



CEPIC CHECKLIST FOR
ON-SITE EMERGENCY PLANS

CEPIC, the European Chemical Industry Federation, has produced this document to assist Chemical Companies in complying with the "CEPIC Guidelines for the Protection of the Environment", approved by the CEPIC Committee of Directors on 4 June 1987 and individually endorsed by a number of companies.

Guideline No. 6 reads :

"In Co-operation with public authorities, establish and maintain contingency procedures to minimize the effects of accidents that may nevertheless occur."

This paper concerns Emergency Plans for coping with incidents occurring on the site of chemical enterprises. Effective Emergency Plans will prevent or limit damage not only within the site itself, but also in the surroundings if these are threatened.

There are a number of guidelines about On-site Emergency Plans provided by Federations of the Chemical and Oil Industry and other bodies in addition to plans prepared by the chemical companies. This CEPIC paper, not wishing to duplicate these examples, aims to furnish a checklist which can be easily used to find out whether the Emergency Plan intended for a particular site is adequate.

The checklist is intended to be a help in checking existing plans as well as when setting-up new plans, and indicates which information may be of importance and which plans may be available. The items of importance depend on the individual company, site, substances and processes, in addition to the local situations. CEPIC would like to emphasise the following principles:

1. On-site Emergency Plans should be available on all sites.
2. The emergency plan should be adequate and appropriate for each site, up to date and well known as well as practised by all concerned.
3. The emergency plan should be communicated to assisting external emergency services (e.g. fire brigade, medical service, police, ...) enabling them also to prepare a consistent Off-site Emergency Plan.

This document has been prepared by a Task Force reporting to the CEPIC Committee "Safety of Production".

Members of the Task Force were :

*M.I. van der Hooft, AKZO, rapporteur
V. Lambrecht, BASF
K. Lenz, VCI
P. Merriman, CIA.*



CONTENTS

	Page
I : <u>Foreword</u>	3
II : <u>Checklist</u> :	
1. General information about site and environment	4
2. Identification of major accidents and their consequences	5
3. Preventive measures	5
4. Emergency organization	6
5. Emergency response plan	9
6. Initiation of emergency organization and follow-up	9
7. Termination of the emergency	10
8. Investigation of incidents, reporting, liability, legal obligation	10
9. Schemes	11
III : <u>Annexes</u>	12



I. FOREWORD

The purpose of this publication is to enable chemical companies to check the adequacy of the various aspects of planning for the prevention, control and limitation of damage from incidents on site of their activities.

The checklist has been prepared to assist companies in defining those items which should be addressed in On-site Emergency Plans, and ensuring that they are adequate and appropriate for the specific circumstances. Public emergency services can also make use of the checklist.

The checklist does not furnish a model for a Plan, because these are already provided by Federations, etc., and because the details of the Plan depend on company tradition, site, local situation, etc. The On-site Emergency Plan must contain information about the site, the hazards, the preventive measures and the alarm and response organization and measures to foreseeable incidents. Plans should be flexible to cope with inherent uncertainties and provide a framework consistent with operational plans of the various emergency and other services indicating how emergencies are to be dealt with.

The checklist takes available guidelines to Emergency Plans in the various countries into account, and poses a considerable number of questions on this basis, which should be simply ticked in terms of their appropriateness and applicability, and of the presence or completeness of the measures suggested.

Objectives of the On-site Emergency Plan

When an emergency occurs, the main concern is to preserve life and safeguard property and environment. Therefore the Emergency Plan needs to be designed with the following objectives :

- Make arrangements to prevent further internal incidents resulting from the original incident activating the Emergency Plan.
- Prevent or limit danger to people on the site or outside.
- Prevent or limit environmental and property damage.
- Arrange organizational and technical measures, render the emergency safe.
- Coordinate with emergency organization and services, staff and management.
- Rescue people trapped by the emergency.
- Arrange medical treatment for casualties.
- Make arrangements to limit the consequences of external incidents which have influence on the site.
- Ensure continuity of business activities, thus preventing and limiting consequential losses.



