

AFTER ACTION REPORT

THE PENNSYLVANIA NATIONAL GUARD

" TROPICAL STORM AGNES "





THE ADJUTANT GENERAL
DEPARTMENT OF MILITARY AFFAIRS
ANNVILLE, PENNSYLVANIA 17003

31 October 1972

WILKES COLLEGE

NOV 6 1972

President's Office

Dr. Francis Michelini
Wilkes College
Wilkes-Barre, PA 18703

Dear Dr. Michelini:

Enclosed is copy of a report covering the activities of the Pennsylvania National Guard during the disaster recovery operations following Tropical Storm Agnes.

I hope that this report will be informatiye and of interest to you.

Sincerely yours,

HARRY J. MIER, JR.
Major General
The Adjutant General

Encl

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF MILITARY AFFAIRS
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22 September 1972

AFTER ACTION REPORT - TROPICAL STORM AGNES

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*Annex A consists of detailed breakdown, by unit, by day. Since strength recapitulation is included in paragraph 2a of basic document, Annex A has been omitted from general distribution.

1. GENERAL.

a. Type Emergency.

(1) Tropical Storm Agnes moved into Pennsylvania on Wednesday, 21 June 1972 with little force but causing torrential rains. The storm looped around the city of Pittsburgh causing rivers to overflow in the western part of the State. It moved over Harrisburg and met with a huge mass of cold air, which stalled the storm, instead of moving on to other areas. The ground was saturated from previous rains and could not absorb the water. Swollen rivers and streams were fed even further by the water that seeped through the ground around them. On 22 June some small rivers and creeks began overflowing their banks and flooding was reported in low lying areas in various parts of the State. The rain diminished on Friday, 23 June but the swollen, raging rivers and creeks continued to rise.

(2) National Guard disaster relief operations commenced before dawn on Thursday, 22 June as unit commanders reacted to local requirements in the vicinity of home stations and within a matter of hours the situation evolved into a State wide emergency.

(3) Following is a brief description of larger communities affected by the flood emergency:

(a) Harrisburg, Dauphin County (State Capital). Civil Defense personnel and Guardsmen began evacuating people from their homes in the city and surrounding communities the morning of 22 June. During the first few days of the storm the crest of the Susquehanna River was predicted and postponed several times as the rains continued to fall. On Saturday, 24 June, the river finally reached an all time high of 32.57 feet at Harrisburg, 15 feet above flood stage. Approximately 15 per cent of the city and large portions of surrounding communities were underwater. An estimated 14,000 persons were evacuated from their homes. Three of four vehicular bridges crossing the Susquehanna River were closed to traffic. Looting was reported in several areas and local police and Guardsmen patrolled in motor boats and posted static guards to alleviate the problem.

(b) Wilkes-Barre, Luzerne County. Guardsmen were patrolling the dikes along ten miles of the Susquehanna River in the Wyoming Valley from the onset of the storm. On Friday, 23 June, the dikes broke in several locations and began flooding the Wilkes-Barre, Kingston area. In anticipation of this eventuality local police and Guardsmen evacuated eighty thousand people from the area. The Susquehanna River crested at 40.5 feet, 18 feet above flood stage, overflowing dikes capable of holding water up to 37 feet, and flooding an area four miles wide and ten miles long. Two hospitals, the Nesbitt and Mercy, were forced to evacuate patients to other Wyoming Valley medical centers. Ten bridges that cross the Susquehanna River were inundated and half of Luzerne County was isolated. One dike which broke near Forty Fort cemetery caused an estimated 2,500 graves to be washed out by the onrushing waters. The storm left the Wilkes-Barre area in a shamble. Debris floated everywhere, houses were moved off foundations, roofs were torn off buildings, and mud lay on streets and in buildings to a depth of one foot. Altogether, some 13,000 homes in the area were ruined by the flood waters.

(c) Lancaster, Lancaster County. A total of 15 bridges in Lancaster County, including a major bridge in the city, were washed out or destroyed. The major problem was the loss of the area's water supply.

(d) Williamsport, Lycoming County. Approximately 2,500 persons were evacuated from homes when flooding occurred. The water supply in nearby Montgomery was lost and the town had no workable fire hydrants. Crop damage in the county was estimated in the millions of dollars.

(e) York, York County. City residents were faced with a water shortage in the aftermath of flooding along the Codorus Creek. Extensive damage was reported in the main business district.

(f) Lock Haven, Clinton County. The Susquehanna River crested at 31½ feet, 11 feet above flood stage, and left 50 per cent of the city under five feet of water. The area's four main bridges were washed out.

(g) Lewistown, Mifflin County. Flood waters from the Juniata River inundated many low lying areas of the town.

(h) Pittsburgh, Allegheny County. The Allegheny, and Monongahela Rivers pushed into the city's Golden Triangle early Saturday, 24 June, completely covering historic Point State Park and flowing into basements of some buildings. The Ohio River crested at 35 feet, 10 feet above flood stage.

(i) Reading, Berks County. This Berks County seat experienced flooding in the downtown area and in an urban renewal section of the city. The sewerage plants were inoperative and the water supplies at one point following the flooding dwindled down to the emergency stage. Several blocks of an urban renewal project were inundated by the overflowing Schuylkill River and up to 200 homes may have to be demolished.

(4) The following is an alphabetical listing of other communities affected by the storm and where Pennsylvania National Guard units were engaged in relief operations:

Community	County	Community	County
Altoona	Blair	Huntingdon	Huntingdon
Bradford	McKean	Kingston	Luzerne
Bellefonte	Centre	Kutztown	Berks
Berwick	Columbia	Larksville	Luzerne
Bloomsburg	Columbia	Latrobe	Westmoreland
Blossburg	Tioga	Lawrenceville	Tioga
Camp Hill	Cumberland	Lebanon	Lebanon
Carlisle	Cumberland	Lemoyne	Cumberland
Chambersburg	Franklin	Lewisburg	Union
Columbia	Lancaster	Luzerne	Luzerne
Connellsville	Fayette	Lykens	Dauphin
Conshohocken	Montgomery	Mansfield	Tioga
Danville	Montour	Mapleton	Huntingdon
Derry	Westmoreland	Marietta	Lancaster
Douglassville	Berks	Marysville	Perry
Dunbar	Fayette	McConnelstown	Huntingdon
Duncannon	Perry	McKean	Erie
Earlville	Berks	Mechanicsburg	Cumberland
East Berlin	Adams	Media	Delaware
Edwardsville	Luzerne	Middletown	Dauphin
Eldred	McKean	Mifflin	Juniata
Everson	Fayette	Mill Creek	Mifflin
Everett	Bedford	Mill Hall	Clinton
Exeter	Luzerne	Milton	Northumberland
Forty Fort	Luzerne	Mont Clare	Montgomery
Gettysburg	Adams	Mount Union	Huntingdon
Glenn Rock	York	Morrisville	Bucks
Goldsboro	York	Mt Holly Springs	Cumberland
Hanover	York	Mt Pleasant	Westmoreland
Highspire	Dauphin	Nanticoke	Luzerne
Hummelstown	Dauphin	New Cumberland	Cumberland

Community	County	Community	County
Newport	Perry	Shamokin	Northumberland
New Stanton	Westmoreland	Shickshinny	Luzerne
Norristown	Montgomery	Shippensburg	Cumberland
Norvelt	Westmoreland	Spring City	Montgomery
Old Forge	Lackawanna	State College	Centre
Olyphant	Lackawanna	Steelton	Dauphin
Perdix	Perry	Sunbury	Northumberland
Phoenixville	Montgomery	Swoyersville	Luzerne
Pine Grove	Schuylkill	Tioga	Tioga
Plymouth	Luzerne	Tyrone	Blair
Pottstown	Montgomery	Upland	Delaware
Pittston	Luzerne	Washington boro	Lancaster
Ramson	Lackawanna	Waynesboro	Franklin
Renovo	Clinton	West Chester	Chester
Roxbury	Franklin	West Fairview	Cumberland
Royersford	Montgomery	West Nanticoke	Luzerne
Salona	Clinton	West Pittston	Luzerne
Sagamore	Armstrong	Williams Grove	Cumberland
Scottdale	Westmoreland	Williamstown	Dauphin
Scranton	Lackawanna	Wormleysburg	Cumberland
Selingsgrove	Snyder	Wrightsville	York
Seven Valleys	York	Wyoming	Luzerne
		Youngstown	Westmoreland

(5) Tropical Storm Agnes damaged or completely destroyed approximately 50,000 homes, 126 bridges, hundreds of factories and businesses, and an estimated 35 million dollars worth of farm crops. The storm also closed thousands of miles of roads, put 200,000 telephones out of service, and cut off electricity, gas and water to thousands of persons. Altogether, Agnes caused approximately \$3.0 billion in property damage in Pennsylvania. Forty-nine deaths were attributed to this flood disaster.

b. Inclusive dates. 22 June - 6 August 1972.

c. Scope of Emergency.

<u>Agency</u>	<u>Strength</u>		<u>Percent of Personnel on Duty</u>
	<u>Assigned</u>	<u>On Duty</u>	
Army National Guard	16,666	12,036	72.2
Air National Guard	4,053	644	15.8

2. OPERATIONS.

a. Detailed strength report by day and unit is shown in Annex A. Following recapitulation indicates aggregate strength of Army and Air National Guard forces employed during this operation:

<u>Date</u>	<u>Annual Tng Status</u>	<u>State Duty</u>	<u>Inactive Duty Tng</u>	<u>Total</u>
22 Jun	1,629	745		2,374
23 Jun	2,722	1,876		4,598
24 Jun	2,903	2,110	281	5,294
25 Jun	4,306	1,704	852	6,862
26 Jun	5,353	1,580	433	7,366
27 Jun	5,708	521		6,229
28 Jun	5,420	422	13	5,855
29 Jun	4,612	1,465	3	6,080
30 Jun	3,821	2,012	5	5,838
1 Jul	4,992	431	34	5,457
2 Jul	4,641	311	40	4,992
3 Jul	5,134	226		5,360
4 Jul	5,160	208		5,368
5 Jul	5,221	193	2	5,416
6 Jul	5,235	96	3	5,334
7 Jul	5,643	102		5,745
8 Jul	5,791	47	232	6,070
9 Jul	5,558	41	230	5,829
10 Jul	5,507	164		5,671
11 Jul	4,710	58		4,768
12 Jul	4,725	55	3	4,783
13 Jul	4,717	53		4,770
14 Jul	4,524	53	4	4,581
15 Jul	5,036	14		5,050
16 Jul	2,645	9		2,654
17 Jul	2,629			2,629
18 Jul	2,047			2,047
19 Jul	1,995			1,995
20 Jul	1,992			1,992
21 Jul	1,992			1,992
22 Jul	1,596			1,596
23 Jul	1,348			1,348
24 Jul	1,324			1,324
25 Jul	737			737
26 Jul	737			737
27 Jul	737			737
28 Jul	737			737
29 Jul	750			750
30 Jul	175			175
31 Jul	175			175
1 Aug	175			175
2 Aug	175			175
3 Aug	113			113
4 Aug	113			113
5 Aug	113			113
6 Aug	113			113
TOTALS:	135,486	14,496	2,135	152,117

b. Operations Summary.

(1) Planning/Alert. On 22 June the Director, State Council of Civil Defense (SCCD) contacted The Adjutant General of Pennsylvania about the possible use of National Guard personnel to assist local authorities in areas where rivers and creeks were overflowing their banks. After being briefed by The Adjutant General regarding the situations, the Governor authorized the use of personnel where necessary to assist in any emergencies which endangered life and property or affected public welfare. Attached as Annex B are Proclamations issued by the Governor. The first units were alerted for duty at 0745 hrs, 22 June, just 40 minutes after SCCD made its request. Units made use of any communications means available to contact personnel including radio, television, telephones, and newspapers. Response times were very favorable with most units reporting 50 per cent or more of their personnel arriving at the armories within two to four hours of the alert notice. Immediately upon arrival at the armories, unit commanders were compelled to employ personnel in evacuation duties in their home communities. Liaison was established with SCCD Emergency Operation Center (EOC) in Harrisburg and the Area EOCs at Selinsgrove, Indiana, and Hamburg. The Navy Liaison Officer from the Fourth Naval District, attached to The Adjutant General's Office, was on active duty at the time and provided liaison between the State headquarters and Naval units engaged in relief operations.

(2) Execution.

(a) The communities where operations were conducted are shown on map, attached as Annex C.

(b) Photographs of disaster relief operations are shown in Annex D.

(c) Throughout the disaster areas, emergency support was provided in every feasible manner. When flood water receded the total damage was inconceivable. In general terms, support was provided by National Guard personnel as indicated below:

1. Evacuation.
2. Search and rescue.
3. Recovery of disinterred bodies and caskets.
4. Emergency clearance of debris.
5. Security and protection of vital facilities.
6. Traffic control.
7. Medical service.
8. Water and food.
9. Transportation.
10. Mass care centers.
11. Food and material distribution.
12. Liaison.
13. Aviation support.
14. Information Services.

(d) The Wilkes-Barre area (Wyoming Valley) had incurred the largest amount of destruction from flood waters, and it was apparent that the largest and most extensive support would be required from National Guard forces. To facilitate relief operations in this particular area a joint civilian - military organizational structure was established as shown in Annex E.

(e) Operational Activities.

1. Units were deployed in 117 communities from the onset of the operation. The first mission accomplished by units was to assist local authorities in evacuating and rescuing thousands of people from flooded or potential flood areas. Guardsmen evacuated people by any conceivable means available including boat, helicopter, trucks, armored personnel carriers, on piggy-back, and by rope. In many instances Guardsmen performed up to 20 hours of duty without relief. Guardsmen transported cots, blankets, food, medical supplies and many other critically needed supplies to mass care centers. They operated generators for emergency power at hospitals and municipal buildings. Armories were utilized for housing and feeding evacuees; e. g. the Plymouth armory housed 305 evacuees, 234 Guardsmen and 347 Guardsmen bivouacked outside. The mess hall recorded a head count of 890 people being fed at a single meal.

2. Once the rivers and other streams crested, Guardsmen in cooperation with local and State law enforcement agencies immediately established anti-looting and security patrols. Areas inundated by flood waters were patrolled by boats, while static guard posts and motorized patrols were established in other areas. The mayors of many flood stricken communities imposed dusk to dawn curfews allowing only those individuals with proper identification into the areas of destruction. Many Guardsmen remained on duty well aware of the fact that their own homes and families were in danger. In 1st Bn, 109th Field Artillery, Wilkes-Barre, of 411 men on duty, homes of 202 were damaged and 27 destroyed. Guardsmen were authorized to carry riot batons while on security duty with the exception of those communities where there was a higher probability of looting. In these communities personnel were authorized to carry the M-16 Rifle, however, at no time were Guardsmen issued ammunition. In much of the Wilkes-Barre area electric service had been interrupted and it was apparent that keeping people out during hours of darkness would be a difficult task without large illumination equipment. The Tobyhanna Army Depot provided four searchlights which were used in the hardest hit areas where patrolling was difficult. In Harrisburg two National Guard Infrared Searchlights AN/MSS-3 mounted on trucks were used to facilitate security.

3. Initially on 22 June 459 Guardsmen were assigned in Harrisburg and 398 in Wilkes-Barre. The remainder of the 2,374 Guardsmen on duty the first day of operation were scattered throughout other communities of the Commonwealth. In the days that followed conditions continued to deteriorate necessitating the call for more units. In Harrisburg and Wilkes-Barre the large number of troops required the commitment of personnel from varied commands of the Pennsylvania National Guard. Accordingly, a Task Force Headquarters was established at each of these locations for coordination of effort.

4. As the flood waters receded, Guardsmen and US Army Reservists provided potable water, food and clothing, cleared debris, repaired damaged structures and assisted in traffic control. In several communities where water facilities were contaminated by the flood waters, Guardsmen provided water trailers, five gallon cans, and any other containers available. In some areas, it was necessary to ration drinking water to one cup per person per day. Sewage systems were inoperable in some communities. Traffic became a major problem due to inoperable traffic signals and excessive number of sightseers pouring into the devastated areas. Two military police companies were alerted and assigned to the Harrisburg and Wilkes-Barre areas; however, due to the magnitude of the problem and the number of locations at which assistance was required, it was necessary to assign traffic control duties to other type units; i.e. infantry, artillery, etc.

5. As the situation began to stabilize units were relieved and others assigned to the Wilkes-Barre area. Requirements for units with specific capabilities and skills were recognized and engineer, transportation, quartermaster and maintenance units were activated. The need for heavy equipment was paramount. The 103d Engineer Bn (-) with the 144th Engineer Co and the 1070th Transportation Co attached were enroute to Wilkes-Barre from their home stations in Philadelphia. The Air National Guard responded by sending the 201st Civil Engineer Flight (Red Horse) heavy construction unit from Indiantown Gap Military Reservation. The Army Corps of Engineers was on the scene and was assigned the responsibility of reopening transportation lines into the stricken areas. They immediately began repairing damaged bridges along the Susquehanna River. Several temporary bridges were erected to replace those washed away during the storm.

6. In Wilkes-Barre, the 103d Engineer Bn (-) was responsible for clearing debris from main roads and city streets and transporting it to the emergency sanitary land fills. Seven land fill areas were established in abandoned strip mines. The 201st Civil Engineer Flight was assigned to the Wyoming Valley land fill area. The work consisted primarily of moving refuse and debris into the land fills and grading top cover. The following equipment was used to move approximately 20,000 tons of refuse and top cover daily: One TD 20 Tracked Dozer, One TD 25 Tracked Dozer and a TD 250 Tracked Loader. An M100 Road Grader was used to improve traffic conditions and to clear taxiways and hard-stands at the Wyoming Valley Airport.

7. In Wilkes-Barre, almost all of the food stored in bulk commercial facilities was destroyed and the remaining that was available was consumed in hours. Fortunately, food and supplies began arriving from all parts of the country by military and civilian aircraft. The Pennsylvania Air National Guard's 171st Aeromedical Airlift Wing flew in 76,000 pounds of United States Department of Agriculture food from the Greater Pittsburgh Airport. A record 1.45 million pounds of food and supplies were delivered to the Wilkes-Barre-Scranton Airport. A base resupply operation was organized which supported 68,000 people daily. Active Army and Reserve personnel supporting the operation were burdened by a manpower shortage and requested additional personnel from the National Guard. The 228th Supply & Transport Bn and the 721st Supply and Service Co were placed on duty 1 July to assist in food distribution and delivery. A main distribution point was located at the Pocono Downs Raceway where a terminal for pick-up and delivery of food was established. On July 13 ration supply operations were assumed by the Red Cross since Guard units were returning to home stations.

8. A requirement for additional medical assistance and support existed. Doctors, nurses, and medical technicians from available National Guard units were immediately dispatched to the emergency areas. These individuals, assisted by volunteer doctors and nurses, were provided by the 103d Medical Bn, 911th Medical Co, Co D, 102d Medical Bn, medical platoons/sections from battalion and higher headquarters, 171st Aeromedical Airlift Wing, 111th and 193d Tactical Dispensaries, 103d Aeromedical Evacuation Flight, and various active and reserve units. They established mass care centers, first aid stations, and dispensaries; provided medical supplies, transportation and sanitation procedures, and other medical services too numerous to mention. These individuals, working around the clock, provided out-patient treatment to literally thousands of individuals daily. Services included treatment of - lacerations, burns, accident victims, redressing wounds, dog bites, eye injuries, pulmonary edema, epileptics, rheumatic heart, asthmatics, geriatric problems, respiratory infections, diabetics, cardio-vascular conditions, hypertension cases, and pulmonary emphysema. It was through the concentrated effort of these individuals that the serious medical problems that existed in the initial phases of the disaster were kept under control and what could have been a major problem area was diverted into an outstanding medical support and service operation.

(f) Army Aviation Operations.

1. At no single time in the history of the Pennsylvania Army National Guard has aviation support played a greater role than during this disaster. The pilots and flight crews performed with precision and smoothness during rescue operations and saved the lives of countless number of people. Every available aircraft was pressed into operation. Many of the missions were performed during the hours of darkness in pouring rain. One crew reported that their aircraft broke tree branches in order to land on a roof to complete a rescue mission. Air crews carried out each mission realizing dangers lurked in the area in the form of power lines, towers, high rise buildings, etc., but still placed the accomplishment of their mission above their own lives. At the Danville State Hospital, the crews set up medical evacuation centers and transported people in and out of the water-surrounded hospital. Doctors, nurses, and technicians were flown in from their homes. Aircraft were the only means of medical resupply available to the hospital during the early stages of the emergency.

