

DENR Administrative Order
No. 2018 - _____

SUBJECT: CAVE SAFETY AND RESCUE PROTOCOL FRAMEWORK FOR DENR PERSONNEL

Pursuant to Republic Act No. 9072 (National Caves and Cave Resources Management and Protection Act), Republic Act 10121 (Philippine Disaster Risk Reduction and Management Act), Republic Act 7160 (Local Government Code of the Philippines), and other relevant laws, rules and regulations and support policies in the development and implementation of a cave safety and rescue protocol, this Order is hereby issued for the guidance of all concerned.

Section 1. Basic Policy. It is the policy of the State to ensure conservation, protection, and proper management of caves and cave resources; among of which is through warranting the safety of parties involved in cave conservation, protection, and management, as well as through providing guidelines for the conduct of safe caving and cave rescue operations.

Section 2. Objectives. This Administrative Order aims to:

1. Prescribe the framework that will guide the conduct of rescue in response to caving incidents involving DENR personnel and caving activities supervised by the DENR;
2. Define the responsibilities of DENR and partner agencies in the conduct of a DENR self-rescue in caves; and
3. Reduce the risk of injury or loss of life during caving operations by DENR personnel by addressing barriers to coordination.

Section 3. Scope and Coverage. This Order shall cover the protocol development and implementation of cave safety and rescue response for DENR personnel in all regions harbouring caves therein.

A. Contents. Cave rescue operations are unique in that they require skills in working on irregular and hazardous terrain, dark and confined spaces, extreme differences in microclimate, and presence of fragile geological formations and sensitive biota. This framework is then in response to the need for specialized rescue operation for caving incidents involving DENR personnel and DENR-led caving activities.

This Administrative Order shall guide relevant DENR units in the organization and operationalization of an internal Cave Self-Rescue Team. It shall also provide the general procedures for the coordination with local disaster risk reduction and management units and other concerned agencies, as well as on raising public awareness on safe caving, and recommend capacity building of the created DENR Cave Self-Rescue and Multi-agency Cave Rescue Teams.

This Framework shall serve as basis for the development of a separate Manual of Operations for a DENR Cave Safety and Rescue Protocol. The Manual will provide the steps for contingency planning within caves, including assessment of prevalent hazards and risks within caves, recommend risk mitigation and control measures, identify areas for and provide detailed requirements of capacity-building for involved personnel and units, as well as the organization and activation of an inter-agency cave emergency response and rescue team. This inter-agency rescue team shall address other cave rescue operations not within the scope of this Protocol Framework.

B. Applicability. This Protocol Framework shall apply to all employees and contract personnel of the DENR working on or visiting caves. It may also apply to any entities or parties involved in official/permitted DENR-led cave-related activities such as assessment, monitoring, research, trainings, site-visits, and ecotourism. The DENR Cave Self-Rescue Team may also be activated for other emergency situations needing rescue within a cave in the absence of a trained local cave rescue team and upon the decision of the Head of Office, in his/her capacity as the Incident Commander.

C. Preliminary requirements. Each PENRO/CENRO shall ensure the conduct of their own cave risk assessments and establishment of safe systems of work (including standard operating procedures, training programs, provision of equipment, levels of response, etc.) within the context of this protocol framework, integrated risk management plans, local conditions and knowledge, and existing relevant institutional arrangements. The DENR shall also ensure that Guidelines for Safeguarding Caves Utilized for Ecotourism (BMB Technical Bulletin No. 2017-01) and other policies for safe caving are adhered to.

Section 4. Creation of a Cave Rescue Team within DENR. A DENR Cave Self-Rescue Team (CSRT) shall be created in each DENR field office nearest to the subject cave. In cases where subject cave is nearest to a DENR PENRO/CENRO, the CSRT shall be created by the Regional Director (RD). The DENR CSRT shall be composed by different DENR personnel from various units.

If subject cave is within a Protected Area (PA), the Cave Rescue Team may be composed of a combination of DENR personnel from concerned DENR Offices, members of

the Protected Area Management Board (PAMB) and the PA Office (PAO) as designated by the RD..