II. CHECKLIST

The Emergency Plan should include adequate information and plans for preventing and limiting the consequences of incidents. The checklist indicates which information may be of importance and which plans may be available. Its use identifies relevant items and any need for improvement.

Please tick :

- . Column 1 if information is available and satisfactory.
- . Column 2 if information is available but not satisfactory.
- . Column 3 if item is not relevant (e.g. process description for storage and warehousing).

1. General information about site and environment

Is documentation available on :

	1	2	3
1.1 General information about site (company, products, raw materials, transport, staff).			
1.2 Plan and information of the environment (e.g. population, industrial installations, prevailing wind, etc.) (see also Annex I).			
1.3 Plans of the site (site plan, areas, see Annex II).			
1.4 Accessibility, access roads.			
1.5 Processes (outline).			
1.6 Hazardous materials, quantities present.			
1.7 Equipment, buildings, storage.			
1.8 Transport of raw materials, products (pipelines).			
1.9 Specific hazards.			
1.10 External hazards.			
1.11 Safety/Emergency organization, services.			
1.12 Organization chart.			



2. Identification of possible major accidents and their consequences

Have events which should realistically be taken into account been identified and evaluated :

	1	2	3
2.1 Within location with effects not beyond boundary.			
2.2 Within location with possible consequences outside location (e.g. explosion, fire, toxic gas release, hazardous material spill).			
2.3 Outside location with consequences within location (explosion, fire, toxic gas and possible combinations thereof, severe weather, including flooding, high winds, etc., transportation accidents, pipelines).			
2.4 Identify area affected.			

3. Preventive measures

Is general information about preventive measures available on :

	1	2	3
3.1 Lay-out of site (see Annex II).			
3.2 Hazardous areas/classification.			
3.3 Containment provisions. Collection of spillages and fire fighting water.			
3.4 Extinguishing/fire fighting and other measures. Stationary and mobile fire-extinguishing systems.			
3.5 Prevention of accidental air, water, soil pollution.			
3.6 Inspections, testing, replacements.			
3.7 Gas dispersion models.			
3.8 Warning system.			
3.9 Emergency organization, services, equipment (instructions/training; actions before abandoning plant)			
3.10 Coordination with public emergency services.			



4. Emergency organization

Does the plan contain detailed information about :

	1	2	3
4.1 Organization, command structure, manpower			
4.2 Emergency control centre (alternative, mobile, marking, equipment).			
4.3 Response teams (fire service, security force, medical service, etc.), responsibilities, tasks.			
4.4 External support arrangements: . Authorities (police, port, etc.). . Fire and medical services. . Marine services. . Supplies (foam, etc.). . Mutual aid (other companies). . Definition of role, responsibilities, leadership, coordination, etc.			
4.5 Communications networks/supply of information: . Means of communications and facilities. . Communication inside location and within company. . Communication with external emergency services. . Communication with external bodies (e.g. authorities, port, Water Authorities). . Press and media. . Information for local population, next of kin.			
4.6 Alarming, warning, call-in procedures: . Alarm procedures, definition of alarm phases (on-site, off-site, call public services). . List and phone numbers of services, people, bodies, etc.			
4.7 Evacuation: . Criteria for evacuation of site personnel. . Escape routes. . Assembly points (on-site or off-site). . Registration of people.			
4.8 Rescue plans, medical assistance, medical emergency plan : . Rescue of people and casualties. . First aid, medical assistance, medical treatment. . Aftercare casualties and next of kin. . Fatalities.			



	1	2	3
4.9 Emergency equipment and resources : . On-site. . (Off-site) authorities, mutual aid, etc.			
4.10 Utilities : . Water supply. . Energy, steam. . Inert gases.			
4.11 Access to the site and reception: . External emergency services, authorities, visitors, media, etc.			
4.12 Safeguard/disconnection of installations: . Also utilities, pipelines.			
4.13 Hazard assessment organization: . Assessment of risk and prediction of effects. . Measurements/analysis. . Measurement team. . Pollution (air, water, soil, fire fighting water). . Gas dispersion models. . Meteorological information and dispersion assessment system.			
4.14 Repairs/modification.			
4.15 General services: . Supply of information, issue of statements, interviews. . Information to staff members and their families.			
4.16 Off-site emergency plan: . Consistency with and linked to on-site plan. . Provision of information. . Cooperation. . Initiating the off-site Plan, warning, alarming.			
4.17 Training, rehearsals, evaluating and updating plan: . Training (also together with off-site services). . Regular update/review of the plan. . Connected with off-site emergency plan.			
4.18 Logistics: . Logistic requirements of each incident scenario.			



