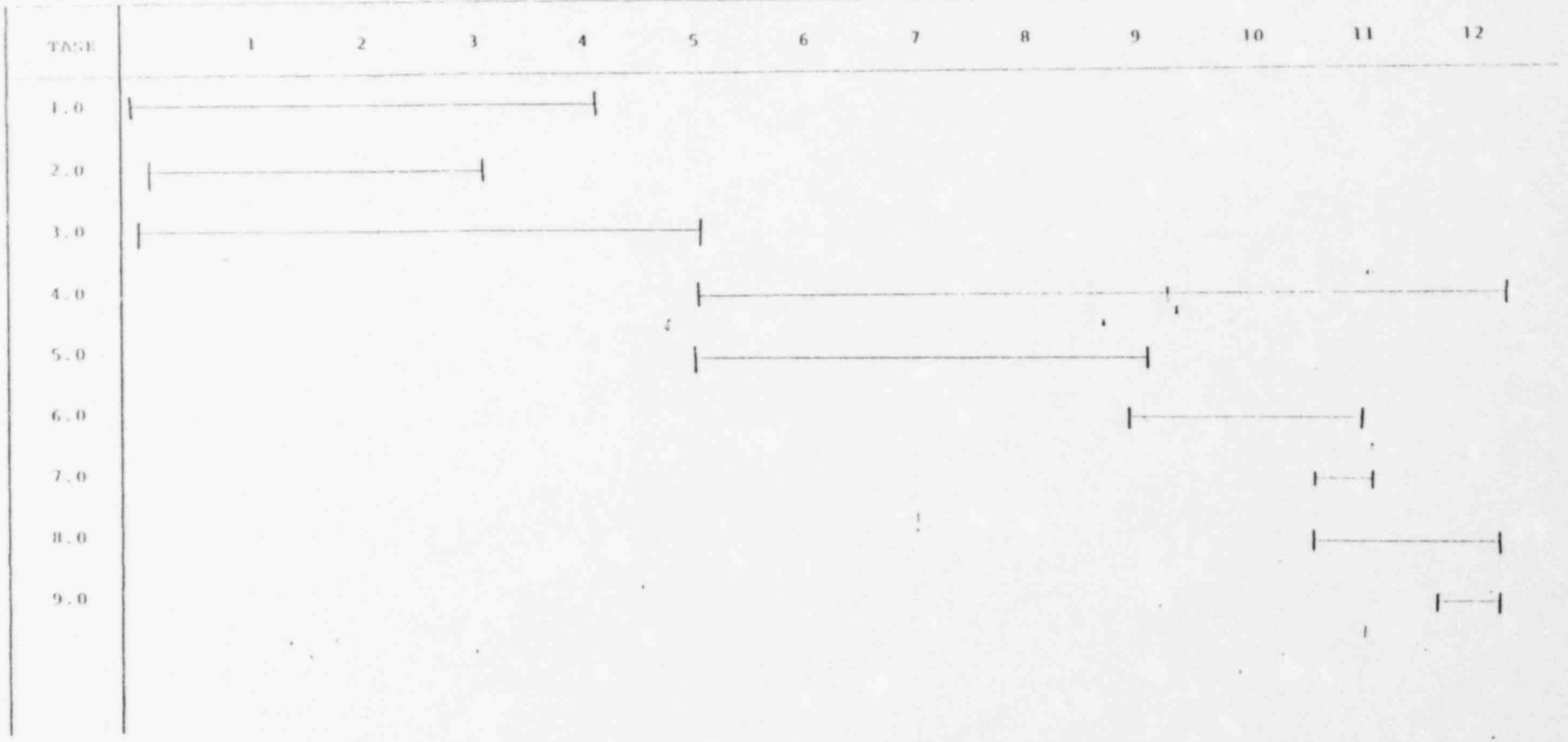
Semi-annual testing and simulation would be an effective method for maintaining awareness and readiness. Major reconstructing of routes or other plan elements would affect public information material which should be distributed semi-annually.

The final maintenance system design will address all of the above mentioned issues in the form of specific procedures accompanied by implementation schedules.