For the purpose of this Administrative Order, jurisdiction over the caves shall fall under the concerned PENRO/CENRO until operations for rescue and post-monitoring has been finalized. If subject cave is within a PA, all activities of the CSRT shall be done in coordination with the Protected Area Superintendent (PASu) or its equivalent

The rescue team shall have at least but not limited to the following units: (1) Headquarters - Incident Command, Documentation and Communications, Field Operations, Logistics, and Finance; (2) Field Operations - Underground Rescue Coordinator, Medics, and Field Communications units (See **Annex A**). DENR focal persons shall be assigned to each of these units.

Section 5. Coordination and Partnership with Local Disaster Risk Reduction and Management Unit and Other Concerned Agencies. Coordinated and effective institutional arrangements shall be established with partner agencies, particularly existing local disaster risk reduction and management (DRRM) office/units, to respond to the needs of a cave rescue (see **Annex B**).

The DENR shall be at the forefront of cave rescue activities within their localities, in cooperation with the Local Government Units (LGUs) through its local DRRM office – at all levels, local caving groups and partner agencies [Department of Interior and Local Government (DILG), Department of Tourism (DOT), Philippine National Police (PNP), Armed Forces of the Philippines (AFP), Philippine Air Force (PAF), Bureau of Fire Protection (BFP), Philippine National Red Cross (PNRC), Department of Health (DOH), Department of Social Welfare and Development (DSWD), National Disaster Risk Reduction and Management Council (NDRRMC)], when necessary. The Communications Officer, through the instruction of the DENR Incident Commander, shall coordinate with the multi-agency rescue team prior to the conduct of self-rescue. The multi-agency rescue team shall take the lead in the actual conduct of rescue operations for extreme situations.

This DENR Cave Safety and Rescue Protocol Framework shall adopt and be consistent with the Incident Command System (ICS) provided under the Incident Command System - Field Operations Guide (ICS-FOG). The Manual of Operations to be developed shall also include discussion on general management structure of a cave rescue operation, on self-rescue, inter-agency cave emergency response and rescue system (external rescue response), and post-incident guidelines.

Partnerships shall be encouraged and formalized through joint or multipartite agreements between and among concerned individuals or agencies, clearly identifying the nature and extent of their duties and responsibilities. Agreement templates shall be developed by the National Cave Committee (NCC).

Caving groups to be involved in rescue operations shall be recognized by the concerned RCC/PCC through a Special Order signed by the Chair. The said Special Order shall undergo review and/or renewal biennially upon the effective date. The RCC/PCC reserves the right to recognize multiple caving groups within their jurisdiction, as well as revoke such recognition at any time upon notice to and meeting with all concerned parties.

Section 6. Process Flow. The DENR shall mobilize a Quick Response Team (QRT) on the site of incidence to assess and evaluate as to whether a cave self-rescue or multi-agency cave rescue shall be conducted. Upon on-site evaluation, the QRT shall recommend suggested course of action to the Incident Commander. The Incident Commander will then opt to activate the DENR Cave Self Rescue Team or call on the Multi-agency Cave Rescue Team to conduct the rescue.

After mobilization of selected cave rescue team and conduct of cave rescue, a post-assessment of the cave shall be conducted by the DENR Cave Self-Rescue Team to assess changes in the cave environment incurred by the incident and the rescue operation.

A debriefing shall be conducted after the rescue operation. The process flow of the full operation is shown in **Annex C**.

Section 7. Reporting. An incident report shall be prepared every four (4) hours of the cave rescue operation by the Documentation/Communications Unit. All incident reports shall be turned over by the DENR Self-Rescue Team to the Incident Commander or Intelligence Head of the Multi Agency Rescue Team in case of need for cave rescue operation transfer (due to extreme conditions).

Post-activity report shall be prepared after the rescue operation. The report shall be submitted to the Incident Commander. The DENR through channels the National Cave Committee shall be furnished with a copy of the report.