5. Emergency response plan (see Annex III, IV)

Does plan contain details of :

	1	2	3
5.1 Plan of factory with entrances, fire hydrants, pumps, main valves, etc. also per area/section/department.			
5.2 Accesses/entrances for fire brigades, access routes, roads, vehicles assembly points.			
5.3 Fire fighting material, stationary fire-extinguishing equipment, fire fighting water supply points and capacity, fire alarms.			
5.4 Main information about buildings, plant/equipment/control rooms: <ul style="list-style-type: none">. Substances, properties, hazards.. Processes, process conditions.. Hazardous areas, classification.. Equipment containing hazardous materials (PCB's, etc.).. Stores.. Number of people.. Local organization.. Shutoffs.			
5.5 Breakdown into categories of incidents and action plan: <ul style="list-style-type: none">. Gas clouds - flammable/explosive<li style="padding-left: 20px;">- toxic<li style="padding-left: 20px;">- both. Fire/explosion.. Spillage of toxic liquids and solids.. Outside incidents.			
5.6 Evacuation plan.			

6. Initiation of emergency organization and follow-up

Does plan contain provisions to :

	1	2	3
6.1 Inform, warn, alarm (see Annex III, IV): <ul style="list-style-type: none">. Criteria.. Plan, organization.. List of phone numbers (on-site, off-site).			



- 6.2 Provide concise information for emergency services in case of an incident about:
- . Company, name, area, phone numbers.
 - . Gas release - flammable gas/explosive gas
- toxic gas
 - . Fire.
 - . Explosion.
 - . Spillage, etc.
 - . Location of incident installation, amount of substances.
 - . Provisional assessment of risk/wind direction/velocity.
 - . Installation in/out of operation.
 - . Response activity on the spot.

	1	2	3
6.2			
6.3			

- 6.3 Update of information:
- . Emergency category.
 - . Call-in of more services.
 - . Evacuation, etc.

7. Termination of the emergency

Does plan contain provisions to :

- 7.1 Inform, announce.
- 7.2 Follow-up actions (checks, restrict entry, safeguard surrounding area, "all clear" signal, etc.).

	1	2	3
7.1			
7.2			

8. Investigation of incidents, reporting, liability, legal obligations

Does plan include post-incident activities, including :

- 8.1 Investigations of incidents and inquiry (also authorities).
- 8.2 Take photographs, documentation, reporting.
- 8.3 Report to authorities.
- 8.4 Damage and claim settlement, liability.
- 8.5 Take measures, e.g. review of procedures, rectifying damage, clean-up, etc.
- 8.6 Inform public, media, others.