2. When the flood waters receded, aviation support was still in great demand; however, the mission assignments changed to reconnaissance and airlift of cargo and personnel. Following missions were performed:

a Resupply of mass care centers with medical and food supplies. (Medical supplies were in great demand since two hospitals were evacuated and 80 percent of all practicing physicians in Wilkes-Barre lost their equipment).

b Emergency medical personnel, doctors, nurses, and technicians were flown from one side of the Susquehanna River to the other to provide medical support in mass care centers.

c Aircraft were provided to fly personnel from governmental agencies for reconnaissance of the river, route accessibility, and bridge conditions.

d Searchlight missions to provide illumination over evacuated areas in support of the civil anti-looting efforts.

e Reconnaissance missions for personnel involved in environmental resources to evaluate water supplies for affected communities.

f Aeromedical evacuation for National Guardsmen injured during duty in the area.

g Reconnaissance flights for evaluation of traffic control problems.

h Liaison aircraft for commanders who were physically removed from the main control center so as to provide rapid, efficient transportation to daily meetings.

i Transportation for the Governor, First US Army Commander, The Adjutant General, National Director and Region 2 Director, Defense Civil Preparedness Agency, and other dignitaries visiting the area.

j Reconnaissance flights to locate new land fills for the Task Force and personnel from Environmental Resources.

3 Summary of Army National Guard Aviation Operations.

<u>Unit</u>	<u>Aircraft</u>	<u>Missions</u>	<u>Sorties</u>	<u>Personnel</u>	<u>Cargo (lbs)</u>	<u>Hrs</u>
HHT, 104 ACR	6/UH-1	332	680	610	17,650	585
Trp N, 104 ACR	6/UH-1	215	465	590	90,700	410
55th Bde	4/UH-1	192	480	425	1,600	315
28th Div Arty	7/OH-23	104	260	199		155
28th Avn Bn (-)	8/UH-1	50	125	175	1,000	250
	5/OH-23					
TOTALS	24/UH-1	893	2,010	1,999	110,950	1,715
	12/OH-23					

Special note is made of the fact that there were no accidents involving Army National Guard Aircraft throughout this operation.

(g) Air National Guard Operation.

1 In the early hours as the flooding began, in the Harrisburg area, emergency radios were provided to the Airport Manager and staff at Harrisburg International Airport enabling them to maintain communications as all telephone service at the airport was disrupted. Office space was also provided to the Airport Manager as the airport administrative offices were under water. Moreover, very close coordination was established between the Airport Manager and the Commander of the Pennsylvania Air National Guard in order to evacuate people, remove equipment, and provide for both safety and security on the airport.

2 After the water receded, the entire airport, including all flying facilities, was covered with large amounts of mud, debris, and obstacles. The Pennsylvania Air National Guard began a cleanup of the runway on 26 June 1972 and removed all of the large debris using heavy equipment and then swept and cleaned the runway. The runway approach lights were also covered with debris and a team of Air National Guard engineers removed all of these objects. Heavy equipment, including cranes, dump trucks, forklifts, front end loaders, and sweepers were made available to the Airport Manager beginning on 25 June 1972 and continuing through the middle of July 1972. Additionally, generator units were made available

to provide electricity as the main electrical service on the airport was cut off. Approximately \$3 million worth of equipment and supplies were lost at this airport.

3 The runway became operational on 28 June 1972. This was through the efforts of the Pennsylvania Air National Guard and included cleaning the runway and adjacent areas.

4 The Instrument Landing System was rendered inoperative by the flood and on 28 June 1972 a C-121 aircraft of the Pennsylvania Air National Guard was dispatched to Oklahoma City, Oklahoma to pick up replacement components for the system. This saved many days in the time required for the airport to return to full operational status.

5 In addition to activities cited elsewhere in this report, the Air National Guard provided aeromedical evacuation for National Guardsmen injured during duty in the Wilkes-Barre area, transportation of VIP's to and from the disaster areas, airlift of equipment and airlift of VISTA personnel from other states into several of the stricken areas.

(3) Post Operations.

(a) Upon termination of assigned tours of duty, units of the National Guard were relieved in place by like units. A logical, well planned and coordinated gradual withdrawal of the total commitment was effected without significant interference or complaint of the communities involved. All units were authorized a period for maintenance, cleanup, inventory of equipment, and preparation of required reports. At several armories unit personnel had the added task of cleaning the mud and debris from their inundated facilities.

(b) Although assistance on an integrated basis was terminated on 5 August, numerous requests for advice and assistance were received by The Adjutant General's Office during the several following weeks. Whenever possible, assistance was provided within available resources. Specific tasks performed included transport of approximately 25 truckloads of furniture to Wilkes-Barre from various communities throughout Pennsylvania, furnishing drivers for transport of water to Lawrenceville, removal of debris from a stream in Kutztown, and transport of VISTA employees and other personnel involved in cleaning homes in Harrisburg.

c. Communications.

(1) Severe and widespread flooding conditions created by the storm caused extensive damage to commercial telephone facilities throughout the State. Many communities were without telephone service for days after the storm had passed. Some communities were still without telephone service, or had only limited service restored, several weeks after the flood waters had receded. Because of this extensive and prolonged disruption in telephone service, military commanders at all levels had to rely almost exclusively on their organic radio equipment and other radio equipment from various sources.

(2) The communications shortcomings were probably one of the most critical problems encountered by the National Guard in the initial phase of the operation. With the failure of commercial telephones, organic radios were not available in sufficient quantity or quality necessary to sustain the operations. The requirements for roving patrols, numerous check points, and liaison with local and state police taxed the radios beyond their capabilities. Although many units had many new family AN/VRC-12 radios in unit supply rooms, they were inoperable due to lack of installation kits. Units that had the older series of radios encountered a serious problem in obtaining non-existent repair parts. Military Police Companies (Guard) had no organic communications capability and had to be provided radios from other sources to perform their traffic control and security missions.

(3) The Pennsylvania Army National Guard Single Sideband Radio Net was used extensively throughout the entire operation for administrative and logistical coordination between The Adjutant General's Office and major National Guard headquarters. The net was operational on a 24-hour basis during the early stages, with all subordinate stations required to monitor the net. As the situation became stabilized, only those stations in

communities in recovery operation areas were required to be operational on a 24-hour basis. On 23-24 June, telephone service in The Adjutant General's Office was interrupted. During this period the radio net provided the only means of communications between the State headquarters and major National Guard headquarters. The net was augmented with equipment and personnel provided by Pennsylvania Air National Guard units to establish additional stations in those communities severely affected by the storm.

(4) Thirty General Electric Porta-Mobile radios, on hand within The Adjutant General's Office, were used to augment tactical radios with various units. These radios were used in all types of operations, including air rescue operations, and were invaluable in the overall task force communications capability. These radios are preset on two frequencies which are compatible with the AN/VRC-12 series radios and in the Infantry band of the older AN/GRC series radios.

(5) In addition to furnishing equipment and personnel to establish additional single sideband stations, Air National Guard units also provided radio communication support for emergency civilian and military medical facilities established in the Wilkes-Barre area.

(6) One battalion-size communication packet and 15 portable FM radios were dispatched from Tobyhanna Army Depot to the objective areas in an expeditious manner. The qualified technicians who accompanied the equipment provided valuable technical advice and assistance in setting up equipment.

(7) Telephone service was interrupted in the Wilkes-Barre area requiring extensive use of military radios. When telephone service was restored, additional circuits were made available to National Guard units operating in the area; however, it was not until the fourth week of the operation that all units had access to telephone service.

(8) Liaison and coordination with State Council of Civil Defense EOC in Harrisburg was established through use of an FM radio previously provided by State Civil Defense Headquarters. This radio link was used frequently for coordination between the two agencies.

(9) Air National Guard units were readily available to provide radioteletype support for task force and other major headquarters in the event it was required, however, the only mode of operation required during the emergency was voice.

d. Training.

(1) Normal military training, organization, and discipline appear adequate for this type of situation in combat, combat support, and service support units. Troop knowledge of fundamental subjects as well as leadership proficiency was evident in such key items as troop leading procedures and the problem solving process.

(2) A great deal of training prescribed by Army Training Programs was realized from service in this emergency and to this can be added the tremendous military type of experience gained by all concerned. Among those subjects which it is felt proficiency was attained or maintained are--

(a) Leadership (Troop leading procedure-problem solving).

(b) Field sanitation and personal hygiene.

(c) Combat service support on-the-job training.

(d) Communications training.

(e) First aid.

(f) Treatment and evacuation of mass refugees.

(g) Air movement (one unit, 2d Bn, 109th Inf).

(h) Route and bridge reconnaissance.

(i) Driver training.

(j) Maintenance of equipment.

(k) Motor marches and motor march planning.

(l) Army drill and ceremonies (Retreat).

(m) Command information.

(n) Security and patrols.

(o) Tent pitching.

(p) Safety.

(q) Public Information.

(r) Photographic Operations.

(s) Civil affairs.

(3) During early stages of the operation one unit of the 2d Bn, 109th Infantry was transported by helicopters from the east to the west side of the Susquehanna River. This airlift reduced the deployment time of troops which would have required an overland circuitous route into a community requiring assistance.

(4) Although the tasks performed by combat and combat support units during the operation was other than the normal annual training missions, significant experience was gained in light and heavy rescue team procedures.

(5) The training conducted during the first half of CY 72 on the following civil disturbance subjects contributed considerably to the operations:

(a) Policies and legal considerations.

(b) Collective behavior (crowd control).

(c) Military leadership responsibilities and discipline.

(d) Use of riot baton.

(e) Special equipment.

(f) Anti-looting measures.

3. ADMINISTRATION.

a. Public Affairs.

(1) Troop-civilian relationships were outstanding. All relief agencies, regardless of organizational designation or affiliation, worked hand-in-hand toward the accomplishment of a common goal. Minor disagreements were solved with a minimum of flourish and a maximum of understanding.

(2) News releases, photographs, and articles concerning the flood activities of the Pennsylvania National Guard were provided to approximately 30 major civilian and military news agencies, radio and television stations.

(3) Approximately 4,500 feet of 16mm color film on Tropical Storm Agnes is being used to produce a 25-minute documentary on the Guard's activities. Several TV spots are also being developed for recruiting purposes.

(4) Over 2,100 photographs were taken by information personnel in the field. A slide series on the flood, complete with sound synchronization, was developed from colored photographs for recruiting purposes.

(5) The publication of newspapers in several communities was disrupted because of damage to printing machinery. In Harrisburg no local newspapers were published for 5 days.

(6) Unit newspapers were published daily to keep the Guardsman informed on local and national events as well as personal events within the units.

b. Special Services.

(1) Adequate Mobile Post Exchange services were provided in Harrisburg and Wilkes-Barre areas from facilities located at Indiantown Gap Military Reservation and Ft Dix, NJ respectively.

(2) Films were provided free of charge from local distributors for the enjoyment of military and civilian personnel.

(3) Arrangements were made for performances by local musicians and theatrical groups, and these along with excellent athletic programs were adequate to satisfy the recreational needs of personnel.

c. Morale and Discipline.

(1) Throughout the entire operation morale and discipline were outstanding and noteworthy. Personnel realized the importance of their mission, the plight of the people, and the results of their accomplishments. Guardsmen performed assigned tasks unquestioningly, and because of the nature of the operation, small unit leadership was tested to its fullest. Personnel took appropriate action in the absence of orders and the independent small unit leaders did much to alleviate the suffering of local residents. The presence of well disciplined National Guard troops fulfilled a psychological need of reassurance for the general populace affected by the flood.

(2) Religious services were made available on a daily basis by chaplains assigned to NG units.

d. Casualties.

(1) In spite of the multitude of heavy construction equipment in the area, the choking dust and filth which was the residue of high water, and the mass number of personnel in the area, the casualty/sick call rate was substantially low.

(2) Following Guard casualties were sustained:

Deaths - (heart attack) - 1

Injuries/illnesses requiring hospitalization - 16

Minor injuries/illnesses - 85

4. LOGISTICS.

a. As numerous requests for supplies and equipment from the civilian populous deluged commanders at all levels, it became apparent that authorities were faced with a major disaster. Though appropriate action was taken, wherever possible, there were isolated cases where support could not be rendered. Logistical requirements unquestionably placed

a burden on all active military installations within the State and some adjacent states. Many of the logistical problems listed in paragraph 6f pertained to the Wilkes-Barre area, which suffered the greatest damage from flood waters.

b. From the onset of the disaster food and water required special considerations in many communities. Initially, food markets and warehouses were inundated or destroyed which necessitated shipments into the area via surface or air transportation. Damage to water and sewage facilities created additional health hazards. During the early stages, all requests for water trailers could not be satisfied. In Lawrenceville, water was supplied by trailers for a period of 45 days.

c. The majority of organic equipment within National Guard assets was utilized to the maximum extent during the entire operation. Once Corps of Engineer personnel became operational in the area, contracts were arranged with local contractors for maximum use of personnel and heavy equipment within their assets.

d. The requirements for gasoline, diesel fuel, and aviation gas were satisfied from available Guard facilities, gas tankers, and commercial vendors.

e. Repair parts were procured through area Organizational Maintenance Shops, Combined Support Maintenance Shop, United States Property and Fiscal Office, and commercial vendors. As an example of the magnitude for repair parts, 170 vehicle tires were received and issued by the Task Force in Wilkes-Barre during a two-week period.

f. Multiple movements of units to the Harrisburg and Wilkes-Barre area required considerable coordination with Pennsylvania Turnpike officials and commercial bus companies in several instances.

g. The following special equipment and supplies were used by Guard personnel:

Item	Source
Pumping apparatus	Fire companies and civilians
Boats	Fire companies and civilians
Hip boots	Fire companies
Road barriers	Law enforcement agencies and Department of Transportation
Cots	Civil Defense
Medical supplies	Army facilities, Red Cross, and commercial firms
Refrigerator trucks and ice chests	Army facilities and commercial firms
Sand bags	Army facilities
Chemicals for water treatment	Army facilities and commercial firms
Generators for commercial use	Army and Navy facilities and commercial firms
Searchlights	Army facilities
Shovels	Commercial firms
Plastic utensils	Commercial firms
Canvas and rubber gloves	Commercial firms
Photographic supplies	Commercial firms

h. Billeting of Guard personnel, coupled with mass care centers that were established at armories, placed additional responsibilities upon commanders. Mass care centers were also established in schools, fire companies, and other public facilities. Initially many of these

centers were supported by Guard troops, with the Red Cross assuming this responsibility at a later date. Operation of mass care centers by the Red Cross is considered to be the most satisfactory arrangement.

i. The following armories served as temporary mass care centers and distribution points.

Mass Care Centers	No. of Evacuees	Period
Harrisburg, Hq, 28th Div*	1,100	22 Jun - 26 Jun
Harrisburg, 28th Div Arty	80	22 Jun - 24 Jun
Harrisburg, 104th Armd Cav	100	23 Jun - 26 Jun
Plymouth	305	22 Jun - 11 Aug
Wellsboro*	18	22 Jun - 24 Jun
Scranton*	50	27 Jun - 7 Jul
Lock Haven	120	22 Jun - 26 Jun
IGMR	130	22 Jun - 24 Jun
Scottdale	18	22 Jun
New Cumberland	225	22 Jun - 1 Jul

*Facilities utilized as distributed points for food and cleaning supplies to include Wilkes-Barre and Williamsport.

j. The following National Guard armories/facilities were affected by flood water:

Location	Remarks
Coraopolis	Four inches of water in basement.
Danville	Basement under water and three feet of water on first floor.
Huntingdon	Ten feet of water in basement.
Kutztown	Two feet of water in basement.
Ligonier	Ten feet of water in basement.
Milton	Ten feet of water in basement. Water affected clothing, equipment and weapons.
Norristown	Five inches of water in basement.
Philadelphia (22 S. 23d St)	Three feet of water in basement. Water affected equipment and weapons.
Pine Grove	Two feet of water in basement. Several gas masks damaged.
Ridgway	Two feet of water in basement
Scottdale	Equipment storage compound inundated by six feet of water. Vehicle trailers affected.
Tyrone	Basement under water and two feet of water on first floor.
West Pittston	Basement under water and five feet of water on first floor.
Wilkes-Barre	Basement under water and eighteen feet of water on first floor.
York (N. George Street)	Four feet of water in basement.

Except as indicated above for Milton and Pine Grove major items of equipment in facilities were removed.

k. The Harrisburg International Airport at Middletown on 24 June recorded water in depths of 4 to 14 feet over the entire lower level of that installation. The following is an estimate of the equipment and supplies of the Air National Guard that were affected:

Item	Percentage Lost	Percentage Damaged
Warehouse	95	5
Open Storage	5	95
Bench Stocks	92	8
Aircraft Spares (Maintenance Shop)	3	82
Mission System Group "B" Spares (Maintenance Shops)	0	4
Aircraft Engines (Maintenance Storage)	0	50
Quick Engine Change Kits (Maintenance)	0	95
Auxiliary Aircraft Engines	0	100
Base War Readiness Materials	0	100
Unit War Readiness Materials	0	9
780 Equipment-Life Support	80	10
780 Equipment-Group B Mission System	0	45
Organizational & Shop Equipment	5	60
Organizational Tools	15	40
Personal Clothing	35	15
Furniture	10	50

5. COSTS.

The following are estimated costs for the flood emergency:

a. Pay and Allowances

	<u>AT</u>	<u>SAD</u>	<u>UTA</u>	<u>Total</u>
PAARNG	\$2,285,145	\$283,171	\$46,200	\$2,614,516
PAANG	83,048	15,850	-	\$98,898
TOTALS	\$2,368,193	\$299,021	\$46,200	\$2,713,414

b. Subsistence.

<u>AT</u>	<u>SAD</u>	<u>UTA</u>	<u>Total</u>
\$263,774	\$38,611	\$1,554	\$303,939

(Figures based on \$1.65 per day for AT status, \$2.65 per day for SAD status, and \$2.22 per day for UTA status).

c. Petroleum, Oils and Lubricants.

<u>Gasoline</u>	<u>Diesel</u>	<u>Aircraft Fuel</u>	<u>Lubs</u>	<u>Total</u>
\$65,625	\$11,250	\$48,250	\$1,500	\$126,625

d. Miscellaneous. \$30,000

Total estimated cost of operation \$3,173,978

(2) Organizations in a few cases were assigned areas of responsibilities that proved to be too large for the number of personnel assigned. The main reason this problem existed was due to the magnitude of the devastation and the many areas requiring assistance.

e. Training.

Combat units that were assigned traffic control duties encountered problems in the proper use of arm and hand signals because of lack of familiarity with such signals.

f. Logistics.

(1) The small field flashlights within TOE assets of the units were inadequate to perform security missions during periods of darkness.

(2) Some units were not furnished sufficient information relative to anticipated duration and equipment required for their mission.

(3) Insufficient number of water trailers were available to fulfill many requests for this equipment.

(4) The failure to provide certain logistical units to a task force in the initial stages required the establishment of interim provisional logistical staff sections.

(5) There was an excessive delay in pickup of rations at Army Commissaries due to the magnitude of the operation and lack of adequate civilian employees at the depots.

(6) Units lacked refrigeration and to avoid spoilage and waste, rations had to be issued on a daily basis.

(7) Because of the broken glass, nails, and other debris strewn about the roadways, units experienced an extraordinary number of flat tires. Direct support units are not equipped nor manned properly to handle tire repairs or replacements on the scale experienced in the debris cleaning operation.

(8) Units experienced difficulty in obtaining repair parts for old equipment that are classed as Contingency and Training items; e.g., truck 2½ ton M 135, truck ¼ ton M38, etc.

g. Communications.

(1) Radio communication capability within many units was reduced considerably due to a shortage of installation kits required to mount the AN/VRC-12 series radios in ¼ ton trucks. Because of this acute shortage, approximately 300 of this series radios had to remain in unit supply rooms.

(2) Due to weight of several boxes within the battalion communications packet received from Tobyhanna Army Depot, this equipment could not be unloaded in the proximity of objective area. Aircraft had to be flown to location where a forklift was available which caused an excessive delay in use of the radios.

(3) Use of improper radiotelephone procedures by some operating personnel tied up the State single sideband radio with unnecessary traffic. It was quite evident that many messages were not provided in writing prior to transmittal and those that were written did not adhere to the principles of message writing. This resulted in the operator having to transmit the entire or portions of the message several times.

(4) At several command post locations where the Porta-Mobil radios were used as base stations, it was found that the "gutter mount" antenna could not be positioned on the building offering the best transmission path. This situation restricted positioning of the radios at a desirable location within the command post, due to short transmission feed-lines.

(5) Several units failed to take their organic radios to the objective area. This situation prevented the unit from entering into the task force radio net for several days subsequent to employment in the objective area and thereby reduced the overall effectiveness of the task force operation.