Section 8. Awareness and Capacity Building. Regular trainings for Cave Assessment Teams (CAT), Cave Rescue Teams and tour guides shall be conducted by the DENR in cooperation with, and with the participation of, the concerned LGUs, multi-agency cave rescue team and partner caving group/s. Training topics and capacity-building requirements shall be determined by the Regional Office. Training needs shall be coordinated to BMB for the development of training module. After consolidation of all regional training needs, BMB may conduct Training of Trainors (TOT). Participants of TOT are expected to capacitate the CRT members. A list of suggested topics for the trainings is outlined in **Annex D**.

The DENR Cave Self-Rescue Teams shall adhere to the Office of the Civil Defense Operations Manual for Emergency Response, in addition to special protocols and trainings exclusive for cave rescue.

The local communities shall be informed regularly on the importance and practice of safe caving, particularly for those within active ecotourism/tourism sites. They will also be encouraged to participate in and consider elements of safe caving in community-based disaster risk reduction and management programs and projects within the locality. For caves within protected areas, these information campaigns shall form part of the regular Communication, Education and Public Awareness Plan for the protected area.

Section 9. Review and enhancement. The Cave Safety and Rescue Protocol Framework shall be reviewed for its applicability and accuracy three years from the date of its publication, and every five years hence. The DENR Secretary through the NCC shall be responsible for commissioning the review and any decision for revision or amendment, and may likewise decide that a full or partial review is required within this five-year period.

Section 10. Funding. The DENR (including the Biodiversity Management Bureau and DENR Regional Offices) and concerned agencies shall include in their General Appropriations Act funds for the implementation of this Order. The DENR may also encourage contributions from other partners such as national government agencies, local government units, and non-government organizations for the capacitation of local disaster risk reduction units in terms of cave rescue.

Section 11. Separability Clause. If any part or provision of this Order is subsequently held invalid or unconstitutional, remaining provisions shall remain in force and in effect.

Section 12. Effectivity. This Order shall take effect fifteen (15) days after its signing and publication in at least two (2) newspapers of general circulation.

ROY A. CIMATU
Secretary

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ANNEX A

Organizational Structure of the DENR Cave Self-Rescue Team

The Regional Director shall assign focal persons from various DENR units to create well-coordinated networks and effective management arrangements based on, but not limited to, the following:

Table 1. Roles and Responsibilities of DENR units in Cave Self-Rescue Operations.

Units	Role	Suggested DENR Unit/Personnel	Responsibilities/Remarks
1) Headquarters	Incident Commander	CENRO/PENRO depending on whose jurisdiction subject cave falls under (Refer to Section 4)	Head of DENR Office; Have overall command responsibility
	Documentation/ Communications	Administrative Staff (Planning/Information Officer) to be assisted by Technical personnel/legal officer/information officer	Record keeping of paperworks, photo-documentation, and preparation of activity reports Information Office may provide limited information to the public including media personnel
	Logistics and Finance Head	Admin and Finance Officer	Procurement of and provision of access to rescue materials and equipment Provision of financial requirements
	Operations Head/ Surface Head	Chief, Technical Services	Coordination of field operations
2) Field Operations	Underground Coordinator	Regulation and Enforcement Unit (REU) and Conservation and Development Unit or equivalent	Direct command of ground personnel; Lead actual on-site rescue; If a pitch captain is available, the coordinator will control operations from the immediate vicinity of the subject cave, while the pitch captain will lead operations inside the subject cave; may serve as Safety Officer to ensure that rescuers are properly equipped and trained for cave rescue
	Quick Response Team	May be assumed or assigned by the Underground Coordinator	Rapid assessment and evaluation of situation, rescue subjects and recommend mobilization of rescue team

Units	Role	Suggested DENR Unit/Personnel	Responsibilities/Remarks
	Medical Coordinator	Regulation and Enforcement Unit, Conservation and Development Unit or equivalent	Initial medical assessment and first-aid treatment
	Communications Coordinator	Technical Staff	Liaison for communications between Headquarters and Field Operations Units
	Personnel Coordinator	Technical Staff	Coordination of participation/involvement/tasking of volunteers and other specialist groups should the need arise
	Logistics Coordinator	Budget/Finance Officer	Recording of entry and exit of materials and equipment