	1	2	3
8.1			
8.2			
8.3			
8.4			
8.5			
8.6			

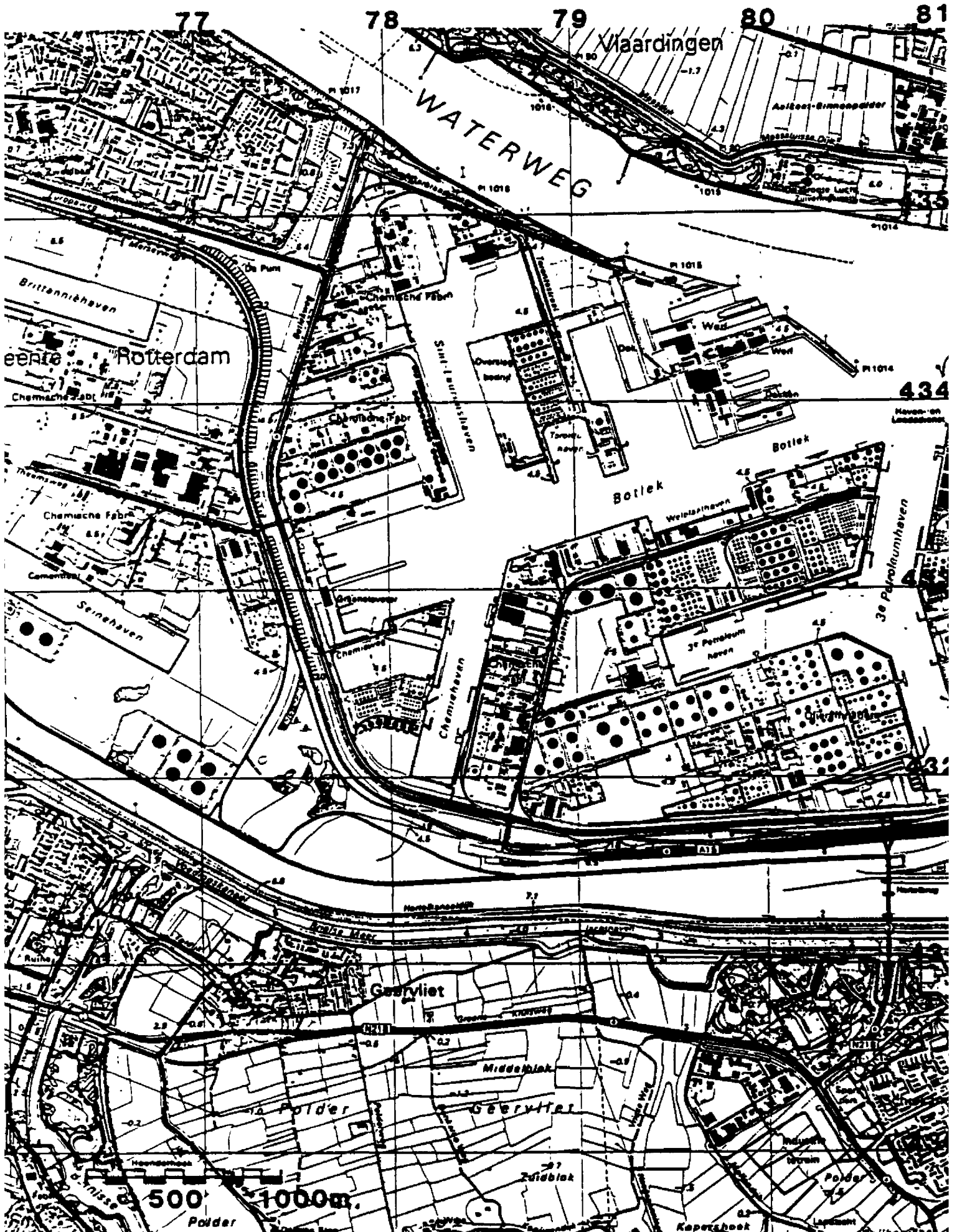


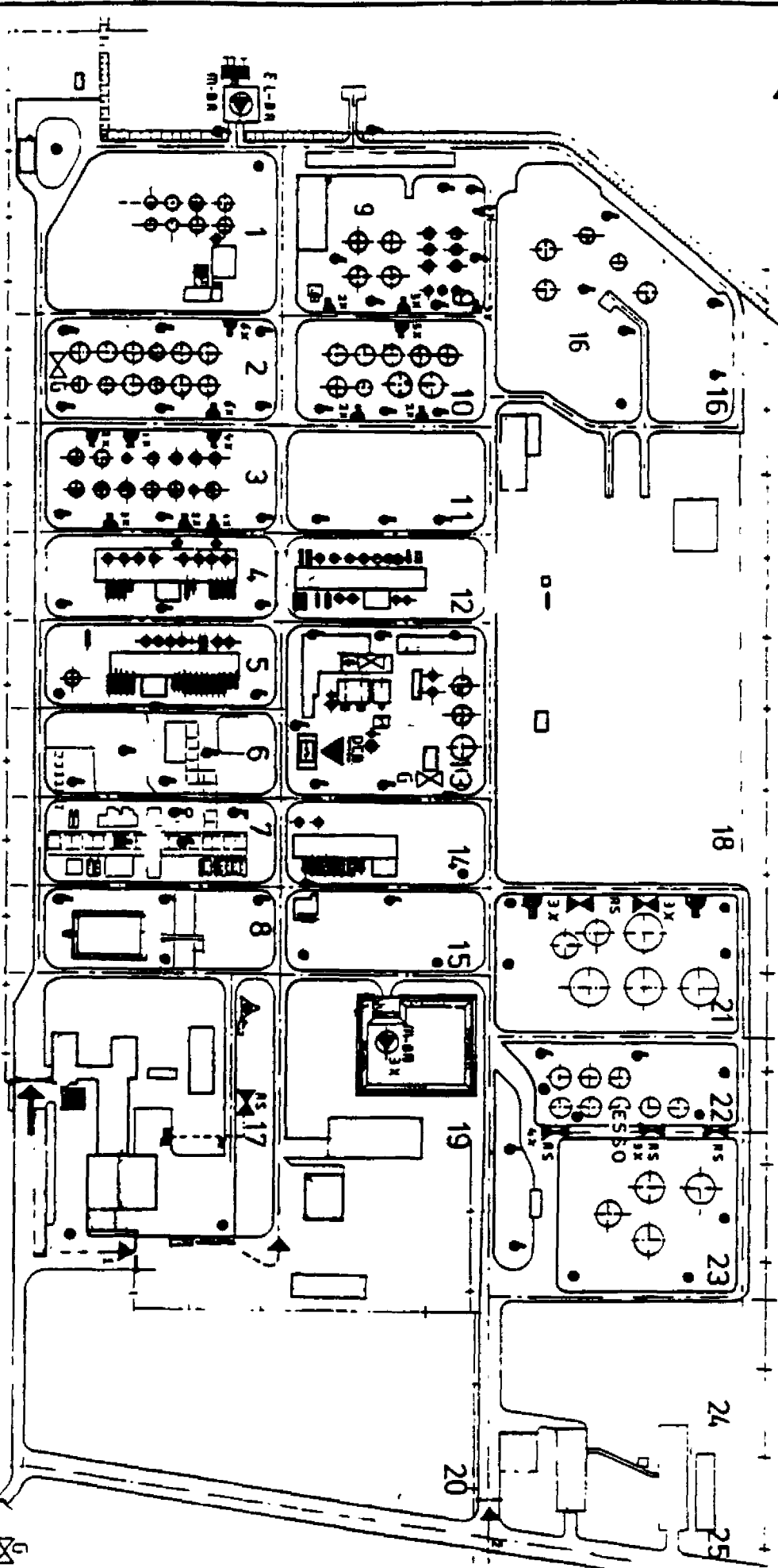
9. Schemes (may be included see examples)

Schemes could be a useful help for a quick overview of the emergency organization, communication system, warning and alarming structure, etc. Some examples are :

	1	2	3
9.1 Utilities (water, energy, steam, other).			
9.2 Pipelines.			
9.3 Location map (situation, installation, equipment, storage).			
9.4 Supply of raw materials and transport of products.			
9.5 Organization chart.			
9.6 Scheme for emergency assistance command.			
9.7 Scheme(s) warning/communication.			
9.8 Concise summary of aid, organization, communication in connection with events.			
9.9 Residential areas to be informed.			
9.10 Possibly : dispersion models for toxic gas or calculations.			
9.11 Telephone call lists of personnel, services, authorities, etc.			