(6) The telephone circuits serving the Department of Military Affairs Building were dead during the first sixty hours and extremely overloaded during most of the rest of the entire operation. Considerable delay was experienced in placing outgoing calls. Reports from field commanders indicated that difficulty was also experienced in placing incoming calls.

7. LESSONS LEARNED.

a. A major flood disaster operation can be subdivided into three phases by function and time:

Phase I - Evacuation, Security, Traffic Control and Human Services

Phase II - Debris Removal, Security, Traffic Control and Human Services

Phase III - Disengagement

(1) It became immediately apparent to those on the scene that major devastated areas had to be sealed off to the general public and access into and out of the affected areas had to be controlled. The factors in the assessment are:

(a) Safety

(b) Security

(c) Restoration of Utilities

(d) Debris Removal

(2) Thus, in Phase I the primary mission was to assist and augment local authorities in providing evacuation, security, traffic control and human services. It was just too dangerous to permit unlimited access. Gas lines were broken, electrical power lines were down, manhole covers were carried away, bridges were damaged, holes and crevices across roadways were hidden by the flood waters. The extensive damage to houses and other structures made them potential death traps. Personal belongings and other valuables were unattended and subject to looting and vandalism. Routes had to be kept open for emergency and other utility vehicles for evacuation of injured and safe restoration of power and telephone lines. Anxious homeowners who were directly affected by the flood, sightseers, curiosity seekers, and non-operational traffic signal lights posed monumental traffic problems. To the credit of the local police, State police and National Guardsmen these problems were alleviated with each passing day. Critical intersections were manned, roadblocks were established, roving patrols were instituted, and curfew hours enforced. A pass system for entrance into the affected areas in the Wilkes-Barre area was quickly discarded because it was unworkable, added an additional burden to exhausted local police, and was fraught with selfish political motives. It was replaced with a system that permitted locally adapted techniques and the individual policemen and guardsmen to exercise common sense and good judgement in determining who would be permitted access into the area.

(3) In retrospect, Phase I in the major disaster areas should have called for the rapid insertion of and saturation by Military Police with 100 per cent mobility, equipped with radios and other auxiliary communication equipment, traffic batons, flashlights, whistles, face masks or respirators, (to prevent dust inhalation), and other reflectorized traffic control equipment (vests, gloves, wristlets). The psychological impact of elite Military Police in their distinctive uniforms (helmets, MP brassards) and marked vehicles not only serves as a calming effect and controlling element over the populous, but serves as an effective deterrent to looting, vandalism and curfew violations. Their value to the local police speaks for itself.

(4) Phase II began with the decision to use National Guard troops to remove garbage/debris and discarded property from the streets. On the surface it seemed like an insurmountable task, in the Wilkes-Barre area, not only because of astronomical amounts of debris and garbage but because of the many organizational, logistical, legal, and political problems associated with such a clean-up operation. Engineer equipment had to be assembled, civilian contractors, and volunteers from outside municipalities had to be organized and their activities closely monitored to ensure effective utilization of personnel and equipment. National Guard units were assigned specific cleanup areas. The task of coordinating the engineer equipment usage with these units was given to the 103d Engr Bn. This appeared to be a practical arrangement. Use of land fills became a nagging problem. Local citizens, through their elected officials, objected to the dumping of refuse in their area. Delays were experienced in identifying land fill areas and obtaining clearance for their use. Legal problems were experienced in obtaining use of a local airfield for the positioning of engineer equipment. The problem was finally resolved with the eventual intervention of the Governor's Office. These problems are mentioned to stress the need for immediate assignment of a Staff Judge Advocate and a Civil Affairs Officer in similar operations. Their advice and guidance could have done much to reduce or eliminate the legal problems and other obstacles raised by the local officials.

(5) One of the most unique and yet critical problems encountered in the Wilkes-Barre area was the extraordinary number of flat tires that were experienced, because of the broken glass, nails, and other debris strewn about the roadways. Vehicles became non-operational, the capacity to repair tires was aggravated by the lack of sufficient tire-patching equipment, absence of commercial sources which were "wiped out" because of the flood and, in some cases, the lack of OVM (jacks, tire changing tools).

(6) Concurrent with the massive clean-up operations, the National Guard was called upon to fulfill innumerable other requirements. These included furnishing guards for private business establishments, and public buildings (schools, hospitals, etc.) hauling supplies, cleaning out private homes or business establishments, and furnishing personnel for roving patrols to augment local police forces. Most of these were accomplished - few were refused and then only because of lack of resources on the scene. The issue is surfaced only to point out that many requirements would come in that were not evaluated for justification as to need but equally important as to the number of personnel required to do the job. On one case, a requirement for 100 men to handle a food distribution problem was reduced to 15 men upon evaluation. In another case, a call was received from a local councilman requesting 25 men to be used as roving motorized patrols. By further questioning it was determined that the need was inflated beyond all proportion to the area to be patrolled. There was a distinct impression that many officials believed manpower assets were bottomless. In several instances when a request was refused or the number of men requested was reduced, the official would use his political influence by calling the Governor's Office. Each official believed his problems were the greatest and the only problem which must be resolved at that time. In summary, all requirements must be evaluated as to need and number of personnel required. The requestor must not be permitted to make this evaluation, regardless of the urgency that the requestor places on the requirements with possible ulterior motives and political chicanery. A Civil Affairs Officer and Public Affairs Officer can do much to explain the Guard's mission and position on these matters.

(7) As the mountains of debris, refuse and garbage diminished and restoration activities were better arranged, plans for Phase III - Disengagement, were begun. The single most important factor in disengaging from a disaster type operation is the psychological preparation of the local officials and populace. The magnitude of the disaster left many in a state of shock over their personal as well as business losses. Recovery to many seemed insurmountable. With the presence of hundreds (or thousands, as in the Wilkes-Barre area) of troops and other personnel in some areas, the populace becomes too dependent on them. The "standing-down" of units must be deliberate, and accomplished in increments. Thus local officials must be advised and given sufficient time to adjust. All disengagements must be conducted on a low-profile basis. City officials must be impressed with the fact that the troops cannot remain indefinitely and that they must face up to reality. Again the Public Affairs Officer can be most helpful in this regard.

b. Command and Control in the Field.

(1) The myriad agencies among the Federal, state, county and other local authorities involved in recovery operations in the Wilkes-Barre area were enough to boggle anyone's mind.

(a) Some of the Federal agencies represented are listed below:

- Office of Emergency Preparedness (OEP)
- General Services Administration
- Department of Health, Education & Welfare (HEW)
- Department of Housing & Urban Development (HUD)
- US Army
- US Army Corps of Engineers
- US Army Reserve
- US Navy Reserve
- US Marine Corps Reserve

(b) Several of the State agencies include the following:

- Pennsylvania Army & Air National Guard
- State Police
- State Civil Defense
- Department of Transportation
- State Health Department
- Department of Environmental Resources

(c) Relief organizations were represented by the American Red Cross and the Salvation Army.

(d) Add to these the various county, city and borough authorities and it becomes an organizational nightmare.

(2) Because of the scattered locations of these agencies and lack of adequate communications, planning and coordination became extremely difficult. It was questionable that any of the agencies were fully aware of the responsibility of the other or what resources each was able to provide. This caused considerable overlapping, duplication and delays in responding to requirements.

(3) In any future disaster of a similar nature in scope and magnitude, special effort should be made to centralize control and coordination among the various civilian and military agencies.

(4) With respect to the Task Force Commanders, their principal staff must be assembled rapidly to permit the Task Force Commanders to make a quick estimate of the situation, develop courses of action and establish a central headquarters to command and control operations. As a minimum this staff should include:

- Chief of Staff
- Civil Affairs Officer
- Engineer Officer
- Logistics Officer
- Provost Marshal
- Public Affairs Officer

Staff Judge Advocate
Communications-Electronics Officer
Army Advisor

c. Operations.

(1) Military organizations should be assigned general support missions for specific political subdivisions which are commensurate with the size of the organization. Unit integrity must also be maintained for best control and utilization of personnel and equipment. Specialized support units, such as engineers, medical, transportation, etc. can be attached to the general support organization, as required, for mission accomplishment. This method of rendering military support enables the military commander to establish closer coordination with local officials for organizing their resources into a more effective team for cleanup operations.

(2) Mass news media should be used for alerting personnel of units. In major disaster commercial telephone service is quickly overloaded and in many instances becomes inoperable due to equipment loss from the disaster. Local radio and TV stations can carry spot announcements which cover a wide area. This means of disseminating alert notification was found to be very effective during this operation.

(3) Advance detachments of units effecting relief of those being withdrawn from a disaster area should be moved into the area at least one day prior to relief. This is essential for reconnaissance of the area, orientation, and familiarization with the mission being assumed.

(4) The urgency of immediate response to a major disaster lends to contact by The Adjutant General's Office directly with the unit in the affected area and a tendency to by-pass some headquarters in the command structure. The inverse is also true. Every effort must be made to avoid such procedure.

(5) The Engineer Battalion (Infantry Division) was best suited for operations of debris removal.

(6) Aviation staffs were inadequate and not equipped or organized to handle major operations of this magnitude. This is not intended in any way to belittle the efforts by participating units, which in most cases were nothing less than heroic.

(7) Complete information for missions was not insisted upon by receiving aviation personnel, thereby causing confusion and sometimes improper utilization of aircraft.

(8) Dual operation points serving the same aviation area in certain locations caused duplication of effort and misuse of assets.

(9) VIP's plagued aviation operations centers with requests for missions, thereby hampering critical rescue operations during the early stages of the emergency.

(10) The lack of direct communications between aviation operation centers and airborne aircraft caused dispatching duplication and slow reaction to immediate requests.

(11) No rescue hoists with jungle penetrators were available for use with UH-1 aircraft, which hampered rescue operations considerably.

(12) Aviation maintenance crews were not readily available during flight operations at certain locations where aircraft were in use, thereby rendering maintenance support inadequate to permit full utilization of aviation assets.

(13) Helicopters provide an invaluable means of transportation during flood emergencies. Helicopters can be used to a definite advantage for rescue, evacuation, and for general transportation of personnel, equipment, and supplies.

d. Logistics.

(1) The use of preportioned rations from commercial firms during this type operation proved to be an excellent method for feeding troops. Not only was it less time consuming in preparation but it offered more variety. Another significant advantage was that very little refrigeration space was required, due to frequency of delivery made by vendors.

(2) Maintenance type units should be immediately assigned to the task force to support maintenance requirements. Through assignment of such units at the onset of the operation, many maintenance problems of a minor nature can be resolved before they develop into major ones requiring extensive repair and down time of equipment.

(3) Transportation type units should be placed under the direct operational control of the Adjutant General in order to be readily available to support the many transportation requirements. During this operation, numerous requests were received for transportation to haul critically needed items to all areas of the State affected by the flood.

(4) Excessive time was required to refuel helicopters at airports without proper facilities.

e. Public Relations.

A visitors' bureau should be organized from selected personnel within the task force for the purpose of coordinating all arrangements associated with visitations of dignitaries and other VIP's who may visit the disaster area for assessment of damage and requirements for assistance.

8. RECOMMENDATIONS.

a. Every effort be made to expedite the issuance of installation kits for AN/VRC-12, 46, 47 and 49 radio sets.

b. Consideration be given to reducing the weight of several boxes contained within the battalion communication packet to facilitate unloading from aircraft.

c. VIP flights be kept to essential minimum until the crisis has diminished.

d. Provisions be made to release from duty, at earliest opportunity, those National Guard personnel who suffered severe personal losses.

e. Personnel assigned to security missions be equipped with riot batons rather than individual weapons.

f. Maximum effort be made to have requests for assistance submitted through civil defense channels.

g. A Judge Advocate be attached, at earliest opportunity, to the staff of the National Guard Task Force Commander in the major disaster area.

h. Security personnel employed by major industries and business concerns should be used to maximum extent possible before National Guard personnel are asked to perform security missions for the industries and business concerns.

i. Some rescue hoists be made available for air rescue by helicopters.



HARRY J. MIER, JR.
Major General
The Adjutant General

ANNEX B (Proclamations) to After Action Report - Tropical Storm Agnes

IN THE NAME AND BY AUTHORITY OF THE

Commonwealth of Pennsylvania



Governor's Office

HARRISBURG

PROCLAMATION

WHEREAS, flooding in many areas of the Commonwealth has taken a toll of human life, has caused the evacuation of residents from their homes and poses a serious threat to the safety, health and welfare of thousands of citizens of this Commonwealth;

WHEREAS, providing assistance for victims of natural disasters and assisting in flood control projects have, traditionally, been one of the missions of the Pennsylvania National Guard;

NOW, THEREFORE, by virtue of the authority vested in me by the Constitution and statutes of the Commonwealth of Pennsylvania and as Commander-in-Chief of the Pennsylvania National Guard, I direct the Commanding General of the Pennsylvania National Guard to:

1) Place units and men of the National Guard on alert for possible call to state active duty in those areas where conditions caused by flooding may require that they be utilized;

2) Place on state active duty, for the duration of the State of Extreme Emergency which I have heretofore declared, such units and individuals in the Pennsylvania National Guard as in his discretion are necessary to meet the present crisis.

GIVEN under my hand and the Great Seal of the State, at the City of Harrisburg, this twenty-second day of June, in the year of our Lord one thousand nine hundred and seventy-two, and of the Commonwealth the one hundred and ninety-sixth.

Milton J. Sharp
MILTON J. SHARP
Governor

BY THE GOVERNOR:

Charles E. Tucker
Secretary of the Commonwealth

ANX B (Proc) Tropical Storm Agnes

IN THE NAME AND BY AUTHORITY OF THE

Commonwealth of Pennsylvania



Governor's Office

HARRISBURG

PROCLAMATION

WHEREAS, the worst flood in the history of this Commonwealth has taken a toll of human life and in the aftermath of this flood there remains a serious threat to the safety, health and welfare of hundreds of thousands of citizens of this Commonwealth;

WHEREAS, the recent flood has caused the evacuation of residents from their homes and has resulted in the destruction of public and private property and institutions;

WHEREAS, providing assistance for victims of natural disasters and assisting in flood control projects have, traditionally, been one of the missions of the Pennsylvania National Guard;

WHEREAS, I have proclaimed a State of Extreme Emergency within those political subdivisions of the Commonwealth which have suffered serious flooding and storm damage;

WHEREAS, members of the Pennsylvania National Guard are urgently needed both in civilian and active duty status in order to protect the safety, health and welfare of the citizens of this Commonwealth and to assist in alleviating the ravages of the recent flood;

REALIZING, however, that it will be necessary to provide logistical command and control for the 28th Infantry Division;

NOW, THEREFORE, pursuant to the powers vested in me by the Constitution and Laws of this Commonwealth and in accordance with the provisions of this Proclamation, I hereby order units of the National Guard to remain in Pennsylvania for the duration of the State of Extreme Emergency which I have heretofore declared.

GIVEN under my hand and the Great Seal of the State, at the City of Harrisburg, this twenty-eighth day of June, in the year of our Lord one thousand nine hundred and seventy-two, and of the Commonwealth the one hundred and ninety-sixth.

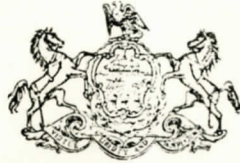
Milton J. Shapp
MILTON J. SHAPP
Governor

BY THE GOVERNOR:

Charles L. Tucker
Secretary of the Commonwealth

IN THE NAME AND BY AUTHORITY OF THE

Commonwealth of Pennsylvania



Governor's Office

HARRISBURG

PROCLAMATION

WHEREAS, a Proclamation was issued under my hand and the Great Seal of the State in the City of Harrisburg, on June 28, 1972;

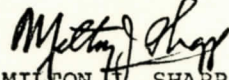
WHEREAS, an extreme emergency still exists;

WHEREAS, it is still necessary to have some members of the Pennsylvania National Guard assigned to flood recovery work to continue with that activity;

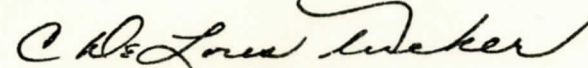
REALIZING, however, that fewer members of the Pennsylvania National Guard are now needed for such work;

NOW, THEREFORE, pursuant to the powers vested in me by the Constitution and Laws of this Commonwealth and in accordance with the provisions of this Proclamation, the Proclamation of June 28, 1972, is hereby amended and modified so that such members of the Pennsylvania National Guard not necessary for the continuing flood relief effort are hereby authorized and directed to perform their regular annual training as outlined in their federal mission and federal requirements, but no member of the Pennsylvania National Guard shall be ordered to perform a total of more than fifteen (15) days federal active training and in the calculation thereof each member will be given equivalent federal training credit for the number of days performed on flood relief duty.

GIVEN under my hand and the Great Seal of the State, at the City of Harrisburg, this twenty-first day of July, in the year of our Lord one thousand nine hundred and seventy-two, and of the Commonwealth the one hundred and ninety-seventh.


MILTON S. SHAPP
Governor

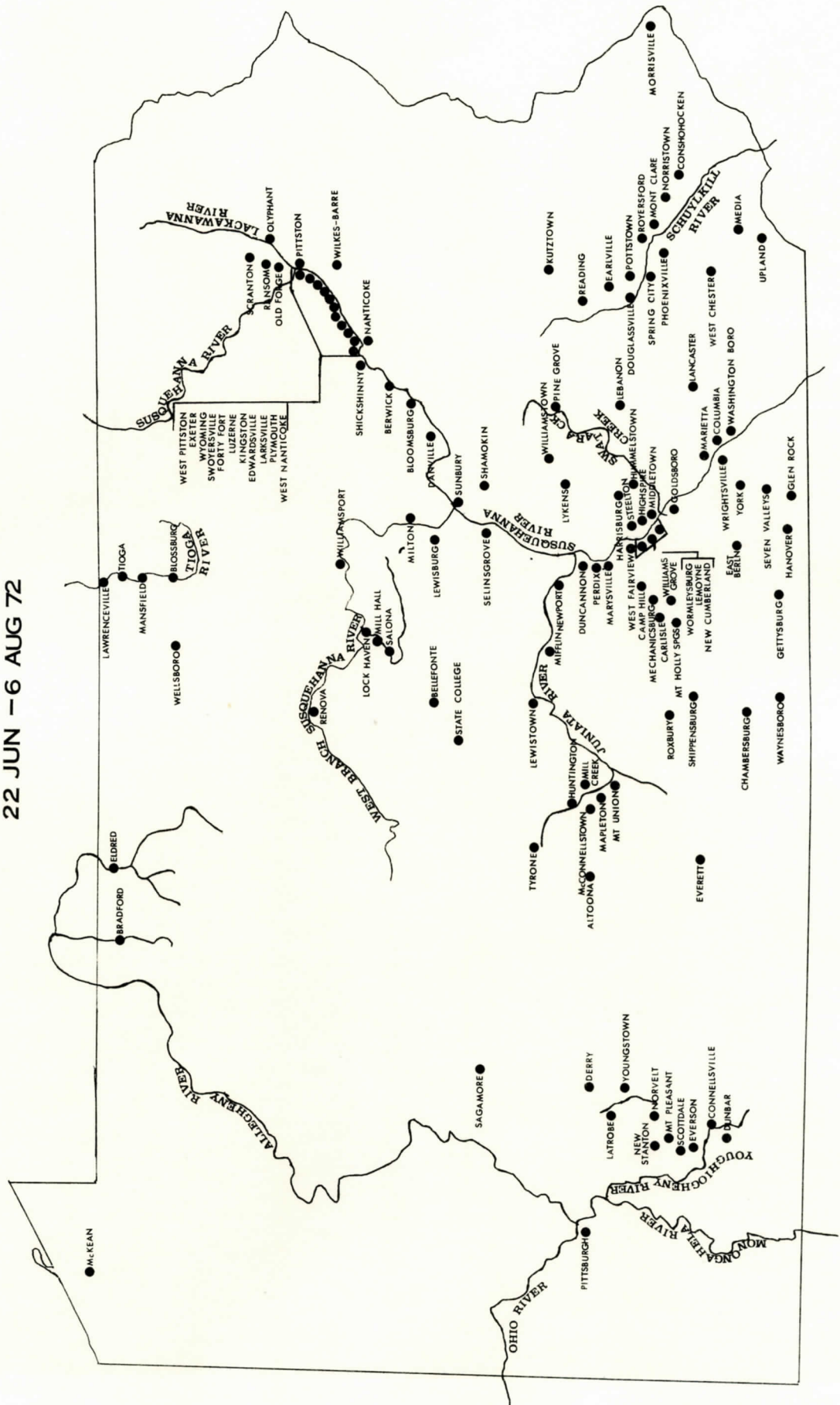
BY THE GOVERNOR:


Secretary of the Commonwealth

ANNEX C (Operations Map) to After Action Report-Tropical Storm Agnes

PENNSYLVANIA LOCATIONS OF NG COMMITMENT - TROPICAL STORM AGNES

22 JUN -6 AUG 72



ANNEX D (Photographs) to After Action Report - Tropical Storm Agnes



EVACUATION BY NG APC



GOVERNOR'S RESIDENCE IN HARRISBURG WAS
INUNDATED BY FIVE FEET OF WATER

ANX D (Photos) Tropical Storm Agnes

**SAFE AND DRY IN THE
ARMS OF A GUARDSMAN.**



**HARRISBURG....AN UNUSUAL
VIEW OF THE CAPITAL CITY.**

ANX D (Photos) Tropical Storm Agnes



**WILKES-BARRE...THE AREA OF FLOODING WAS
DESCRIBED AS 4 MILES WIDE AND 10 MILES LONG.**



**MAJOR INDUSTRY LOSSES WERE IN THE
MILLIONS OF DOLLARS.**

ANX D (Photos) Tropical Storm Agnes

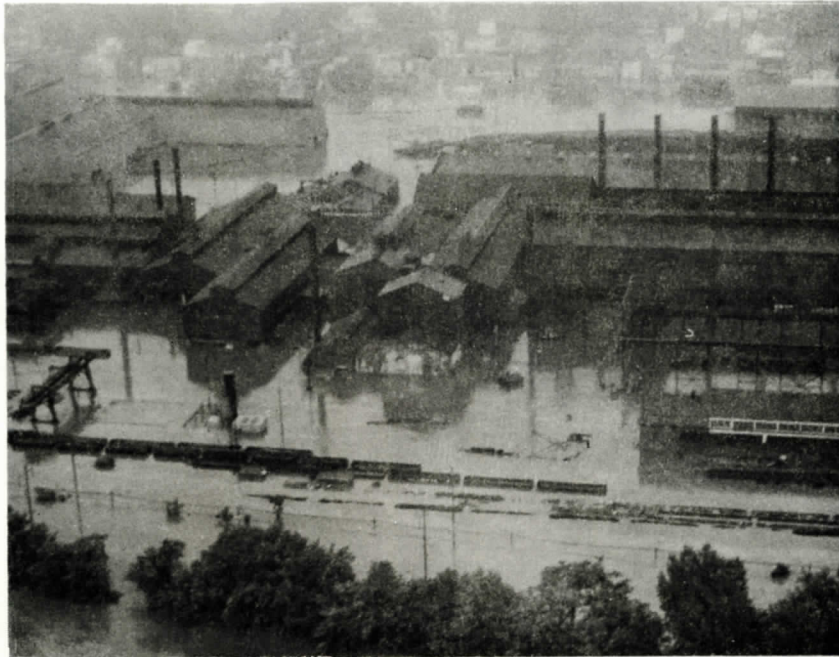


**WILKES-BARRE...SCENES LIKE THIS WERE
PRESENT THROUGHOUT AREA.**



**WILLIAMSPORT...THE FILLING OF SAND BAGS TO
REINFORCE DIKES WAS TRIED IN THE EARLY STAGES.**

ANX D (Photos) Tropical Storm Agnes



BETHLEHEM STEEL PLANT IN STEELTON.