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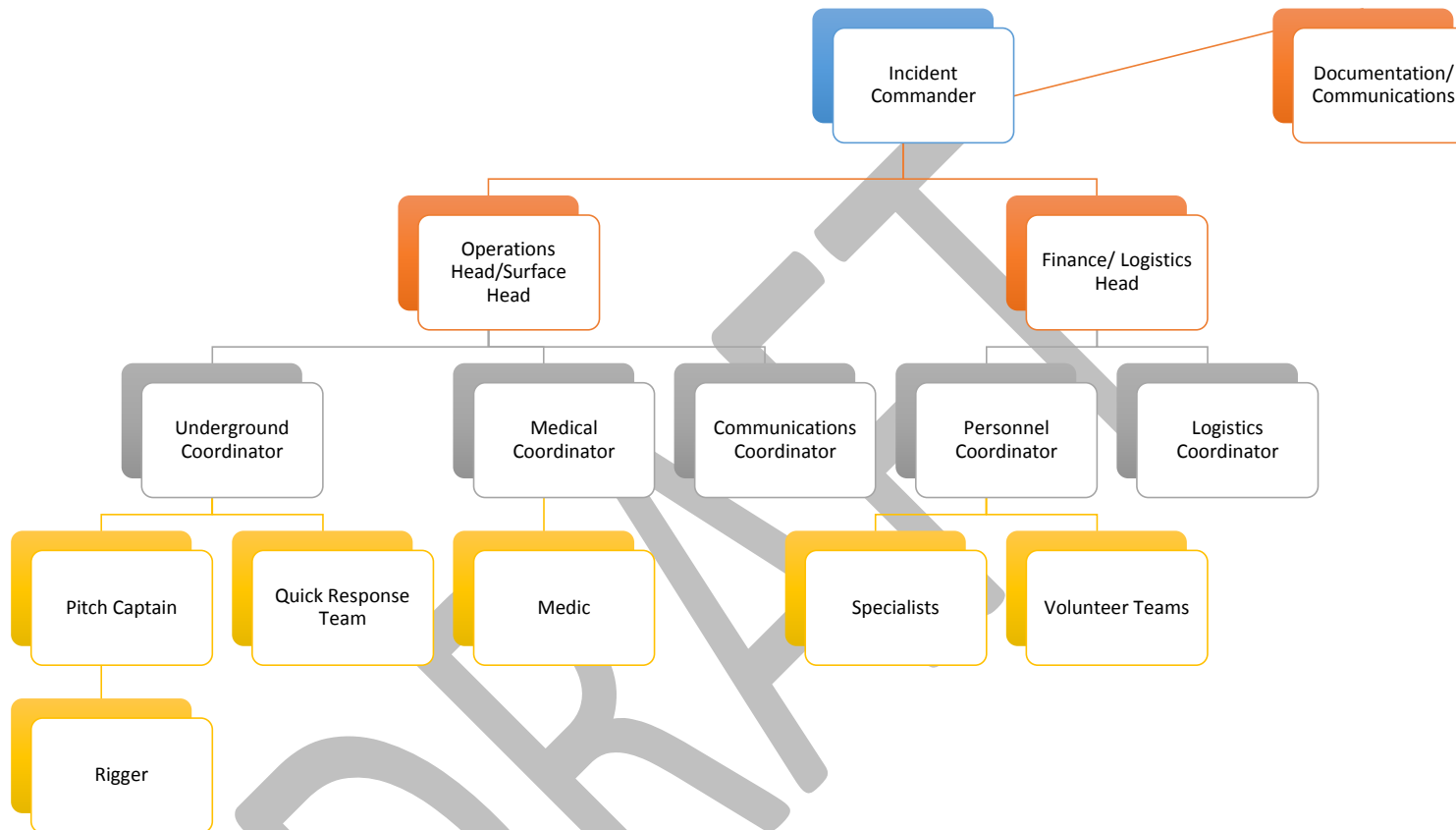


Figure 1. Organizational Structure of DENR Cave Self-Rescue Team.