III. PROJECT SCHEDULE

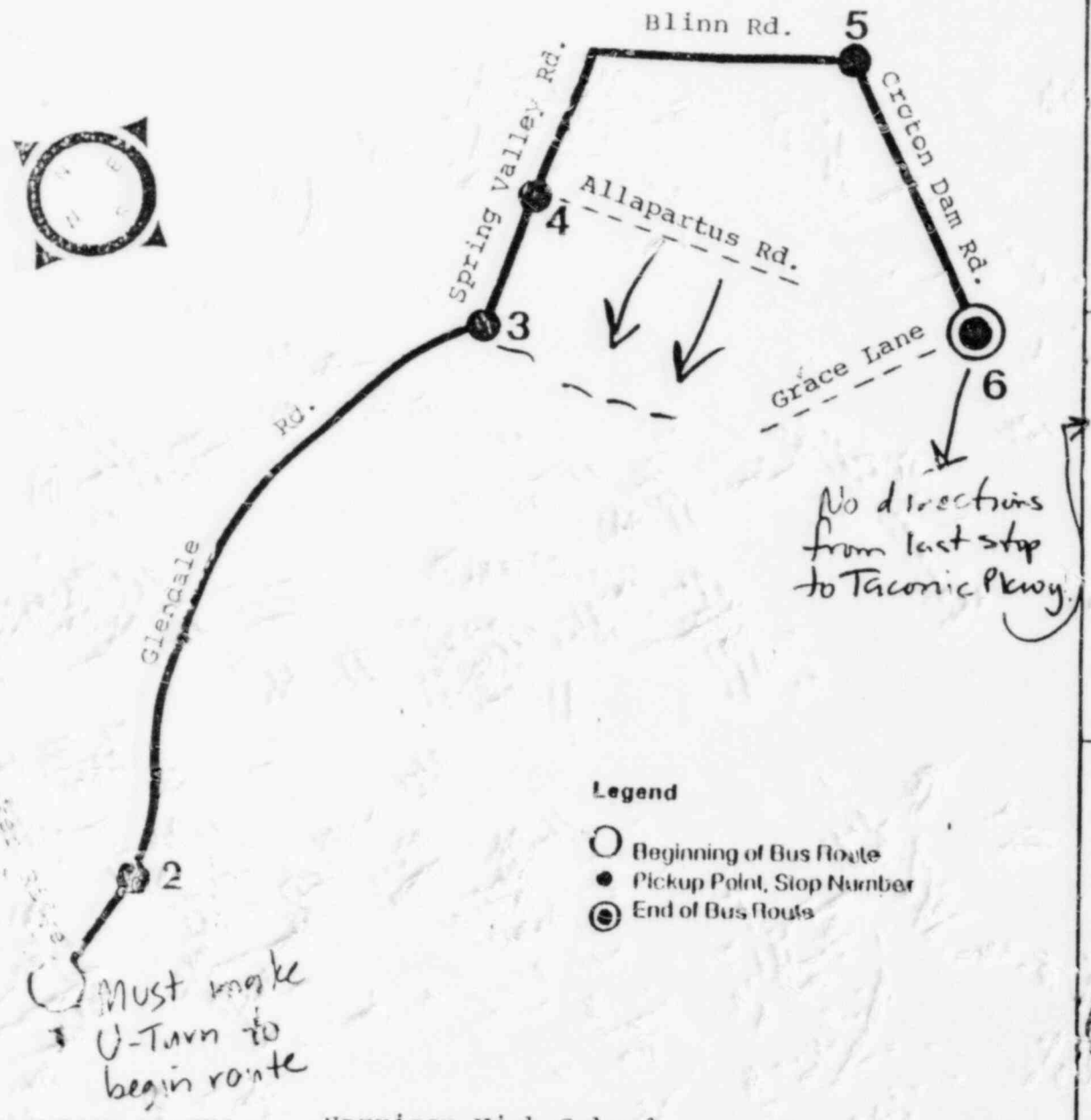
The table on the following page represents the approximate project schedule by task. It is anticipated that this project can be completed within twelve (12) months assuming the full cooperation of all parties involved.