**FEW TRAINS WERE RUNNING IN THE ENOLA
RAILROAD YARDS NEAR HARRISBURG.**

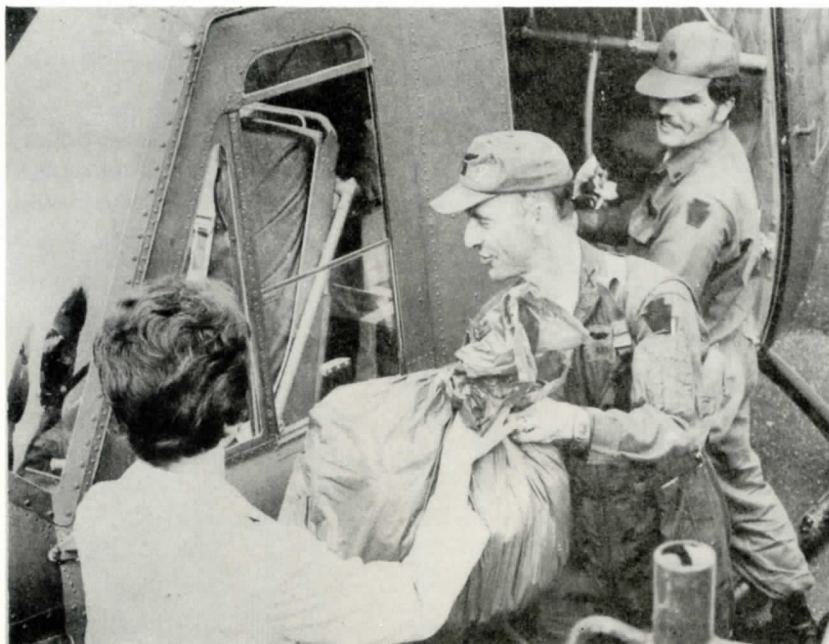
ANX D (Photos) Tropical Storm Agnes

HARRISBURG...FIRE ADDED
TO THE PROBLEMS.



PLYMOUTH...ING FRONT
LOADERS WERE USED
EXTENSIVELY.

ANX D (Photos) Tropical Storm Agnes



**HELICOPTER CREWS OFTEN
DID THE LOADING THEMSELVES.**

**NO ONE COMPLAINED ABOUT
THE RIDING COMFORT OF THE
VEHICLES IN WHICH THEY
WERE EVACUATED.**



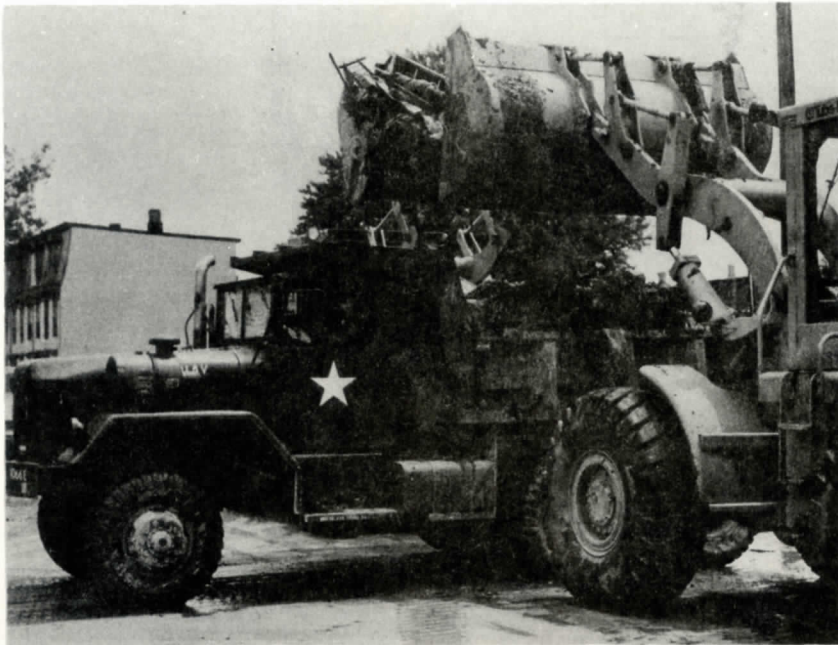
ANX D (Photos) Tropical Storm Agnes

NG HELICOPTERS FLEW
HUNDREDS OF HOURS IN
ORDER TO GET SUPPLIES
INTO STRANDED COMMUNITIES.



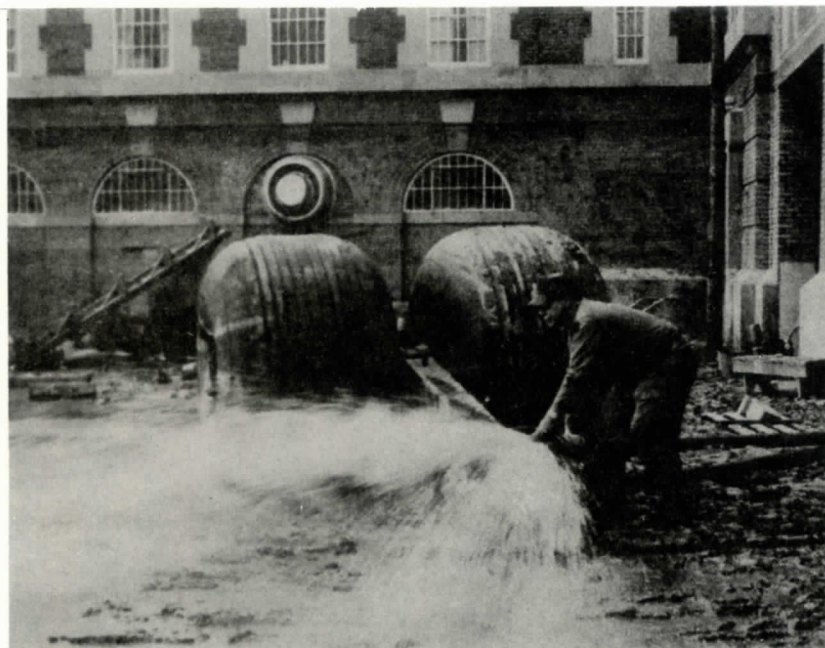
MILK WAS AN ESSENTIAL
ITEM NEEDED IN MANY
COMMUNITIES.

ANX D (Photos) Tropical Storm Agnes



**WYOMING...PART OF THE
THOUSANDS OF TONS OF
DEBRIS REMOVED DAILY.**

**KINGSTON ARMORY...NATIONAL
GUARD FACILITIES WERE HARD
HIT IN SOME AREAS.**



ANX D (Photos) Tropical Storm Agnes

KINGSTON...TWO GUARDSMEN
LOAD SOMEONES FAVORITE
CHAIR.



PLYMOUTH...NG ROAD
SCRAPERS PUSHED DEBRIS
INTO PILES FOR LOADING
INTO TRUCKS.

ANX D (Photos) Tropical Storm Agnes



FORTY FORT...AN ESTIMATED 2,500 GRAVES WERE WASHED OUT BY THE FLOOD WATER.



HARRISBURG AREA...BOATS AND MILITARY TRUCKS WERE THE ONLY MEANS OF TRANSPORTATION THROUGH THE STREETS IN MANY COMMUNITIES.

ANX D (Photos) Tropical Storm Agnes



A TYPICAL SCENE IN COMMUNITIES ALONG FLOOD RAVAGED RIVERS.



KINGSTON ARMORY...CLEAN-UP OPERATIONS AT ONE OF THE NATIONAL GUARD FACILITIES HIT BY THE FLOOD.

ANX D (Photos) Tropical Storm Agnes



WILKES-BARRE...A RESIDENTIAL AREA TURNED TO RUBBLE.

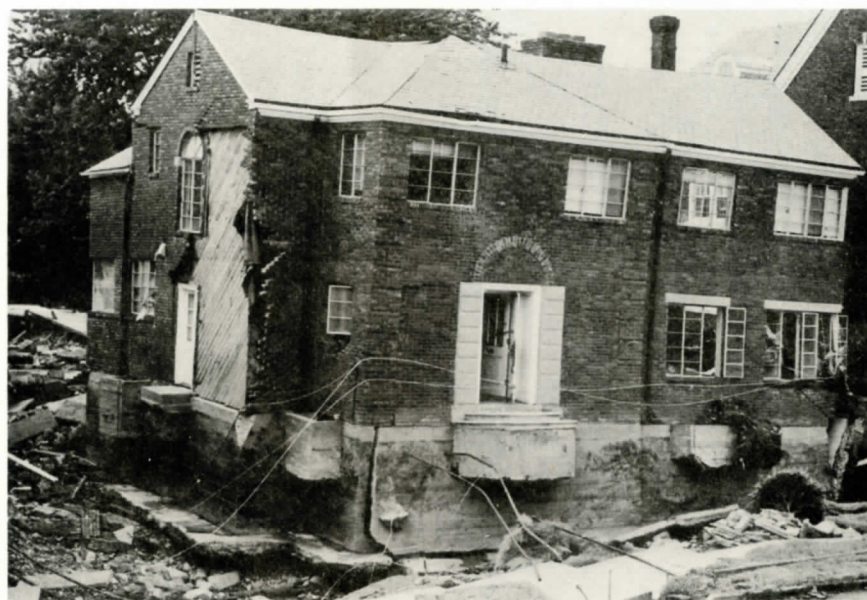


WILKES-BARRE...DESTRUCTION CAUSED BY ONRUSHING WATERS OF THE SUSQUEHANNA RIVER WHEN THE DIKE BROKE IN THE SOUTHERN PART OF THE CITY.

ANX D (Photos) Tropical Storm Agnes



WILKES-BARRE...LITTLE WAS LEFT TO SALVAGE IN MANY CASES.



WILKES-BARRE...THE DESTRUCTION WAS COMPARED WITH DAMAGE CAUSED BY WORLD WAR II BOMBINGS.

ANX D (Photos) Tropical Storm Agnes

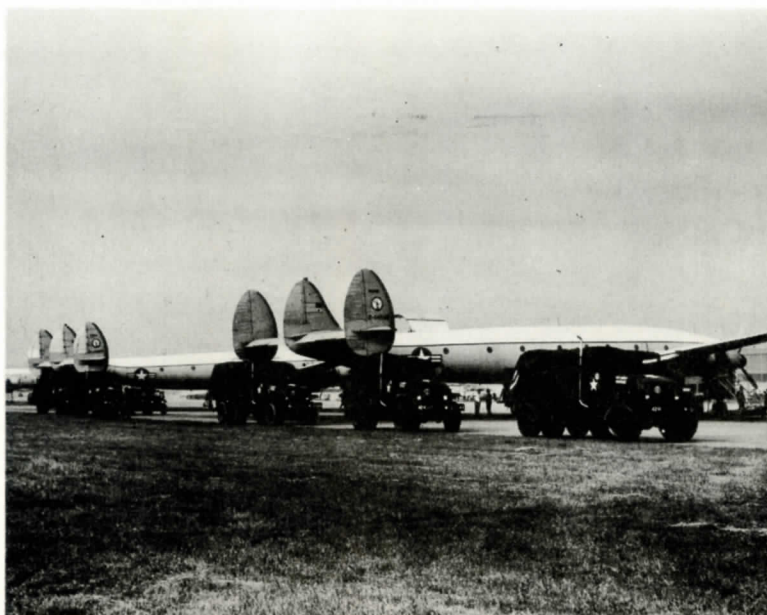


WILKES-BARRE...WHAT THE AREA LOOKED LIKE THROUGH THE EYES OF AN ARMY NATIONAL GUARD AVIATOR.



HARRISBURG...WHEN FIRE BROKE OUT IN A RESIDENTIAL SECTION OF THE CITY, FIREMEN DISCOVERED THAT TOO MUCH WATER COULD BE A HINDRANCE.

ANX D (Photos) Tropical Storm Agnes



**AIR NATIONAL GUARD AIRCRAFT BEING LOADED WITH FOOD FOR
TRANSPORT TO WILKES-BARRE AREA.**



**AIR NATIONAL GUARD FACILITIES AT THE HARRISBURG INTERNATIONAL
AIRPORT, MIDDLETOWN WERE HEAVILY DAMAGED BY FLOOD WATERS.**

ANX D (Photos) Tropical Storm Agnes



WILKES-BARRE...THE ENTIRE FURNISHINGS IN MANY HOMES WERE SIMPLY REMOVED AND PLACED ON SIDEWALKS FOR TRANSPORT TO LANDFILLS.



HELICOPTERS WERE INVALUABLE IN TRANSPORTING FOOD TO STRANDED AREAS.

ANX D (Photos) Tropical Storm Agnes



ENOLA...ONE OF THE SMALL COMMUNITIES NEAR HARRISBURG WHICH WAS SEVERELY DAMAGED BY THE NEARBY SUSQUEHANNA.



FOUR YEAR OLD RONALD BROMSBURG OF WEST WYOMING EXPRESSES HIS FEELINGS ABOUT THE REMOVAL OF THREE STITCHES FROM INJURED KNEE BY A PENNSYLVANIA ARMY NATIONAL GUARD MEDICAL OFFICER.