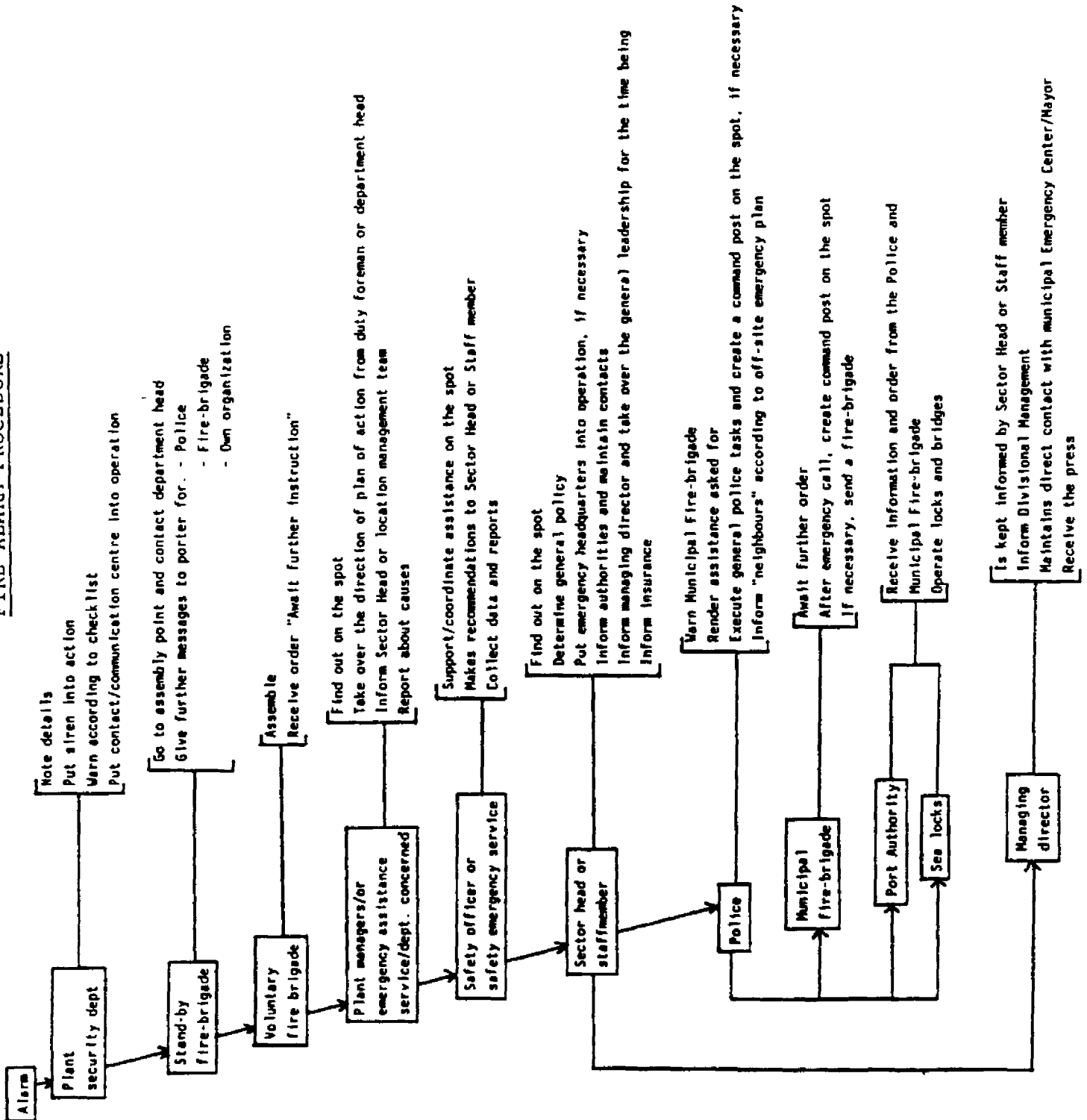
* * *



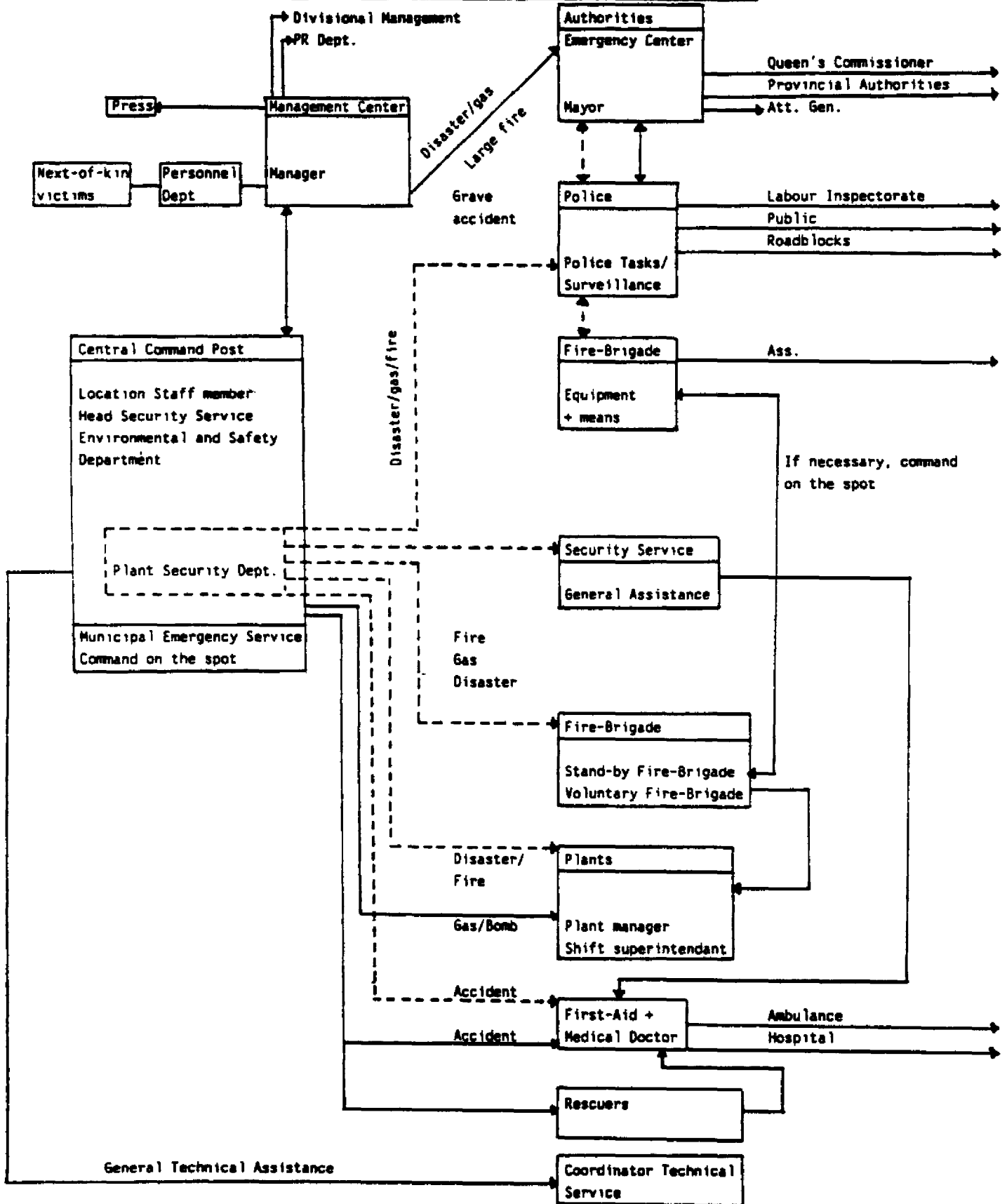


PLOT N°	PLOT N°	PLOT N°	PLOT N°
1	10	19	
2	11	20	
3	12	21	
4	13	22	
5	14	23	
6	15	24	
7	16	25	
8	17		
9	18		

FIRE ALARM PROCEDURE



Complete Organization Chart for Disasters



Emergency tel no.
 Your factory section No. is:
 Inform plant security officer briefly and clearly

————— Contact
 - - - - - Warning

EPA, Washington. Oil Spill control assistance of America. In: NATIONAL CONFERENCE OF CONTROL OF HAZARDOUS SPILLS. 1978. *Proceedings*. U.S. Coast Guard, 1978.

MOPE/IBP. *Manual de cloreto de vinila*. Rio de Janeiro, 1978.

MOPE/IBP. *Manual de amônia*. Rio de Janeiro, 1978