PROJECT SCHEDULE



General Population Evacuation Route No. 100

BUS COMPANY OR SCHOOL DISTRICT: Chappaqua



RECEPTION CENTER: Harrison High School

Directions from garage to the beginning of the route

Douglas Rd. West
R-Hardscrabble Rd. North
L-Campfire Rd. West
N-Saw Mill River Pkwy to
Rte. 100 exit
R-Inningwood Rd. West.
L-Pines Bridge Rd. South
R-Grace Lane West
R-Croton Dam Rd. North
L- Allapartus and Glendale Rds.

Taconic
L - Rt. 100 South
R

Directions from the last pickup to the reception center

Spring Brook Pkwy South
Taconic State Pkwy. south to
Saw Mill River Pkwy. south to
Cross Westchester Expwy. (I-287)
east to exit 8E.
R-at traffic light
Continue up North St.
North St. becomes Harrison Av.
at the Harrison boundary.
Continue along Harrison Av. to
the school at Union Av.

Directions from the reception center to the garage

Harrison Ave. North
North St. to White Plains
L-Westchester Ave. South ? (EAST/WEST?)
R-Interstate 287 to Elmsford
L-Saw Mill River Rd. South
R-Saw Mill River Pkwy to
exit 32
R - Rt. 119 Westbound.

ATTACHMENT 2 - Sample Route Map

ATTACHMENT 3 - Required Bus Movements

LEGEND

With Passengers

Without Passengers

Terminals

1. Liberty Lines Garage
2. Walter Panas High School, Peekskill
3. Myers Corners Rd. School, Wappingers Falls
4. Peekskill - Evacuation Route #12
5. John Jay High School, Hopewell Junction

Movements

1-2 Garage to School - No route map

2-3 School to school reception center - No route map

3-4 Re-entry to beginning of route - No route map

4 Run Route #12 - Map available

4-5 End of Route to Reception Center- No map; directions only

5-1 Return to Garage-No map;directions only; return trip routed through EPZ

TRAINING

Liberty Lines (Jim Tedesco)

Currently Liberty Lines provides their student drivers with a 21-day training program which combines classroom and on-the-road experience. The program is divided as follows:

3 days of classroom instruction
18 days of behind-the-wheel experience and route familiarization.

Of the 18 days spent devoted to on-the-road training, the students are trained for 10 days on "fishbowls", 4 days on "high-level houses" (inter-city coaches) and 4 days on Advanced Design Buses. Class size is limited to 5 students.

If developing a training program for non-professional drivers, such as the National Guard, Mr. Tedesco would recommend a 10 or 11 day program that includes:

bus maneuvering;
defensive driving;
accident procedures;
passenger relations; and
safety.

Vanguard (John Silvanie)

Vanguard has a two-tier training program for their student drivers. First, prospective drivers are trained for school bus operations. This training takes 40 hours and combines classroom instruction and behind-the-wheel experience. The class size is normally 25 or less and there is usually one instructor to every two students.

After they have qualified for school bus operations, the drivers can be trained to operate the inter-city coaches. This requires an additional 40 to 60 hours of instruction during which the drivers learn about federal regulations and how to operate the inter-city coaches. There is usually one instructor for each student for this training.

Mr. Silvanie would recommend an identical training program for non-professional drivers such as the National Guard.