ANX D (Photos) Tropical Storm Agnes

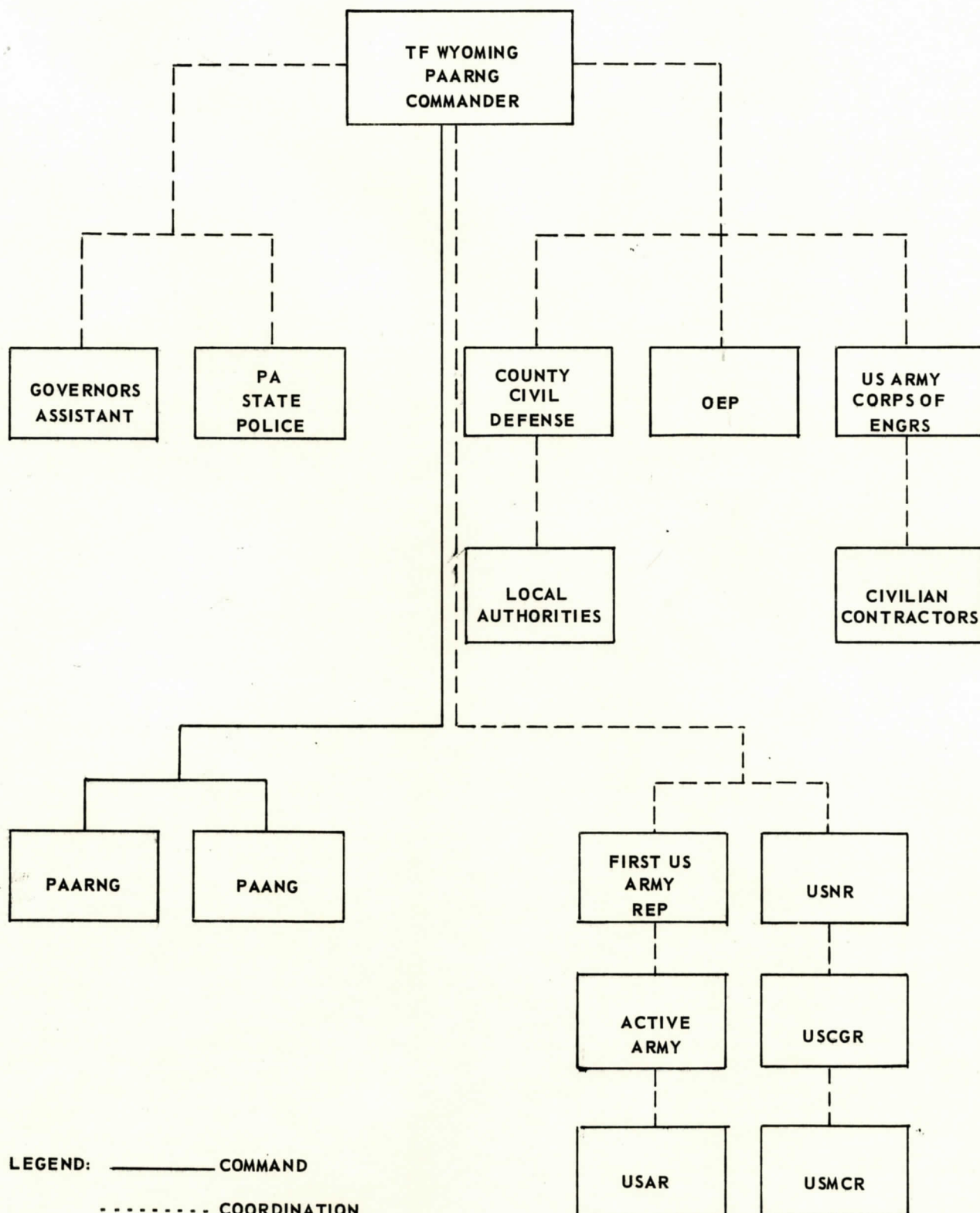


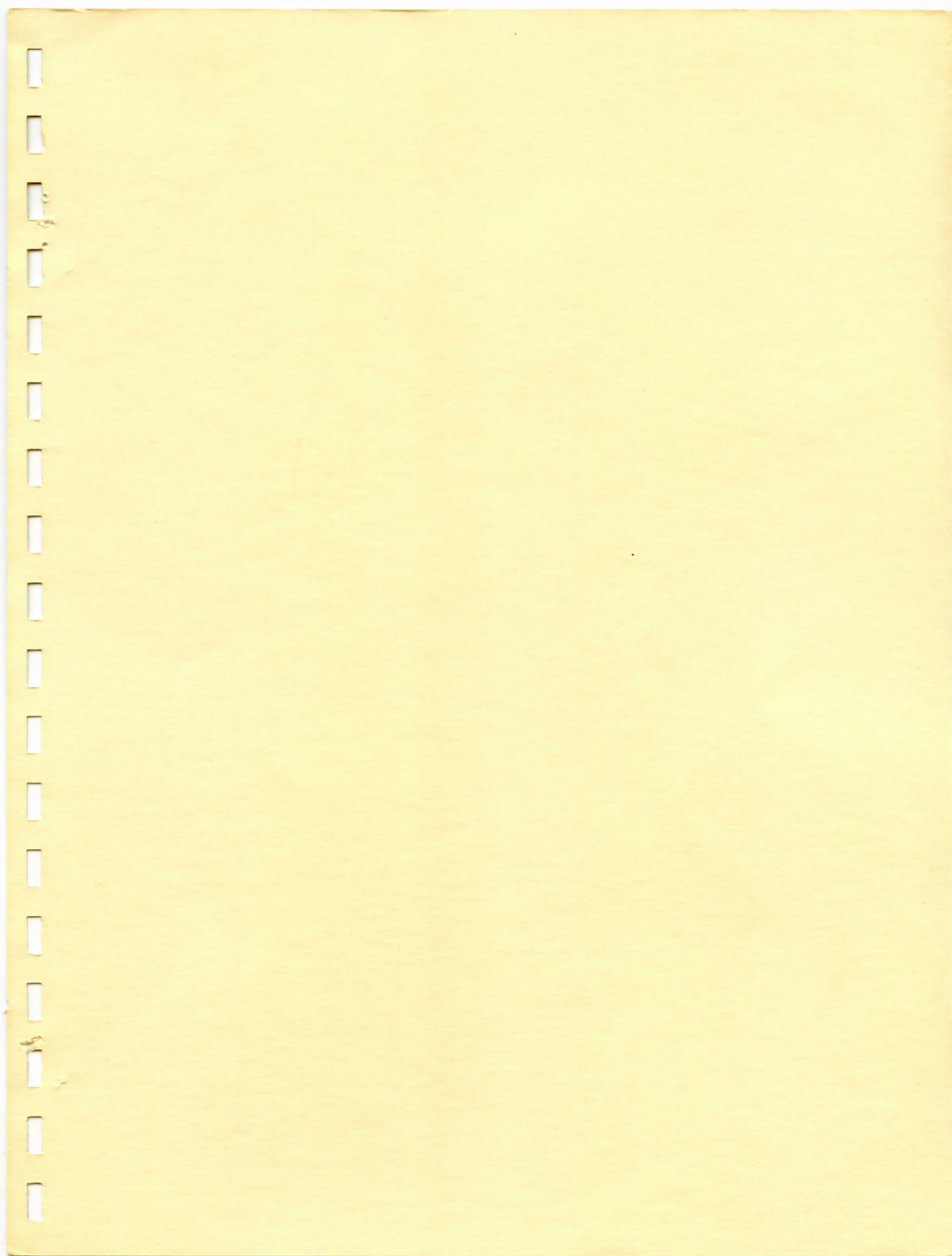
WEST PITTSTON...ARMY NATIONAL GUARD ARMORY SHOWN AT LOWER RIGHT OF PHOTO HAD FIVE FEET OF WATER ON FIRST FLOOR.



WILKES-BARRE...ONE OF THE MANY HOMES DESTROYED BY FLOOD WATERS.

ANNEX E (Task Force Wyoming Organizational Structure) to After Action Report Tropical Storm Agnes







THE ADJUTANT GENERAL
DEPARTMENT OF MILITARY AFFAIRS
ANNVILLE, PENNSYLVANIA 17003

31 October 1972

WILKES COLLEGE

NOV 6 1972

President's Office

Dr. Francis Michelini
Wilkes College
Wilkes-Barre, PA 18703

Dear Dr. Michelini:

Enclosed is copy of a report covering the activities of the Pennsylvania National Guard during the disaster recovery operations following Tropical Storm Agnes.

I hope that this report will be informatiye and of interest to you.

Sincerely yours,

Harry J. Mier, Jr.

HARRY J. MIER, JR.
Major General
The Adjutant General

Encl

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF MILITARY AFFAIRS
THE ADJUTANT GENERAL
ANNVILLE, PENNSYLVANIA 17003

22 September 1972

AFTER ACTION REPORT - TROPICAL STORM AGNES

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*Annex A consists of detailed breakdown, by unit, by day. Since strength recapitulation is included in paragraph 2a of basic document, Annex A has been omitted from general distribution.

1. GENERAL.

a. Type Emergency.

(1) Tropical Storm Agnes moved into Pennsylvania on Wednesday, 21 June 1972 with little force but causing torrential rains. The storm looped around the city of Pittsburgh causing rivers to overflow in the western part of the State. It moved over Harrisburg and met with a huge mass of cold air, which stalled the storm, instead of moving on to other areas. The ground was saturated from previous rains and could not absorb the water. Swollen rivers and streams were fed even further by the water that seeped through the ground around them. On 22 June some small rivers and creeks began overflowing their banks and flooding was reported in low lying areas in various parts of the State. The rain diminished on Friday, 23 June but the swollen, raging rivers and creeks continued to rise.

(2) National Guard disaster relief operations commenced before dawn on Thursday, 22 June as unit commanders reacted to local requirements in the vicinity of home stations and within a matter of hours the situation evolved into a State wide emergency.

(3) Following is a brief description of larger communities affected by the flood emergency:

(a) Harrisburg, Dauphin County (State Capital). Civil Defense personnel and Guardsmen began evacuating people from their homes in the city and surrounding communities the morning of 22 June. During the first few days of the storm the crest of the Susquehanna River was predicted and postponed several times as the rains continued to fall. On Saturday, 24 June, the river finally reached an all time high of 32.57 feet at Harrisburg, 15 feet above flood stage. Approximately 15 per cent of the city and large portions of surrounding communities were underwater. An estimated 14,000 persons were evacuated from their homes. Three of four vehicular bridges crossing the Susquehanna River were closed to traffic. Looting was reported in several areas and local police and Guardsmen patrolled in motor boats and posted static guards to alleviate the problem.

(b) Wilkes-Barre, Luzerne County. Guardsmen were patrolling the dikes along ten miles of the Susquehanna River in the Wyoming Valley from the onset of the storm. On Friday, 23 June, the dikes broke in several locations and began flooding the Wilkes-Barre, Kingston area. In anticipation of this eventuality local police and Guardsmen evacuated eighty thousand people from the area. The Susquehanna River crested at 40.5 feet, 18 feet above flood stage, overflowing dikes capable of holding water up to 37 feet, and flooding an area four miles wide and ten miles long. Two hospitals, the Nesbitt and Mercy, were forced to evacuate patients to other Wyoming Valley medical centers. Ten bridges that cross the Susquehanna River were inundated and half of Luzerne County was isolated. One dike which broke near Forty Fort cemetery caused an estimated 2,500 graves to be washed out by the onrushing waters. The storm left the Wilkes-Barre area in a shamble. Debris floated everywhere, houses were moved off foundations, roofs were torn off buildings, and mud lay on streets and in buildings to a depth of one foot. Altogether, some 13,000 homes in the area were ruined by the flood waters.

(c) Lancaster, Lancaster County. A total of 15 bridges in Lancaster County, including a major bridge in the city, were washed out or destroyed. The major problem was the loss of the area's water supply.

(d) Williamsport, Lycoming County. Approximately 2,500 persons were evacuated from homes when flooding occurred. The water supply in nearby Montgomery was lost and the town had no workable fire hydrants. Crop damage in the county was estimated in the millions of dollars.

(e) York, York County. City residents were faced with a water shortage in the aftermath of flooding along the Codorus Creek. Extensive damage was reported in the main business district.

(f) Lock Haven, Clinton County. The Susquehanna River crested at 31½ feet, 11 feet above flood stage, and left 50 per cent of the city under five feet of water. The area's four main bridges were washed out.

(g) Lewistown, Mifflin County. Flood waters from the Juniata River inundated many low lying areas of the town.

(h) Pittsburgh, Allegheny County. The Allegheny, and Monongahela Rivers pushed into the city's Golden Triangle early Saturday, 24 June, completely covering historic Point State Park and flowing into basements of some buildings. The Ohio River crested at 35 feet, 10 feet above flood stage.

(i) Reading, Berks County. This Berks County seat experienced flooding in the downtown area and in an urban renewal section of the city. The sewerage plants were inoperative and the water supplies at one point following the flooding dwindled down to the emergency stage. Several blocks of an urban renewal project were inundated by the overflowing Schuylkill River and up to 200 homes may have to be demolished.

(4) The following is an alphabetical listing of other communities affected by the storm and where Pennsylvania National Guard units were engaged in relief operations:

Community	County	Community	County
Altoona	Blair	Huntingdon	Huntingdon
Bradford	McKean	Kingston	Luzerne
Bellefonte	Centre	Kutztown	Berks
Berwick	Columbia	Larksville	Luzerne
Bloomsburg	Columbia	Latrobe	Westmoreland
Blossburg	Tioga	Lawrenceville	Tioga
Camp Hill	Cumberland	Lebanon	Lebanon
Carlisle	Cumberland	Lemoyne	Cumberland
Chambersburg	Franklin	Lewisburg	Union
Columbia	Lancaster	Luzerne	Luzerne
Connellsville	Fayette	Lykens	Dauphin
Conshohocken	Montgomery	Mansfield	Tioga
Danville	Montour	Mapleton	Huntingdon
Derry	Westmoreland	Marietta	Lancaster
Douglassville	Berks	Marysville	Perry
Dunbar	Fayette	McConelstown	Huntingdon
Duncannon	Perry	McKean	Erie
Earlville	Berks	Mechanicsburg	Cumberland
East Berlin	Adams	Media	Delaware
Edwardsville	Luzerne	Middletown	Dauphin
Eldred	McKean	Mifflin	Juniata
Everson	Fayette	Mill Creek	Mifflin
Everett	Bedford	Mill Hall	Clinton
Exeter	Luzerne	Milton	Northumberland
Forty Fort	Luzerne	Mont Clare	Montgomery
Gettysburg	Adams	Mount Union	Huntingdon
Glenn Rock	York	Morrisville	Bucks
Goldsboro	York	Mt Holly Springs	Cumberland
Hanover	York	Mt Pleasant	Westmoreland
Highspire	Dauphin	Nanticoke	Luzerne
Hummelstown	Dauphin	New Cumberland	Cumberland

Community	County	Community	County
Newport	Perry	Shamokin	Northumberland
New Stanton	Westmoreland	Shickshinny	Luzerne
Norristown	Montgomery	Shippensburg	Cumberland
Norvelt	Westmoreland	Spring City	Montgomery
Old Forge	Lackawanna	State College	Centre
Olyphant	Lackawanna	Steelton	Dauphin
Perdix	Perry	Sunbury	Northumberland
Phoenixville	Montgomery	Swoyersville	Luzerne
Pine Grove	Schuylkill	Tioga	Tioga
Plymouth	Luzerne	Tyrone	Blair
Pottstown	Montgomery	Upland	Delaware
Pittston	Luzerne	Washington boro	Lancaster
Ramson	Lackawanna	Waynesboro	Franklin
Renovo	Clinton	West Chester	Chester
Roxbury	Franklin	West Fairview	Cumberland
Royersford	Montgomery	West Nanticoke	Luzerne
Salona	Clinton	West Pittston	Luzerne
Sagamore	Armstrong	Williams Grove	Cumberland
Scottdale	Westmoreland	Williamstown	Dauphin
Scranton	Lackawanna	Wormleysburg	Cumberland
Selingsgrove	Snyder	Wrightsville	York
Seven Valleys	York	Wyoming	Luzerne
		Youngstown	Westmoreland

(5) Tropical Storm Agnes damaged or completely destroyed approximately 50,000 homes, 126 bridges, hundreds of factories and businesses, and an estimated 35 million dollars worth of farm crops. The storm also closed thousands of miles of roads, put 200,000 telephones out of service, and cut off electricity, gas and water to thousands of persons. Altogether, Agnes caused approximately \$3.0 billion in property damage in Pennsylvania. Forty-nine deaths were attributed to this flood disaster.

b. Inclusive dates. 22 June - 6 August 1972.

c. Scope of Emergency.

<u>Agency</u>	<u>Strength</u>		<u>Percent of Personnel on Duty</u>
	<u>Assigned</u>	<u>On Duty</u>	
Army National Guard	16,666	12,036	72.2
Air National Guard	4,053	644	15.8

2. OPERATIONS.

a. Detailed strength report by day and unit is shown in Annex A. Following recapitulation indicates aggregate strength of Army and Air National Guard forces employed during this operation:

<u>Date</u>	<u>Annual Tng Status</u>	<u>State Duty</u>	<u>Inactive Duty Tng</u>	<u>Total</u>
22 Jun	1,629	745		2,374
23 Jun	2,722	1,876		4,598
24 Jun	2,903	2,110	281	5,294
25 Jun	4,306	1,704	852	6,862
26 Jun	5,353	1,580	433	7,366
27 Jun	5,708	521		6,229
28 Jun	5,420	422	13	5,855
29 Jun	4,612	1,465	3	6,080
30 Jun	3,821	2,012	5	5,838
1 Jul	4,992	431	34	5,457
2 Jul	4,641	311	40	4,992
3 Jul	5,134	226		5,360
4 Jul	5,160	208		5,368
5 Jul	5,221	193	2	5,416
6 Jul	5,235	96	3	5,334
7 Jul	5,643	102		5,745
8 Jul	5,791	47	232	6,070
9 Jul	5,558	41	230	5,829
10 Jul	5,507	164		5,671
11 Jul	4,710	58		4,768
12 Jul	4,725	55	3	4,783
13 Jul	4,717	53		4,770
14 Jul	4,524	53	4	4,581
15 Jul	5,036	14		5,050
16 Jul	2,645	9		2,654
17 Jul	2,629			2,629
18 Jul	2,047			2,047
19 Jul	1,995			1,995
20 Jul	1,992			1,992
21 Jul	1,992			1,992
22 Jul	1,596			1,596
23 Jul	1,348			1,348
24 Jul	1,324			1,324
25 Jul	737			737
26 Jul	737			737
27 Jul	737			737
28 Jul	737			737
29 Jul	750			750
30 Jul	175			175
31 Jul	175			175
1 Aug	175			175
2 Aug	175			175
3 Aug	113			113
4 Aug	113			113
5 Aug	113			113
6 Aug	113			113
TOTALS:	135,486	14,496	2,135	152,117

b. Operations Summary.

(1) Planning/Alert. On 22 June the Director, State Council of Civil Defense (SCCD) contacted The Adjutant General of Pennsylvania about the possible use of National Guard personnel to assist local authorities in areas where rivers and creeks were overflowing their banks. After being briefed by The Adjutant General regarding the situations, the Governor authorized the use of personnel where necessary to assist in any emergencies which endangered life and property or affected public welfare. Attached as Annex B are Proclamations issued by the Governor. The first units were alerted for duty at 0745 hrs, 22 June, just 40 minutes after SCCD made its request. Units made use of any communications means available to contact personnel including radio, television, telephones, and newspapers. Response times were very favorable with most units reporting 50 per cent or more of their personnel arriving at the armories within two to four hours of the alert notice. Immediately upon arrival at the armories, unit commanders were compelled to employ personnel in evacuation duties in their home communities. Liaison was established with SCCD Emergency Operation Center (EOC) in Harrisburg and the Area EOCs at Selinsgrove, Indiana, and Hamburg. The Navy Liaison Officer from the Fourth Naval District, attached to The Adjutant General's Office, was on active duty at the time and provided liaison between the State headquarters and Naval units engaged in relief operations.

(2) Execution.

(a) The communities where operations were conducted are shown on map, attached as Annex C.

(b) Photographs of disaster relief operations are shown in Annex D.

(c) Throughout the disaster areas, emergency support was provided in every feasible manner. When flood water receded the total damage was inconceivable. In general terms, support was provided by National Guard personnel as indicated below:

1. Evacuation.
2. Search and rescue.
3. Recovery of disinterred bodies and caskets.
4. Emergency clearance of debris.
5. Security and protection of vital facilities.
6. Traffic control.
7. Medical service.
8. Water and food.
9. Transportation.
10. Mass care centers.
11. Food and material distribution.
12. Liaison.
13. Aviation support.
14. Information Services.

(d) The Wilkes-Barre area (Wyoming Valley) had incurred the largest amount of destruction from flood waters, and it was apparent that the largest and most extensive support would be required from National Guard forces. To facilitate relief operations in this particular area a joint civilian - military organizational structure was established as shown in Annex E.

(e) Operational Activities.

1. Units were deployed in 117 communities from the onset of the operation. The first mission accomplished by units was to assist local authorities in evacuating and rescuing thousands of people from flooded or potential flood areas. Guardsmen evacuated people by any conceivable means available including boat, helicopter, trucks, armored personnel carriers, on piggy-back, and by rope. In many instances Guardsmen performed up to 20 hours of duty without relief. Guardsmen transported cots, blankets, food, medical supplies and many other critically needed supplies to mass care centers. They operated generators for emergency power at hospitals and municipal buildings. Armories were utilized for housing and feeding evacuees; e. g. the Plymouth armory housed 305 evacuees, 234 Guardsmen and 347 Guardsmen bivouacked outside. The mess hall recorded a head count of 890 people being fed at a single meal.

2. Once the rivers and other streams crested, Guardsmen in cooperation with local and State law enforcement agencies immediately established anti-looting and security patrols. Areas inundated by flood waters were patrolled by boats, while static guard posts and motorized patrols were established in other areas. The mayors of many flood stricken communities imposed dusk to dawn curfews allowing only those individuals with proper identification into the areas of destruction. Many Guardsmen remained on duty well aware of the fact that their own homes and families were in danger. In 1st Bn, 109th Field Artillery, Wilkes-Barre, of 411 men on duty, homes of 202 were damaged and 27 destroyed. Guardsmen were authorized to carry riot batons while on security duty with the exception of those communities where there was a higher probability of looting. In these communities personnel were authorized to carry the M-16 Rifle, however, at no time were Guardsmen issued ammunition. In much of the Wilkes-Barre area electric service had been interrupted and it was apparent that keeping people out during hours of darkness would be a difficult task without large illumination equipment. The Tobyhanna Army Depot provided four searchlights which were used in the hardest hit areas where patrolling was difficult. In Harrisburg two National Guard Infrared Searchlights AN/MSS-3 mounted on trucks were used to facilitate security.

3. Initially on 22 June 459 Guardsmen were assigned in Harrisburg and 398 in Wilkes-Barre. The remainder of the 2,374 Guardsmen on duty the first day of operation were scattered throughout other communities of the Commonwealth. In the days that followed conditions continued to deteriorate necessitating the call for more units. In Harrisburg and Wilkes-Barre the large number of troops required the commitment of personnel from varied commands of the Pennsylvania National Guard. Accordingly, a Task Force Headquarters was established at each of these locations for coordination of effort.

4. As the flood waters receded, Guardsmen and US Army Reservists provided potable water, food and clothing, cleared debris, repaired damaged structures and assisted in traffic control. In several communities where water facilities were contaminated by the flood waters, Guardsmen provided water trailers, five gallon cans, and any other containers available. In some areas, it was necessary to ration drinking water to one cup per person per day. Sewage systems were inoperable in some communities. Traffic became a major problem due to inoperable traffic signals and excessive number of sightseers pouring into the devastated areas. Two military police companies were alerted and assigned to the Harrisburg and Wilkes-Barre areas; however, due to the magnitude of the problem and the number of locations at which assistance was required, it was necessary to assign traffic control duties to other type units; i.e. infantry, artillery, etc.

5. As the situation began to stabilize units were relieved and others assigned to the Wilkes-Barre area. Requirements for units with specific capabilities and skills were recognized and engineer, transportation, quartermaster and maintenance units were activated. The need for heavy equipment was paramount. The 103d Engineer Bn (-) with the 144th Engineer Co and the 1070th Transportation Co attached were enroute to Wilkes-Barre from their home stations in Philadelphia. The Air National Guard responded by sending the 201st Civil Engineer Flight (Red Horse) heavy construction unit from Indiantown Gap Military Reservation. The Army Corps of Engineers was on the scene and was assigned the responsibility of reopening transportation lines into the stricken areas. They immediately began repairing damaged bridges along the Susquehanna River. Several temporary bridges were erected to replace those washed away during the storm.

6. In Wilkes-Barre, the 103d Engineer Bn (-) was responsible for clearing debris from main roads and city streets and transporting it to the emergency sanitary land fills. Seven land fill areas were established in abandoned strip mines. The 201st Civil Engineer Flight was assigned to the Wyoming Valley land fill area. The work consisted primarily of moving refuse and debris into the land fills and grading top cover. The following equipment was used to move approximately 20,000 tons of refuse and top cover daily: One TD 20 Tracked Dozer, One TD 25 Tracked Dozer and a TD 250 Tracked Loader. An M100 Road Grader was used to improve traffic conditions and to clear taxiways and hard-stands at the Wyoming Valley Airport.