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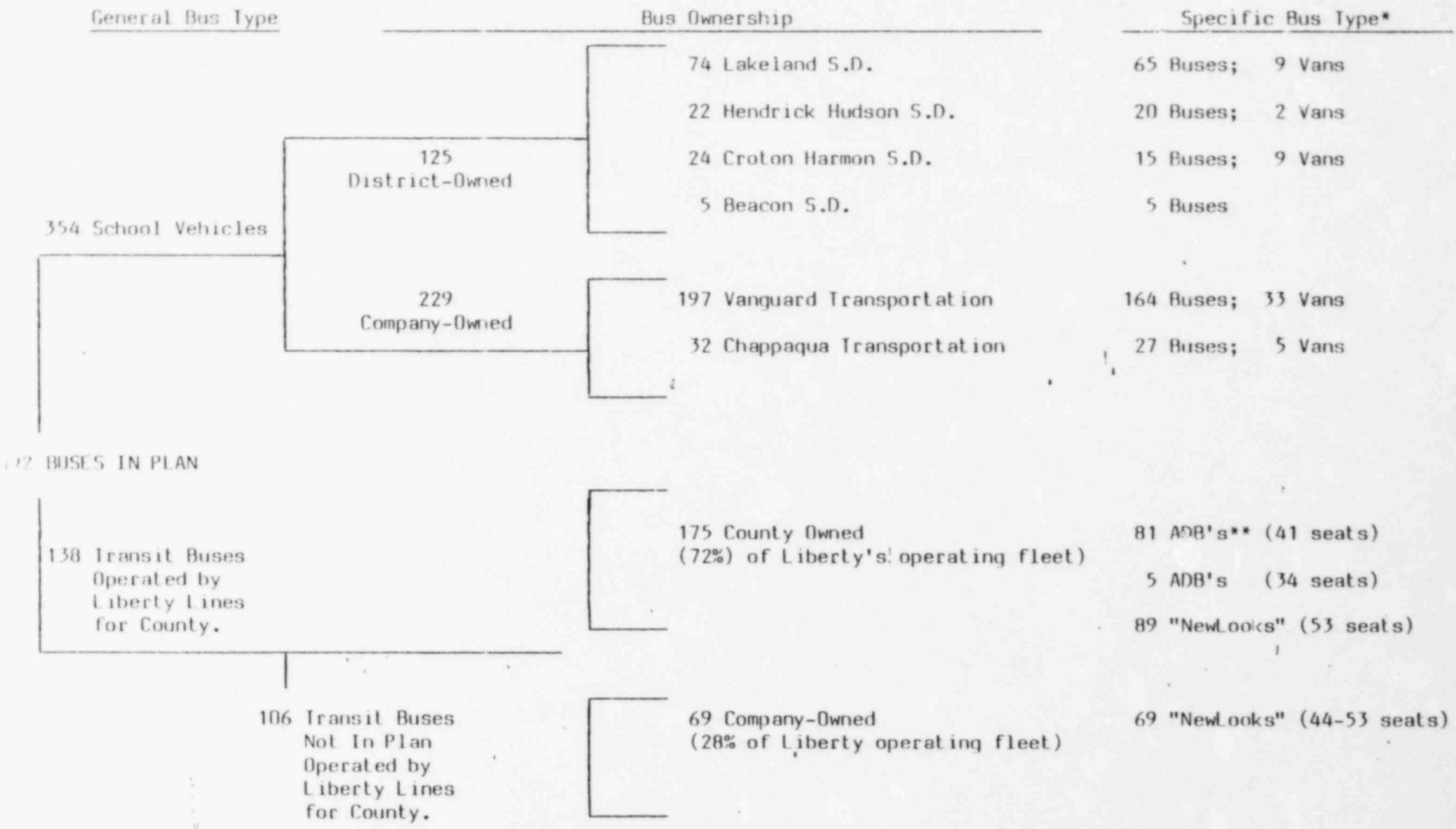
ATTACHMENT 5

BREAKDOWN OF BUSES BY OWNERSHIP AND TYPE



* School Buses have a capacity of 60-66 school children (40-44 adults) - Van Capacity ranges from 6 to 19 adults.

** Advanced design buses.

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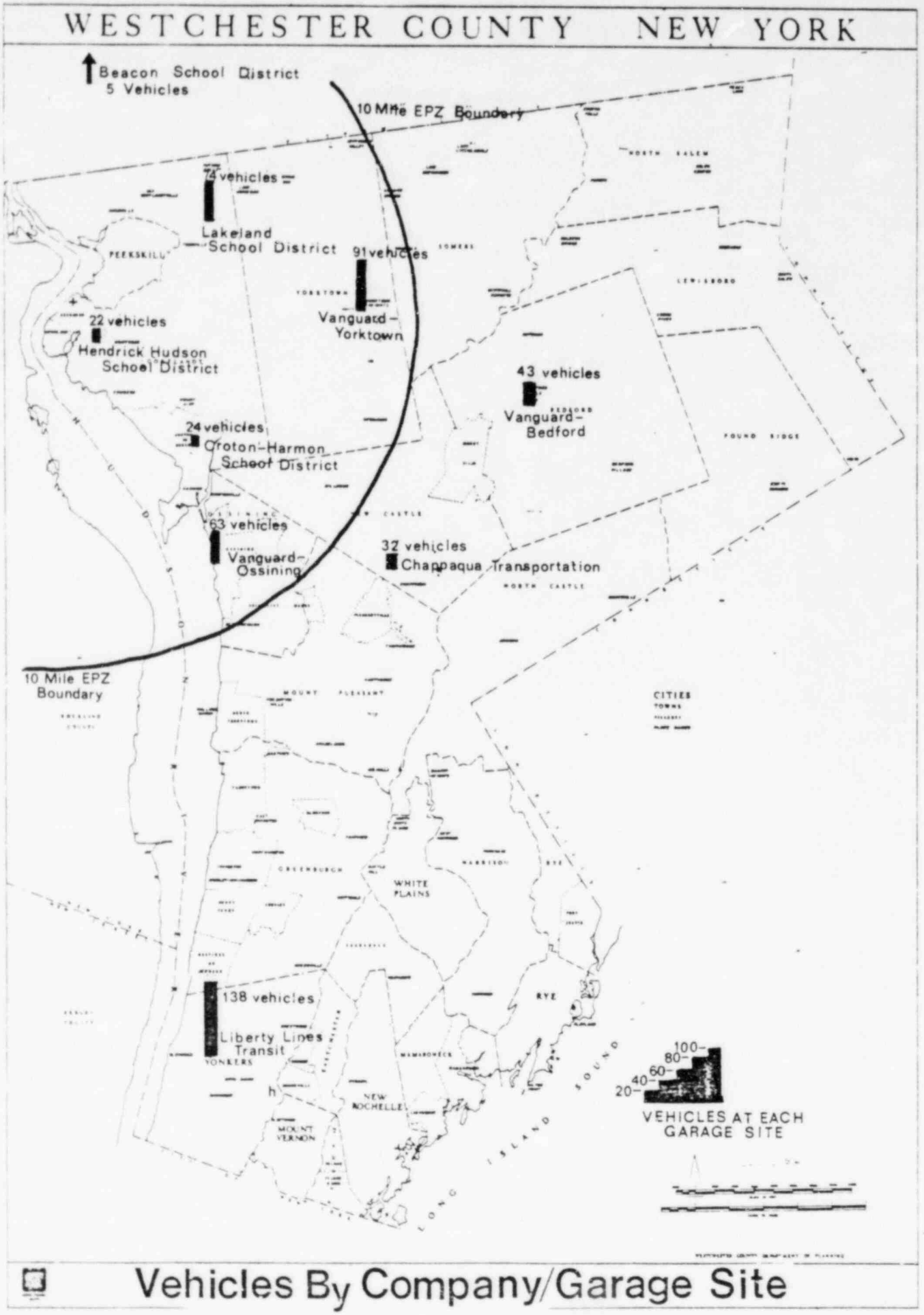
WCDOT
12/82


WESTCHESTER COUNTY NEW YORK
Beacon School District
5 Vehicles
10 Mile EPZ Boundary
74 vehicles
Lakeland
School District
91 vehicles
Vanguard-
Yorktown
22 vehicles
Hendrick Hudson
School District
43 vehicles
Vanguard-
Bedford
24 vehicles
Croton-Harmon
School District
63 vehicles
Vanguard-
Ossining
37 vehicles
Chappaqua Transportation
10 Mile EPZ
Boundary
138 vehicles
Liberty Lines
Transit
WHITE
PLAINS
RYE
NEW
ROCHELLE
MOUNT
VERNON
CITIES
TOWNS
100-
80-
60-
40-
20-
VEHICLES AT EACH
GARAGE SITE
Vehicles By Company/Garage Site