7. In Wilkes-Barre, almost all of the food stored in bulk commercial facilities was destroyed and the remaining that was available was consumed in hours. Fortunately, food and supplies began arriving from all parts of the country by military and civilian aircraft. The Pennsylvania Air National Guard's 171st Aeromedical Airlift Wing flew in 76,000 pounds of United States Department of Agriculture food from the Greater Pittsburgh Airport. A record 1.45 million pounds of food and supplies were delivered to the Wilkes-Barre-Scranton Airport. A base resupply operation was organized which supported 68,000 people daily. Active Army and Reserve personnel supporting the operation were burdened by a manpower shortage and requested additional personnel from the National Guard. The 228th Supply & Transport Bn and the 721st Supply and Service Co were placed on duty 1 July to assist in food distribution and delivery. A main distribution point was located at the Pocono Downs Raceway where a terminal for pick-up and delivery of food was established. On July 13 ration supply operations were assumed by the Red Cross since Guard units were returning to home stations.

8. A requirement for additional medical assistance and support existed. Doctors, nurses, and medical technicians from available National Guard units were immediately dispatched to the emergency areas. These individuals, assisted by volunteer doctors and nurses, were provided by the 103d Medical Bn, 911th Medical Co, Co D, 102d Medical Bn, medical platoons/sections from battalion and higher headquarters, 171st Aeromedical Airlift Wing, 111th and 193d Tactical Dispensaries, 103d Aeromedical Evacuation Flight, and various active and reserve units. They established mass care centers, first aid stations, and dispensaries; provided medical supplies, transportation and sanitation procedures, and other medical services too numerous to mention. These individuals, working around the clock, provided out-patient treatment to literally thousands of individuals daily. Services included treatment of - lacerations, burns, accident victims, redressing wounds, dog bites, eye injuries, pulmonary edema, epileptics, rheumatic heart, asthmatics, geriatric problems, respiratory infections, diabetics, cardio-vascular conditions, hypertension cases, and pulmonary emphysema. It was through the concentrated effort of these individuals that the serious medical problems that existed in the initial phases of the disaster were kept under control and what could have been a major problem area was diverted into an outstanding medical support and service operation.

(f) Army Aviation Operations.

1. At no single time in the history of the Pennsylvania Army National Guard has aviation support played a greater role than during this disaster. The pilots and flight crews performed with precision and smoothness during rescue operations and saved the lives of countless number of people. Every available aircraft was pressed into operation. Many of the missions were performed during the hours of darkness in pouring rain. One crew reported that their aircraft broke tree branches in order to land on a roof to complete a rescue mission. Air crews carried out each mission realizing dangers lurked in the area in the form of power lines, towers, high rise buildings, etc., but still placed the accomplishment of their mission above their own lives. At the Danville State Hospital, the crews set up medical evacuation centers and transported people in and out of the water-surrounded hospital. Doctors, nurses, and technicians were flown in from their homes. Aircraft were the only means of medical re-supply available to the hospital during the early stages of the emergency.

2. When the flood waters receded, aviation support was still in great demand; however, the mission assignments changed to reconnaissance and airlift of cargo and personnel. Following missions were performed:

a Resupply of mass care centers with medical and food supplies. (Medical supplies were in great demand since two hospitals were evacuated and 80 percent of all practicing physicians in Wilkes-Barre lost their equipment).

b Emergency medical personnel, doctors, nurses, and technicians were flown from one side of the Susquehanna River to the other to provide medical support in mass care centers.

c Aircraft were provided to fly personnel from governmental agencies for reconnaissance of the river, route accessibility, and bridge conditions.

d Searchlight missions to provide illumination over evacuated areas in support of the civil anti-looting efforts.

e Reconnaissance missions for personnel involved in environmental resources to evaluate water supplies for affected communities.

f Aeromedical evacuation for National Guardsmen injured during duty in the area.

g Reconnaissance flights for evaluation of traffic control problems.

h Liaison aircraft for commanders who were physically removed from the main control center so as to provide rapid, efficient transportation to daily meetings.

i Transportation for the Governor, First US Army Commander, The Adjutant General, National Director and Region 2 Director, Defense Civil Preparedness Agency, and other dignitaries visiting the area.

j Reconnaissance flights to locate new land fills for the Task Force and personnel from Environmental Resources.

3 Summary of Army National Guard Aviation Operations.

<u>Unit</u>	<u>Aircraft</u>	<u>Missions</u>	<u>Sorties</u>	<u>Personnel</u>	<u>Cargo (lbs)</u>	<u>Hrs</u>
HHT, 104 ACR	6/UH-1	332	680	610	17,650	585
Trp N, 104 ACR	6/UH-1	215	465	590	90,700	410
55th Bde	4/UH-1	192	480	425	1,600	315
28th Div Arty	7/OH-23	104	260	199		155
28th Avn Bn (-)	8/UH-1	50	125	175	1,000	250
	5/OH-23					
TOTALS	24/UH-1 12/OH-23	893	2,010	1,999	110,950	1,715

Special note is made of the fact that there were no accidents involving Army National Guard Aircraft throughout this operation.

(g) Air National Guard Operation.

1 In the early hours as the flooding began, in the Harrisburg area, emergency radios were provided to the Airport Manager and staff at Harrisburg International Airport enabling them to maintain communications as all telephone service at the airport was disrupted. Office space was also provided to the Airport Manager as the airport administrative offices were under water. Moreover, very close coordination was established between the Airport Manager and the Commander of the Pennsylvania Air National Guard in order to evacuate people, remove equipment, and provide for both safety and security on the airport.

2 After the water receded, the entire airport, including all flying facilities, was covered with large amounts of mud, debris, and obstacles. The Pennsylvania Air National Guard began a cleanup of the runway on 26 June 1972 and removed all of the large debris using heavy equipment and then swept and cleaned the runway. The runway approach lights were also covered with debris and a team of Air National Guard engineers removed all of these objects. Heavy equipment, including cranes, dump trucks, forklifts, front end loaders, and sweepers were made available to the Airport Manager beginning on 25 June 1972 and continuing through the middle of July 1972. Additionally, generator units were made available

to provide electricity as the main electrical service on the airport was cut off. Approximately \$3 million worth of equipment and supplies were lost at this airport.

3 The runway became operational on 28 June 1972. This was through the efforts of the Pennsylvania Air National Guard and included cleaning the runway and adjacent areas.

4 The Instrument Landing System was rendered inoperative by the flood and on 28 June 1972 a C-121 aircraft of the Pennsylvania Air National Guard was dispatched to Oklahoma City, Oklahoma to pick up replacement components for the system. This saved many days in the time required for the airport to return to full operational status.

5 In addition to activities cited elsewhere in this report, the Air National Guard provided aeromedical evacuation for National Guardsmen injured during duty in the Wilkes-Barre area, transportation of VIP's to and from the disaster areas, airlift of equipment and airlift of VISTA personnel from other states into several of the stricken areas.

(3) Post Operations.

(a) Upon termination of assigned tours of duty, units of the National Guard were relieved in place by like units. A logical, well planned and coordinated gradual withdrawal of the total commitment was effected without significant interference or complaint of the communities involved. All units were authorized a period for maintenance, cleanup, inventory of equipment, and preparation of required reports. At several armories unit personnel had the added task of cleaning the mud and debris from their inundated facilities.

(b) Although assistance on an integrated basis was terminated on 5 August, numerous requests for advice and assistance were received by The Adjutant General's Office during the several following weeks. Whenever possible, assistance was provided within available resources. Specific tasks performed included transport of approximately 25 truckloads of furniture to Wilkes-Barre from various communities throughout Pennsylvania, furnishing drivers for transport of water to Lawrenceville, removal of debris from a stream in Kutztown, and transport of VISTA employees and other personnel involved in cleaning homes in Harrisburg.

c. Communications.

(1) Severe and widespread flooding conditions created by the storm caused extensive damage to commercial telephone facilities throughout the State. Many communities were without telephone service for days after the storm had passed. Some communities were still without telephone service, or had only limited service restored, several weeks after the flood waters had receded. Because of this extensive and prolonged disruption in telephone service, military commanders at all levels had to rely almost exclusively on their organic radio equipment and other radio equipment from various sources.

(2) The communications shortcomings were probably one of the most critical problems encountered by the National Guard in the initial phase of the operation. With the failure of commercial telephones, organic radios were not available in sufficient quantity or quality necessary to sustain the operations. The requirements for roving patrols, numerous check points, and liaison with local and state police taxed the radios beyond their capabilities. Although many units had many new family AN/VRC-12 radios in unit supply rooms, they were inoperable due to lack of installation kits. Units that had the older series of radios encountered a serious problem in obtaining non-existent repair parts. Military Police Companies (Guard) had no organic communications capability and had to be provided radios from other sources to perform their traffic control and security missions.

(3) The Pennsylvania Army National Guard Single Sideband Radio Net was used extensively throughout the entire operation for administrative and logistical coordination between The Adjutant General's Office and major National Guard headquarters. The net was operational on a 24-hour basis during the early stages, with all subordinate stations required to monitor the net. As the situation became stabilized, only those stations in

communities in recovery operation areas were required to be operational on a 24-hour basis. On 23-24 June, telephone service in The Adjutant General's Office was interrupted. During this period the radio net provided the only means of communications between the State headquarters and major National Guard headquarters. The net was augmented with equipment and personnel provided by Pennsylvania Air National Guard units to establish additional stations in those communities severely affected by the storm.

(4) Thirty General Electric Porta-Mobile radios, on hand within The Adjutant General's Office, were used to augment tactical radios with various units. These radios were used in all types of operations, including air rescue operations, and were invaluable in the overall task force communications capability. These radios are preset on two frequencies which are compatible with the AN/VRC-12 series radios and in the Infantry band of the older AN/GRC series radios.

(5) In addition to furnishing equipment and personnel to establish additional single sideband stations, Air National Guard units also provided radio communication support for emergency civilian and military medical facilities established in the Wilkes-Barre area.

(6) One battalion-size communication packet and 15 portable FM radios were dispatched from Tobyhanna Army Depot to the objective areas in an expeditious manner. The qualified technicians who accompanied the equipment provided valuable technical advice and assistance in setting up equipment.

(7) Telephone service was interrupted in the Wilkes-Barre area requiring extensive use of military radios. When telephone service was restored, additional circuits were made available to National Guard units operating in the area; however, it was not until the fourth week of the operation that all units had access to telephone service.

(8) Liaison and coordination with State Council of Civil Defense EOC in Harrisburg was established through use of an FM radio previously provided by State Civil Defense Headquarters. This radio link was used frequently for coordination between the two agencies.

(9) Air National Guard units were readily available to provide radioteletype support for task force and other major headquarters in the event it was required, however, the only mode of operation required during the emergency was voice.

d. Training.

(1) Normal military training, organization, and discipline appear adequate for this type of situation in combat, combat support, and service support units. Troop knowledge of fundamental subjects as well as leadership proficiency was evident in such key items as troop leading procedures and the problem solving process.

(2) A great deal of training prescribed by Army Training Programs was realized from service in this emergency and to this can be added the tremendous military type of experience gained by all concerned. Among those subjects which it is felt proficiency was attained or maintained are--

(a) Leadership (Troop leading procedure-problem solving).

(b) Field sanitation and personal hygiene.

(c) Combat service support on-the-job training.

(d) Communications training.

(e) First aid.

(f) Treatment and evacuation of mass refugees.

(g) Air movement (one unit, 2d Bn, 109th Inf).

(h) Route and bridge reconnaissance.

(i) Driver training.

(j) Maintenance of equipment.

(k) Motor marches and motor march planning.

(l) Army drill and ceremonies (Retreat).

(m) Command information.

(n) Security and patrols.

(o) Tent pitching.

(p) Safety.

(q) Public Information.

(r) Photographic Operations.

(s) Civil affairs.

(3) During early stages of the operation one unit of the 2d Bn, 109th Infantry was transported by helicopters from the east to the west side of the Susquehanna River. This airlift reduced the deployment time of troops which would have required an overland circuitous route into a community requiring assistance.

(4) Although the tasks performed by combat and combat support units during the operation was other than the normal annual training missions, significant experience was gained in light and heavy rescue team procedures.

(5) The training conducted during the first half of CY 72 on the following civil disturbance subjects contributed considerably to the operations:

(a) Policies and legal considerations.

(b) Collective behavior (crowd control).

(c) Military leadership responsibilities and discipline.

(d) Use of riot baton.

(e) Special equipment.

(f) Anti-looting measures.

3. ADMINISTRATION.

a. Public Affairs.

(1) Troop-civilian relationships were outstanding. All relief agencies, regardless of organizational designation or affiliation, worked hand-in-hand toward the accomplishment of a common goal. Minor disagreements were solved with a minimum of flourish and a maximum of understanding.

(2) News releases, photographs, and articles concerning the flood activities of the Pennsylvania National Guard were provided to approximately 30 major civilian and military news agencies, radio and television stations.

(3) Approximately 4,500 feet of 16mm color film on Tropical Storm Agnes is being used to produce a 25-minute documentary on the Guard's activities. Several TV spots are also being developed for recruiting purposes.

(4) Over 2,100 photographs were taken by information personnel in the field. A slide series on the flood, complete with sound synchronization, was developed from colored photographs for recruiting purposes.

(5) The publication of newspapers in several communities was disrupted because of damage to printing machinery. In Harrisburg no local newspapers were published for 5 days.

(6) Unit newspapers were published daily to keep the Guardsman informed on local and national events as well as personal events within the units.

b. Special Services.

(1) Adequate Mobile Post Exchange services were provided in Harrisburg and Wilkes-Barre areas from facilities located at Indiantown Gap Military Reservation and Ft Dix, NJ respectively.

(2) Films were provided free of charge from local distributors for the enjoyment of military and civilian personnel.

(3) Arrangements were made for performances by local musicians and theatrical groups, and these along with excellent athletic programs were adequate to satisfy the recreational needs of personnel.

c. Morale and Discipline.

(1) Throughout the entire operation morale and discipline were outstanding and noteworthy. Personnel realized the importance of their mission, the plight of the people, and the results of their accomplishments. Guardsmen performed assigned tasks unquestioningly, and because of the nature of the operation, small unit leadership was tested to its fullest. Personnel took appropriate action in the absence of orders and the independent small unit leaders did much to alleviate the suffering of local residents. The presence of well disciplined National Guard troops fulfilled a psychological need of reassurance for the general populace affected by the flood.

(2) Religious services were made available on a daily basis by chaplains assigned to NG units.

d. Casualties.

(1) In spite of the multitude of heavy construction equipment in the area, the choking dust and filth which was the residue of high water, and the mass number of personnel in the area, the casualty/sick call rate was substantially low.

(2) Following Guard casualties were sustained:

Deaths - (heart attack) - 1

Injuries/illnesses requiring hospitalization - 16

Minor injuries/illnesses - 85

4. LOGISTICS.

a. As numerous requests for supplies and equipment from the civilian populous deluged commanders at all levels, it became apparent that authorities were faced with a major disaster. Though appropriate action was taken, wherever possible, there were isolated cases where support could not be rendered. Logistical requirements unquestionably placed

a burden on all active military installations within the State and some adjacent states. Many of the logistical problems listed in paragraph 6f pertained to the Wilkes-Barre area, which suffered the greatest damage from flood waters.

b. From the onset of the disaster food and water required special considerations in many communities. Initially, food markets and warehouses were inundated or destroyed which necessitated shipments into the area via surface or air transportation. Damage to water and sewage facilities created additional health hazards. During the early stages, all requests for water trailers could not be satisfied. In Lawrenceville, water was supplied by trailers for a period of 45 days.

c. The majority of organic equipment within National Guard assets was utilized to the maximum extent during the entire operation. Once Corps of Engineer personnel became operational in the area, contracts were arranged with local contractors for maximum use of personnel and heavy equipment within their assets.

d. The requirements for gasoline, diesel fuel, and aviation gas were satisfied from available Guard facilities, gas tankers, and commercial vendors.

e. Repair parts were procured through area Organizational Maintenance Shops, Combined Support Maintenance Shop, United States Property and Fiscal Office, and commercial vendors. As an example of the magnitude for repair parts, 170 vehicle tires were received and issued by the Task Force in Wilkes-Barre during a two-week period.

f. Multiple movements of units to the Harrisburg and Wilkes-Barre area required considerable coordination with Pennsylvania Turnpike officials and commercial bus companies in several instances.

g. The following special equipment and supplies were used by Guard personnel:

Item	Source
Pumping apparatus	Fire companies and civilians
Boats	Fire companies and civilians
Hip boots	Fire companies
Road barriers	Law enforcement agencies and Department of Transportation
Cots	Civil Defense
Medical supplies	Army facilities, Red Cross, and commercial firms
Refrigerator trucks and ice chests	Army facilities and commercial firms
Sand bags	Army facilities
Chemicals for water treatment	Army facilities and commercial firms
Generators for commercial use	Army and Navy facilities and commercial firms
Searchlights	Army facilities
Shovels	Commercial firms
Plastic utensils	Commercial firms
Canvas and rubber gloves	Commercial firms
Photographic supplies	Commercial firms

h. Billeting of Guard personnel, coupled with mass care centers that were established at armories, placed additional responsibilities upon commanders. Mass care centers were also established in schools, fire companies, and other public facilities. Initially many of these

centers were supported by Guard troops, with the Red Cross assuming this responsibility at a later date. Operation of mass care centers by the Red Cross is considered to be the most satisfactory arrangement.

i. The following armories served as temporary mass care centers and distribution points.

Mass Care Centers	No. of Evacuees	Period
Harrisburg, Hq, 28th Div*	1,100	22 Jun - 26 Jun
Harrisburg, 28th Div Arty	80	22 Jun - 24 Jun
Harrisburg, 104th Armd Cav	100	23 Jun - 26 Jun
Plymouth	305	22 Jun - 11 Aug
Wellsboro*	18	22 Jun - 24 Jun
Scranton*	50	27 Jun - 7 Jul
Lock Haven	120	22 Jun - 26 Jun
IGMR	130	22 Jun - 24 Jun
Scottdale	18	22 Jun
New Cumberland	225	22 Jun - 1 Jul

*Facilities utilized as distributed points for food and cleaning supplies to include Wilkes-Barre and Williamsport.

j. The following National Guard armories/facilities were affected by flood water:

Location	Remarks
Coraopolis	Four inches of water in basement.
Danville	Basement under water and three feet of water on first floor.
Huntingdon	Ten feet of water in basement.
Kutztown	Two feet of water in basement.
Ligonier	Ten feet of water in basement.
Milton	Ten feet of water in basement. Water affected clothing, equipment and weapons.
Norristown	Five inches of water in basement.
Philadelphia (22 S. 23d St)	Three feet of water in basement. Water affected equipment and weapons.
Pine Grove	Two feet of water in basement. Several gas masks damaged.
Ridgway	Two feet of water in basement
Scottdale	Equipment storage compound inundated by six feet of water. Vehicle trailers affected.
Tyrone	Basement under water and two feet of water on first floor.
West Pittston	Basement under water and five feet of water on first floor.
Wilkes-Barre	Basement under water and eighteen feet of water on first floor.
York (N. George Street)	Four feet of water in basement.

Except as indicated above for Milton and Pine Grove major items of equipment in facilities were removed.

k. The Harrisburg International Airport at Middletown on 24 June recorded water in depths of 4 to 14 feet over the entire lower level of that installation. The following is an estimate of the equipment and supplies of the Air National Guard that were affected:

Item	Percentage Lost	Percentage Damaged
Warehouse	95	5
Open Storage	5	95
Bench Stocks	92	8
Aircraft Spares (Maintenance Shop)	3	82
Mission System Group "B" Spares (Maintenance Shops)	0	4
Aircraft Engines (Maintenance Storage)	0	50
Quick Engine Change Kits (Maintenance)	0	95
Auxiliary Aircraft Engines	0	100
Base War Readiness Materials	0	100
Unit War Readiness Materials	0	9
780 Equipment-Life Support	80	10
780 Equipment-Group B Mission System	0	45
Organizational & Shop Equipment	5	60
Organizational Tools	15	40
Personal Clothing	35	15
Furniture	10	50

5. COSTS.

The following are estimated costs for the flood emergency:

a. Pay and Allowances

	<u>AT</u>	<u>SAD</u>	<u>UTA</u>	<u>Total</u>
PAARNG	\$2,285,145	\$283,171	\$46,200	\$2,614,516
PAANG	83,048	15,850	-	\$98,898
TOTALS	\$2,368,193	\$299,021	\$46,200	\$2,713,414

b. Subsistence.

<u>AT</u>	<u>SAD</u>	<u>UTA</u>	<u>Total</u>
\$263,774	\$38,611	\$1,554	\$303,939

(Figures based on \$1.65 per day for AT status, \$2.65 per day for SAD status, and \$2.22 per day for UTA status).

c. Petroleum, Oils and Lubricants.

<u>Gasoline</u>	<u>Diesel</u>	<u>Aircraft Fuel</u>	<u>Lubs</u>	<u>Total</u>
\$65,625	\$11,250	\$48,250	\$1,500	\$126,625

d. Miscellaneous. \$30,000

Total estimated cost of operation \$3,173,978

6. PROBLEMS.

a. Personnel.

The long delay involved in determining the duty status of personnel involved in this operation produced major problems and raised fundamental questions as to the Guard's primary mission and the Federal requirement to participate in training at encampments for at least 15 days each year. The disaster could not have occurred at a more inopportune time with respect to annual training. Some units had already completed annual training while others were undergoing this training. The Advance Detachments of the 28th Infantry Division had already departed for annual training on 28 June when the Governor proclaimed that all National Guard units would remain in Pennsylvania for the duration of the emergency. On this date inquiry was made to First U. S. Army on procedure to allow units to perform disaster relief operations in lieu of annual training. During this interim period units were placed in a State Active Duty status. On 4 July an official request was submitted to Commanding General, First U. S. Army, requesting units involved in disaster relief operations be given credit for annual training. This was approved for selected units effective 7 July. This engendered numerous complaints from various sources since it was felt that annual training credit should be permitted from 22 June, which was the initial date of troop commitment. On 18 July the Secretary of the Army recognized the extraordinary conditions existing in the Commonwealth, and on a non-precedent establishing basis, he resolved the entire problem of retroactivity and authorized annual training credit up to a maximum of 15 days for those units participating in disaster relief during period 22 June through 15 August. This necessitated the reaccomplishment of numerous reports and payrolls since majority of personnel changed to a Federal Status.

b. Intelligence.

(1) Intelligence concerning road accessibility, river conditions, and status of isolated communities was not readily available to alerted units. This caused some delays in units reaching their destination.

(2) The failure of authorities in some communities to establish a rumor control center resulted in many inquiries to National Guard personnel for information which was readily available from local authorities.

c. Operations.

(1) Local civic leaders were not aware of the proper procedures for requesting National Guard assistance in case of emergencies. Many civilian officials called National Guard commanders for assistance or equipment which was readily available through established civil defense sources; e.g., cots. Many such calls were made by several civilian officials within the same political structure, thus resulting in confusion and duplication of effort. A considerable amount of time was lost and unnecessary delays were encountered by their lack of knowledge on this subject.

(2) When a unit or organization was assigned an area of responsibility, local civil authorities failed to establish coordination between other civilian agencies and the military. This resulted in duplication and confusion in many cases.

(3) The failure to establish a joint operation center in some communities made the exchange of information and prompt response very difficult.

d. Organization.

(1) Units of some National Guard organizations are widely separated in the state and a problem existed in getting the organization together as a whole. Telephone communications were practically nil during the first week of the operation and many road networks were impassable during the initial critical period.

(2) Organizations in a few cases were assigned areas of responsibilities that proved to be too large for the number of personnel assigned. The main reason this problem existed was due to the magnitude of the devastation and the many areas requiring assistance.

e. Training.

Combat units that were assigned traffic control duties encountered problems in the proper use of arm and hand signals because of lack of familiarity with such signals.

f. Logistics.

(1) The small field flashlights within TOE assets of the units were inadequate to perform security missions during periods of darkness.

(2) Some units were not furnished sufficient information relative to anticipated duration and equipment required for their mission.

(3) Insufficient number of water trailers were available to fulfill many requests for this equipment.

(4) The failure to provide certain logistical units to a task force in the initial stages required the establishment of interim provisional logistical staff sections.

(5) There was an excessive delay in pickup of rations at Army Commissaries due to the magnitude of the operation and lack of adequate civilian employees at the depots.

(6) Units lacked refrigeration and to avoid spoilage and waste, rations had to be issued on a daily basis.

(7) Because of the broken glass, nails, and other debris strewn about the roadways, units experienced an extraordinary number of flat tires. Direct support units are not equipped nor manned properly to handle tire repairs or replacements on the scale experienced in the debris cleaning operation.

(8) Units experienced difficulty in obtaining repair parts for old equipment that are classed as Contingency and Training items; e.g., truck 2½ ton M 135, truck ¼ ton M38, etc.

g. Communications.

(1) Radio communication capability within many units was reduced considerably due to a shortage of installation kits required to mount the AN/VRC-12 series radios in ¼ ton trucks. Because of this acute shortage, approximately 300 of this series radios had to remain in unit supply rooms.

(2) Due to weight of several boxes within the battalion communications packet received from Tobyhanna Army Depot, this equipment could not be unloaded in the proximity of objective area. Aircraft had to be flown to location where a forklift was available which caused an excessive delay in use of the radios.

(3) Use of improper radiotelephone procedures by some operating personnel tied up the State single sideband radio with unnecessary traffic. It was quite evident that many messages were not provided in writing prior to transmittal and those that were written did not adhere to the principles of message writing. This resulted in the operator having to transmit the entire or portions of the message several times.

(4) At several command post locations where the Porta-Mobil radios were used as base stations, it was found that the "gutter mount" antenna could not be positioned on the building offering the best transmission path. This situation restricted positioning of the radios at a desirable location within the command post, due to short transmission feed-lines.

(5) Several units failed to take their organic radios to the objective area. This situation prevented the unit from entering into the task force radio net for several days subsequent to employment in the objective area and thereby reduced the overall effectiveness of the task force operation.

(6) The telephone circuits serving the Department of Military Affairs Building were dead during the first sixty hours and extremely overloaded during most of the rest of the entire operation. Considerable delay was experienced in placing outgoing calls. Reports from field commanders indicated that difficulty was also experienced in placing incoming calls.

7. LESSONS LEARNED.

a. A major flood disaster operation can be subdivided into three phases by function and time:

Phase I - Evacuation, Security, Traffic Control and Human Services

Phase II - Debris Removal, Security, Traffic Control and Human Services

Phase III - Disengagement

(1) It became immediately apparent to those on the scene that major devastated areas had to be sealed off to the general public and access into and out of the affected areas had to be controlled. The factors in the assessment are:

(a) Safety

(b) Security

(c) Restoration of Utilities

(d) Debris Removal

(2) Thus, in Phase I the primary mission was to assist and augment local authorities in providing evacuation, security, traffic control and human services. It was just too dangerous to permit unlimited access. Gas lines were broken, electrical power lines were down, manhole covers were carried away, bridges were damaged, holes and crevices across roadways were hidden by the flood waters. The extensive damage to houses and other structures made them potential death traps. Personal belongings and other valuables were unattended and subject to looting and vandalism. Routes had to be kept open for emergency and other utility vehicles for evacuation of injured and safe restoration of power and telephone lines. Anxious homeowners who were directly affected by the flood, sightseers, curiosity seekers, and non-operational traffic signal lights posed monumental traffic problems. To the credit of the local police, State police and National Guardsmen these problems were alleviated with each passing day. Critical intersections were manned, roadblocks were established, roving patrols were instituted, and curfew hours enforced. A pass system for entrance into the affected areas in the Wilkes-Barre area was quickly discarded because it was unworkable, added an additional burden to exhausted local police, and was fraught with selfish political motives. It was replaced with a system that permitted locally adapted techniques and the individual policemen and guardsmen to exercise common sense and good judgement in determining who would be permitted access into the area.

(3) In retrospect, Phase I in the major disaster areas should have called for the rapid insertion of and saturation by Military Police with 100 per cent mobility, equipped with radios and other auxiliary communication equipment, traffic batons, flashlights, whistles, face masks or respirators, (to prevent dust inhalation), and other reflectorized traffic control equipment (vests, gloves, wristlets). The psychological impact of elite Military Police in their distinctive uniforms (helmets, MP brassards) and marked vehicles not only serves as a calming effect and controlling element over the populous, but serves as an effective deterrent to looting, vandalism and curfew violations. Their value to the local police speaks for itself.

(4) Phase II began with the decision to use National Guard troops to remove garbage/debris and discarded property from the streets. On the surface it seemed like an insurmountable task, in the Wilkes-Barre area, not only because of astronomical amounts of debris and garbage but because of the many organizational, logistical, legal, and political problems associated with such a clean-up operation. Engineer equipment had to be assembled, civilian contractors, and volunteers from outside municipalities had to be organized and their activities closely monitored to ensure effective utilization of personnel and equipment. National Guard units were assigned specific cleanup areas. The task of coordinating the engineer equipment usage with these units was given to the 103d Engr Bn. This appeared to be a practical arrangement. Use of land fills became a nagging problem. Local citizens, through their elected officials, objected to the dumping of refuse in their area. Delays were experienced in identifying land fill areas and obtaining clearance for their use. Legal problems were experienced in obtaining use of a local airfield for the positioning of engineer equipment. The problem was finally resolved with the eventual intervention of the Governor's Office. These problems are mentioned to stress the need for immediate assignment of a Staff Judge Advocate and a Civil Affairs Officer in similar operations. Their advice and guidance could have done much to reduce or eliminate the legal problems and other obstacles raised by the local officials.

(5) One of the most unique and yet critical problems encountered in the Wilkes-Barre area was the extraordinary number of flat tires that were experienced, because of the broken glass, nails, and other debris strewn about the roadways. Vehicles became non-operational, the capacity to repair tires was aggravated by the lack of sufficient tire-patching equipment, absence of commercial sources which were "wiped out" because of the flood and, in some cases, the lack of OVM (jacks, tire changing tools).

(6) Concurrent with the massive clean-up operations, the National Guard was called upon to fulfill innumerable other requirements. These included furnishing guards for private business establishments, and public buildings (schools, hospitals, etc.) hauling supplies, cleaning out private homes or business establishments, and furnishing personnel for roving patrols to augment local police forces. Most of these were accomplished - few were refused and then only because of lack of resources on the scene. The issue is surfaced only to point out that many requirements would come in that were not evaluated for justification as to need but equally important as to the number of personnel required to do the job. On one case, a requirement for 100 men to handle a food distribution problem was reduced to 15 men upon evaluation. In another case, a call was received from a local councilman requesting 25 men to be used as roving motorized patrols. By further questioning it was determined that the need was inflated beyond all proportion to the area to be patrolled. There was a distinct impression that many officials believed manpower assets were bottomless. In several instances when a request was refused or the number of men requested was reduced, the official would use his political influence by calling the Governor's Office. Each official believed his problems were the greatest and the only problem which must be resolved at that time. In summary, all requirements must be evaluated as to need and number of personnel required. The requestor must not be permitted to make this evaluation, regardless of the urgency that the requestor places on the requirements with possible ulterior motives and political chicanery. A Civil Affairs Officer and Public Affairs Officer can do much to explain the Guard's mission and position on these matters.

(7) As the mountains of debris, refuse and garbage diminished and restoration activities were better arranged, plans for Phase III - Disengagement, were begun. The single most important factor in disengaging from a disaster type operation is the psychological preparation of the local officials and populace. The magnitude of the disaster left many in a state of shock over their personal as well as business losses. Recovery to many seemed insurmountable. With the presence of hundreds (or thousands, as in the Wilkes-Barre area) of troops and other personnel in some areas, the populace becomes too dependent on them. The "standing-down" of units must be deliberate, and accomplished in increments. Thus local officials must be advised and given sufficient time to adjust. All disengagements must be conducted on a low-profile basis. City officials must be impressed with the fact that the troops cannot remain indefinitely and that they must face up to reality. Again the Public Affairs Officer can be most helpful in this regard.

b. Command and Control in the Field.

(1) The myriad agencies among the Federal, state, county and other local authorities involved in recovery operations in the Wilkes-Barre area were enough to boggle anyone's mind.

(a) Some of the Federal agencies represented are listed below:

- Office of Emergency Preparedness (OEP)
- General Services Administration
- Department of Health, Education & Welfare (HEW)
- Department of Housing & Urban Development (HUD)
- US Army
- US Army Corps of Engineers
- US Army Reserve
- US Navy Reserve
- US Marine Corps Reserve

(b) Several of the State agencies include the following:

- Pennsylvania Army & Air National Guard
- State Police
- State Civil Defense
- Department of Transportation
- State Health Department
- Department of Environmental Resources

(c) Relief organizations were represented by the American Red Cross and the Salvation Army.

(d) Add to these the various county, city and borough authorities and it becomes an organizational nightmare.

(2) Because of the scattered locations of these agencies and lack of adequate communications, planning and coordination became extremely difficult. It was questionable that any of the agencies were fully aware of the responsibility of the other or what resources each was able to provide. This caused considerable overlapping, duplication and delays in responding to requirements.

(3) In any future disaster of a similar nature in scope and magnitude, special effort should be made to centralize control and coordination among the various civilian and military agencies.

(4) With respect to the Task Force Commanders, their principal staff must be assembled rapidly to permit the Task Force Commanders to make a quick estimate of the situation, develop courses of action and establish a central headquarters to command and control operations. As a minimum this staff should include:

- Chief of Staff
- Civil Affairs Officer
- Engineer Officer
- Logistics Officer
- Provost Marshal
- Public Affairs Officer

Staff Judge Advocate
Communications-Electronics Officer
Army Advisor

c. Operations.

(1) Military organizations should be assigned general support missions for specific political subdivisions which are commensurate with the size of the organization. Unit integrity must also be maintained for best control and utilization of personnel and equipment. Specialized support units, such as engineers, medical, transportation, etc. can be attached to the general support organization, as required, for mission accomplishment. This method of rendering military support enables the military commander to establish closer coordination with local officials for organizing their resources into a more effective team for cleanup operations.

(2) Mass news media should be used for alerting personnel of units. In major disaster commercial telephone service is quickly overloaded and in many instances becomes inoperable due to equipment loss from the disaster. Local radio and TV stations can carry spot announcements which cover a wide area. This means of disseminating alert notification was found to be very effective during this operation.

(3) Advance detachments of units effecting relief of those being withdrawn from a disaster area should be moved into the area at least one day prior to relief. This is essential for reconnaissance of the area, orientation, and familiarization with the mission being assumed.

(4) The urgency of immediate response to a major disaster lends to contact by The Adjutant General's Office directly with the unit in the affected area and a tendency to by-pass some headquarters in the command structure. The inverse is also true. Every effort must be made to avoid such procedure.

(5) The Engineer Battalion (Infantry Division) was best suited for operations of debris removal.

(6) Aviation staffs were inadequate and not equipped or organized to handle major operations of this magnitude. This is not intended in any way to belittle the efforts by participating units, which in most cases were nothing less than heroic.

(7) Complete information for missions was not insisted upon by receiving aviation personnel, thereby causing confusion and sometimes improper utilization of aircraft.

(8) Dual operation points serving the same aviation area in certain locations caused duplication of effort and misuse of assets.

(9) VIP's plagued aviation operations centers with requests for missions, thereby hampering critical rescue operations during the early stages of the emergency.

(10) The lack of direct communications between aviation operation centers and airborne aircraft caused dispatching duplication and slow reaction to immediate requests.

(11) No rescue hoists with jungle penetrators were available for use with UH-1 aircraft, which hampered rescue operations considerably.

(12) Aviation maintenance crews were not readily available during flight operations at certain locations where aircraft were in use, thereby rendering maintenance support inadequate to permit full utilization of aviation assets.

(13) Helicopters provide an invaluable means of transportation during flood emergencies. Helicopters can be used to a definite advantage for rescue, evacuation, and for general transportation of personnel, equipment, and supplies.

d. Logistics.

(1) The use of preportioned rations from commercial firms during this type operation proved to be an excellent method for feeding troops. Not only was it less time consuming in preparation but it offered more variety. Another significant advantage was that very little refrigeration space was required, due to frequency of delivery made by vendors.

(2) Maintenance type units should be immediately assigned to the task force to support maintenance requirements. Through assignment of such units at the onset of the operation, many maintenance problems of a minor nature can be resolved before they develop into major ones requiring extensive repair and down time of equipment.

(3) Transportation type units should be placed under the direct operational control of the Adjutant General in order to be readily available to support the many transportation requirements. During this operation, numerous requests were received for transportation to haul critically needed items to all areas of the State affected by the flood.

(4) Excessive time was required to refuel helicopters at airports without proper facilities.

e. Public Relations.

A visitors' bureau should be organized from selected personnel within the task force for the purpose of coordinating all arrangements associated with visitations of dignitaries and other VIP's who may visit the disaster area for assessment of damage and requirements for assistance.

8. RECOMMENDATIONS.

a. Every effort be made to expedite the issuance of installation kits for AN/VRC-12, 46, 47 and 49 radio sets.

b. Consideration be given to reducing the weight of several boxes contained within the battalion communication packet to facilitate unloading from aircraft.

c. VIP flights be kept to essential minimum until the crisis has diminished.

d. Provisions be made to release from duty, at earliest opportunity, those National Guard personnel who suffered severe personal losses.

e. Personnel assigned to security missions be equipped with riot batons rather than individual weapons.

f. Maximum effort be made to have requests for assistance submitted through civil defense channels.

g. A Judge Advocate be attached, at earliest opportunity, to the staff of the National Guard Task Force Commander in the major disaster area.

h. Security personnel employed by major industries and business concerns should be used to maximum extent possible before National Guard personnel are asked to perform security missions for the industries and business concerns.

i. Some rescue hoists be made available for air rescue by helicopters.



HARRY J. MIER, JR.
Major General
The Adjutant General

ANNEX B (Proclamations) to After Action Report - Tropical Storm Agnes

IN THE NAME AND BY AUTHORITY OF THE

Commonwealth of Pennsylvania



Governor's Office

HARRISBURG

PROCLAMATION

WHEREAS, flooding in many areas of the Commonwealth has taken a toll of human life, has caused the evacuation of residents from their homes and poses a serious threat to the safety, health and welfare of thousands of citizens of this Commonwealth;

WHEREAS, providing assistance for victims of natural disasters and assisting in flood control projects have, traditionally, been one of the missions of the Pennsylvania National Guard;

NOW, THEREFORE, by virtue of the authority vested in me by the Constitution and statutes of the Commonwealth of Pennsylvania and as Commander-in-Chief of the Pennsylvania National Guard, I direct the Commanding General of the Pennsylvania National Guard to:

1) Place units and men of the National Guard on alert for possible call to state active duty in those areas where conditions caused by flooding may require that they be utilized;

2) Place on state active duty, for the duration of the State of Extreme Emergency which I have heretofore declared, such units and individuals in the Pennsylvania National Guard as in his discretion are necessary to meet the present crisis.

GIVEN under my hand and the Great Seal of the State, at the City of Harrisburg, this twenty-second day of June, in the year of our Lord one thousand nine hundred and seventy-two, and of the Commonwealth the one hundred and ninety-sixth.

Milton J. Sharp
MILTON J. SHARP
Governor

BY THE GOVERNOR:

Charles E. Tucker
Secretary of the Commonwealth

ANX B (Proc) Tropical Storm Agnes

IN THE NAME AND BY AUTHORITY OF THE

Commonwealth of Pennsylvania



Governor's Office

HARRISBURG

PROCLAMATION

WHEREAS, the worst flood in the history of this Commonwealth has taken a toll of human life and in the aftermath of this flood there remains a serious threat to the safety, health and welfare of hundreds of thousands of citizens of this Commonwealth;

WHEREAS, the recent flood has caused the evacuation of residents from their homes and has resulted in the destruction of public and private property and institutions;

WHEREAS, providing assistance for victims of natural disasters and assisting in flood control projects have, traditionally, been one of the missions of the Pennsylvania National Guard;

WHEREAS, I have proclaimed a State of Extreme Emergency within those political subdivisions of the Commonwealth which have suffered serious flooding and storm damage;

WHEREAS, members of the Pennsylvania National Guard are urgently needed both in civilian and active duty status in order to protect the safety, health and welfare of the citizens of this Commonwealth and to assist in alleviating the ravages of the recent flood;

REALIZING, however, that it will be necessary to provide logistical command and control for the 28th Infantry Division;

NOW, THEREFORE, pursuant to the powers vested in me by the Constitution and Laws of this Commonwealth and in accordance with the provisions of this Proclamation, I hereby order units of the National Guard to remain in Pennsylvania for the duration of the State of Extreme Emergency which I have heretofore declared.

GIVEN under my hand and the Great Seal of the State, at the City of Harrisburg, this twenty-eighth day of June, in the year of our Lord one thousand nine hundred and seventy-two, and of the Commonwealth the one hundred and ninety-sixth.

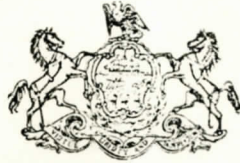
Milton J. Shapp
MILTON J. SHAPP
Governor

BY THE GOVERNOR:

Charles L. Tucker
Secretary of the Commonwealth

IN THE NAME AND BY AUTHORITY OF THE

Commonwealth of Pennsylvania



Governor's Office

HARRISBURG

PROCLAMATION

WHEREAS, a Proclamation was issued under my hand and the Great Seal of the State in the City of Harrisburg, on June 28, 1972;

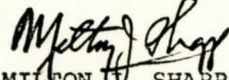
WHEREAS, an extreme emergency still exists;

WHEREAS, it is still necessary to have some members of the Pennsylvania National Guard assigned to flood recovery work to continue with that activity;

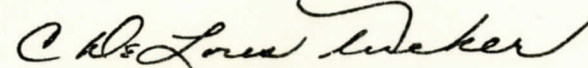
REALIZING, however, that fewer members of the Pennsylvania National Guard are now needed for such work;

NOW, THEREFORE, pursuant to the powers vested in me by the Constitution and Laws of this Commonwealth and in accordance with the provisions of this Proclamation, the Proclamation of June 28, 1972, is hereby amended and modified so that such members of the Pennsylvania National Guard not necessary for the continuing flood relief effort are hereby authorized and directed to perform their regular annual training as outlined in their federal mission and federal requirements, but no member of the Pennsylvania National Guard shall be ordered to perform a total of more than fifteen (15) days federal active training and in the calculation thereof each member will be given equivalent federal training credit for the number of days performed on flood relief duty.

GIVEN under my hand and the Great Seal of the State, at the City of Harrisburg, this twenty-first day of July, in the year of our Lord one thousand nine hundred and seventy-two, and of the Commonwealth the one hundred and ninety-seventh.


MILTON S. SHAPP
Governor

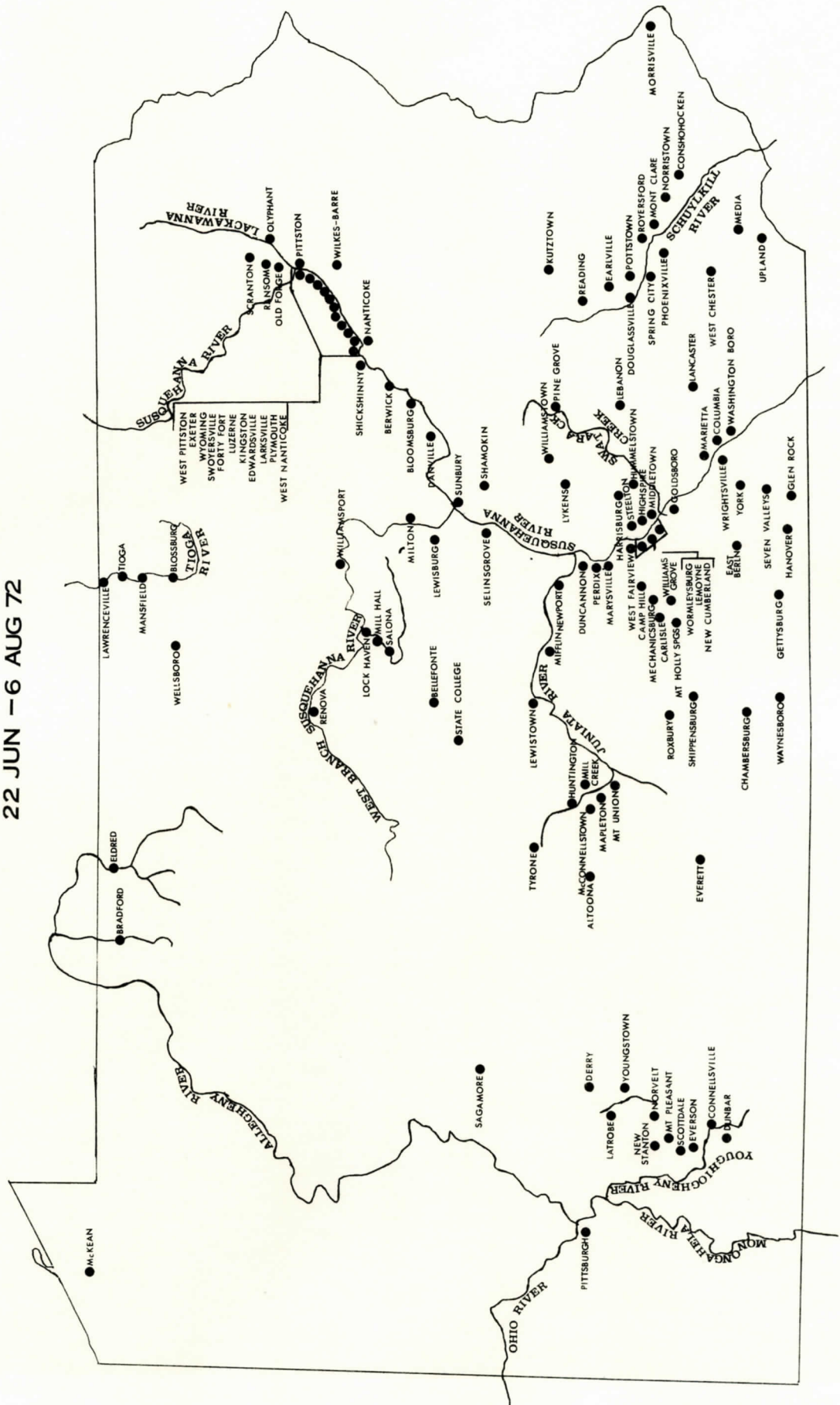
BY THE GOVERNOR:


Secretary of the Commonwealth

ANNEX C (Operations Map) to After Action Report-Tropical Storm Agnes

PENNSYLVANIA LOCATIONS OF NG COMMITMENT - TROPICAL STORM AGNES

22 JUN -6 AUG 72



ANNEX D (Photographs) to After Action Report - Tropical Storm Agnes



EVACUATION BY NG APC



GOVERNOR'S RESIDENCE IN HARRISBURG WAS
INUNDATED BY FIVE FEET OF WATER

ANX D (Photos) Tropical Storm Agnes

**SAFE AND DRY IN THE
ARMS OF A GUARDSMAN.**



**HARRISBURG....AN UNUSUAL
VIEW OF THE CAPITAL CITY.**

ANX D (Photos) Tropical Storm Agnes



**WILKES-BARRE...THE AREA OF FLOODING WAS
DESCRIBED AS 4 MILES WIDE AND 10 MILES LONG.**



**MAJOR INDUSTRY LOSSES WERE IN THE
MILLIONS OF DOLLARS.**

ANX D (Photos) Tropical Storm Agnes

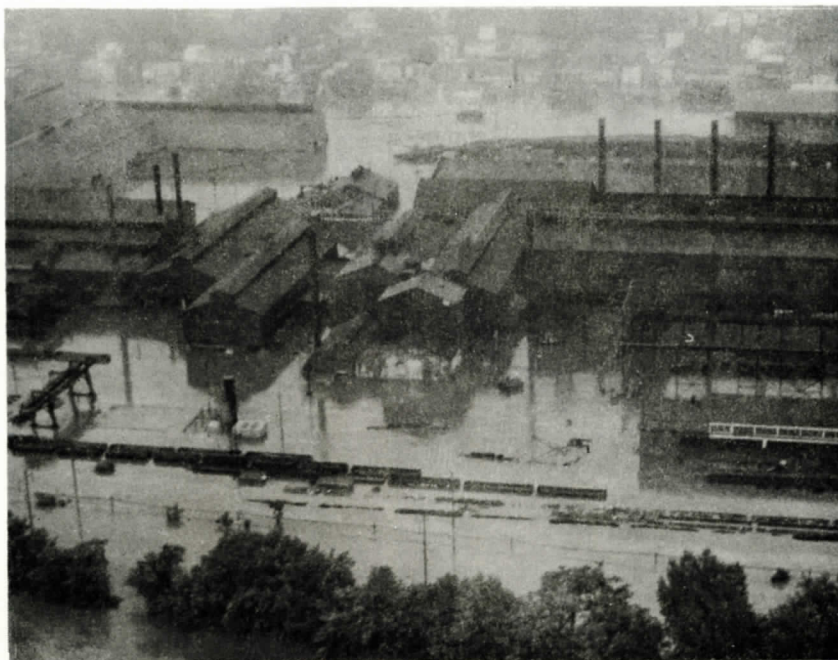


**WILKES-BARRE...SCENES LIKE THIS WERE
PRESENT THROUGHOUT AREA.**



**WILLIAMSPORT...THE FILLING OF SAND BAGS TO
REINFORCE DIKES WAS TRIED IN THE EARLY STAGES.**

ANX D (Photos) Tropical Storm Agnes



BETHLEHEM STEEL PLANT IN STEELTON.



**FEW TRAINS WERE RUNNING IN THE ENOLA
RAILROAD YARDS NEAR HARRISBURG.**

ANX D (Photos) Tropical Storm Agnes

HARRISBURG...FIRE ADDED
TO THE PROBLEMS.



PLYMOUTH...ING FRONT
LOADERS WERE USED
EXTENSIVELY.

ANX D (Photos) Tropical Storm Agnes



**HELICOPTER CREWS OFTEN
DID THE LOADING THEMSELVES.**

**NO ONE COMPLAINED ABOUT
THE RIDING COMFORT OF THE
VEHICLES IN WHICH THEY
WERE EVACUATED.**



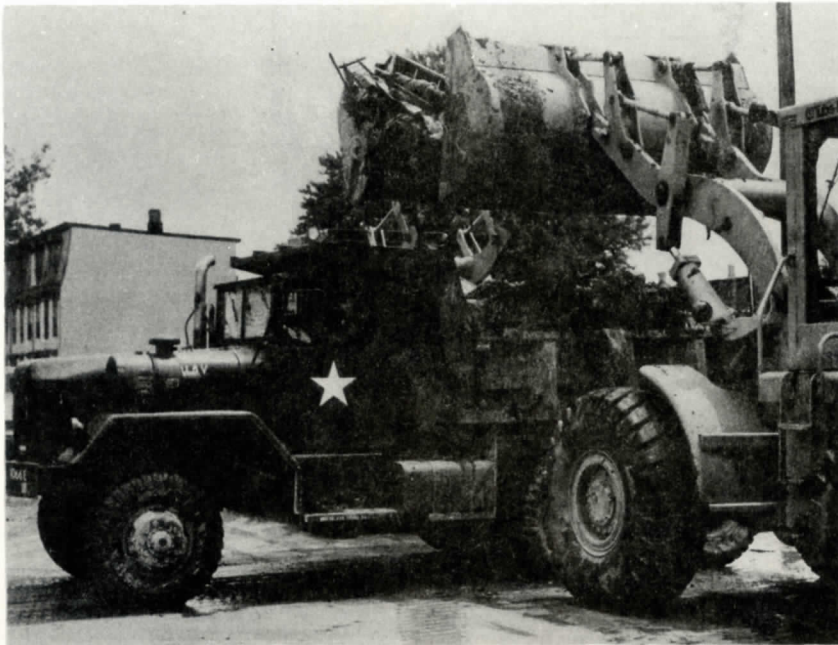
ANX D (Photos) Tropical Storm Agnes

NG HELICOPTERS FLEW
HUNDREDS OF HOURS IN
ORDER TO GET SUPPLIES
INTO STRANDED COMMUNITIES.



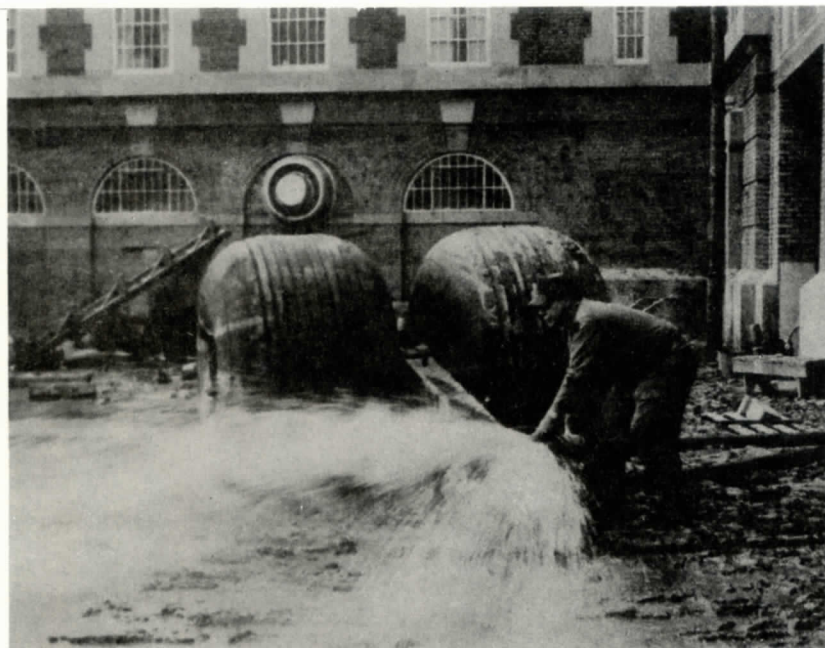
MILK WAS AN ESSENTIAL
ITEM NEEDED IN MANY
COMMUNITIES.

ANX D (Photos) Tropical Storm Agnes



**WYOMING...PART OF THE
THOUSANDS OF TONS OF
DEBRIS REMOVED DAILY.**

**KINGSTON ARMORY...NATIONAL
GUARD FACILITIES WERE HARD
HIT IN SOME AREAS.**



ANX D (Photos) Tropical Storm Agnes

KINGSTON...TWO GUARDSMEN
LOAD SOMEONES FAVORITE
CHAIR.



PLYMOUTH...NG ROAD
SCRAPERS PUSHED DEBRIS
INTO PILES FOR LOADING
INTO TRUCKS.

ANX D (Photos) Tropical Storm Agnes



FORTY FORT...AN ESTIMATED 2,500 GRAVES WERE WASHED OUT BY THE FLOOD WATER.



HARRISBURG AREA...BOATS AND MILITARY TRUCKS WERE THE ONLY MEANS OF TRANSPORTATION THROUGH THE STREETS IN MANY COMMUNITIES.

ANX D (Photos) Tropical Storm Agnes



A TYPICAL SCENE IN COMMUNITIES ALONG FLOOD RAVAGED RIVERS.



KINGSTON ARMORY...CLEAN-UP OPERATIONS AT ONE OF THE NATIONAL GUARD FACILITIES HIT BY THE FLOOD.

ANX D (Photos) Tropical Storm Agnes



WILKES-BARRE...A RESIDENTIAL AREA TURNED TO RUBBLE.

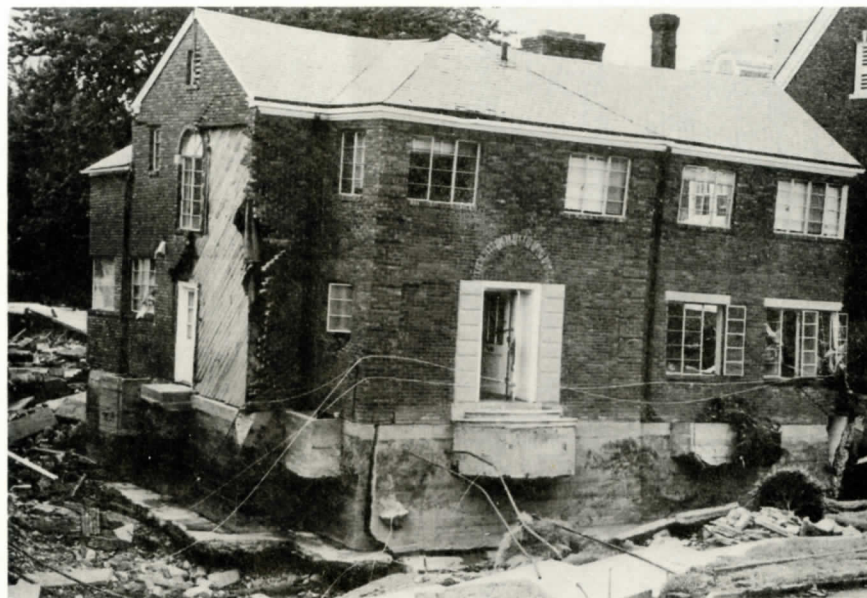


WILKES-BARRE...DESTRUCTION CAUSED BY ONRUSHING WATERS OF THE SUSQUEHANNA RIVER WHEN THE DIKE BROKE IN THE SOUTHERN PART OF THE CITY.

ANX D (Photos) Tropical Storm Agnes



WILKES-BARRE...LITTLE WAS LEFT TO SALVAGE IN MANY CASES.



WILKES-BARRE...THE DESTRUCTION WAS COMPARED WITH DAMAGE CAUSED BY WORLD WAR II BOMBINGS.

ANX D (Photos) Tropical Storm Agnes

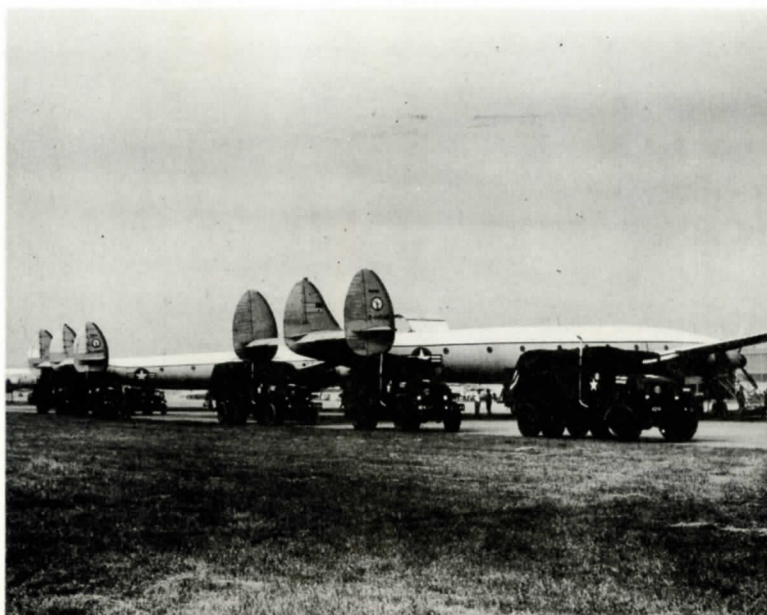


WILKES-BARRE...WHAT THE AREA LOOKED LIKE THROUGH THE EYES OF AN ARMY NATIONAL GUARD AVIATOR.



HARRISBURG...WHEN FIRE BROKE OUT IN A RESIDENTIAL SECTION OF THE CITY, FIREMEN DISCOVERED THAT TOO MUCH WATER COULD BE A HINDRANCE.

ANX D (Photos) Tropical Storm Agnes



**AIR NATIONAL GUARD AIRCRAFT BEING LOADED WITH FOOD FOR
TRANSPORT TO WILKES-BARRE AREA.**



**AIR NATIONAL GUARD FACILITIES AT THE HARRISBURG INTERNATIONAL
AIRPORT, MIDDLETOWN WERE HEAVILY DAMAGED BY FLOOD WATERS.**

ANX D (Photos) Tropical Storm Agnes



WILKES-BARRE...THE ENTIRE FURNISHINGS IN MANY HOMES WERE SIMPLY REMOVED AND PLACED ON SIDEWALKS FOR TRANSPORT TO LANDFILLS.



HELICOPTERS WERE INVALUABLE IN TRANSPORTING FOOD TO STRANDED AREAS.

ANX D (Photos) Tropical Storm Agnes



ENOLA...ONE OF THE SMALL COMMUNITIES NEAR HARRISBURG WHICH WAS SEVERELY DAMAGED BY THE NEARBY SUSQUEHANNA.



FOUR YEAR OLD RONALD BROMSBURG OF WEST WYOMING EXPRESSES HIS FEELINGS ABOUT THE REMOVAL OF THREE STITCHES FROM INJURED KNEE BY A PENNSYLVANIA ARMY NATIONAL GUARD MEDICAL OFFICER.

ANX D (Photos) Tropical Storm Agnes



WEST PITTSTON...ARMY NATIONAL GUARD ARMORY SHOWN AT LOWER RIGHT OF PHOTO HAD FIVE FEET OF WATER ON FIRST FLOOR.



WILKES-BARRE...ONE OF THE MANY HOMES DESTROYED BY FLOOD WATERS.

ANNEX E (Task Force Wyoming Organizational Structure) to After Action Report Tropical Storm Agnes