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ANNEX B
Creation and Composition of a Multi-Agency Cave Rescue Team

The DENR shall coordinate with existing local disaster risk reduction and management (DRRM) units for their capacitation and establishment into a Multi-agency Cave Rescue Team and for the conduct of multi-agency cave rescue for extreme situations.

The following agencies, composing the local DRRM councils, shall assume the following roles and responsibilities for the conduct of said activity:

1. Command and overall responsibility – Local Government Unit (LGU) with assistance of caving group/s
2. Intelligence – Department of Environment and Natural Resources (DENR), Department of Tourism (DOT), LGU, RCC/PCC (NHI, NM, etc.), local caving group, and local cave guides;
3. Operations –Department of Interior and Local Government (DILG) (local and national), Philippine National Police (PNP), Armed Forces of the Philippines (AFP) Philippine Air Force (PAF), Bureau of Fire Protection (BFP), Philippine National Red Cross (PNRC), caving groups (local and national), Metro Manila Development Authority or equivalent support units;
4. Financial, administration, and logistical support – DENR, DOT, LGU, Department of Health (DOH), and Department of Social Welfare and Development (DSWD);
5. Capacity building – DILG (local and national), LGU, National Disaster Risk Reduction and Management Council (NDRRMC), BFP, PNRC and caving groups (local and national).

In the conduct of multi-agency cave rescue, focal persons of the DENR Cave Self-Rescue Team shall coordinate with corresponding units of the local DRRM council. The roles to be coordinated are the following:

<i>Role</i>	<i>Corresponding DENR Cave Self-Rescue Focal Person/Unit</i>
1. Command and overall responsibility	Incident Commander (PENRO/CENRO)
2. Intelligence	Documentation and Communications
3. Operations	Operations Head/Surface Head
4. Financial, administration, and logistical support	Logistics and Finance Head
5. Capacity building	HR Personnel

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43 Multi-agency Cave Rescue Teams shall be accredited by their respective Regional
44 Directors.

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46 **ANNEX C**
47 **Process Flow of Cave Rescue Operations**
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49 **Transition Period.** The DENR Cave Self-Rescue Teams shall lead small-scale rescue
50 operations until full capacitation of other concerned agencies on cave rescue. For extreme
51 situations that require multi-agency operations, accredited partner caving groups of the LGUs shall
52 be at the forefront of cave rescue activities within their localities, in cooperation with the local
53 DENR, and in coordination with the existing local emergency response team of the LGU.

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55 **Upon Full Capacitation.** The DENR shall mobilize a Quick Response Team (QRT) on the
56 site of incidence to assess and evaluate as to whether a cave self-rescue or multi-agency
57 cave rescue shall be conducted. Upon on-site evaluation, the QRT shall recommend
58 suggested course of action to the Incident Commander. The Incident Commander will then
59 opt to activate the DENR Cave Self Rescue Team or call on the Multi-agency Cave Rescue
60 Team to conduct the rescue. During self-rescue operation, an incident report shall be
61 prepared every four (4) hour. All incident reports shall be turned over by the DENR Cave
62 Self-Rescue Team to the Incident Commander or Intelligence Head of the Multi Agency
63 Cave Rescue Team prior to transfer of cave rescue operation in case the situation escalated
64 to extreme conditions. After mobilization of selected cave rescue team and conduct of cave
65 rescue, a post-assessment of the cave shall be conducted by the DENR Cave-Self Rescue
66 Team to assess changes in the cave environment incurred by the incident and the rescue
67 operation. A debriefing shall be conducted after the rescue operation and a report on the
68 activity shall be submitted to the Incident Commander. A furnished copy of the report shall
69 be submitted to the DENR Secretary through the National Cave Committee. The process
70 flow of the full operation is shown below.
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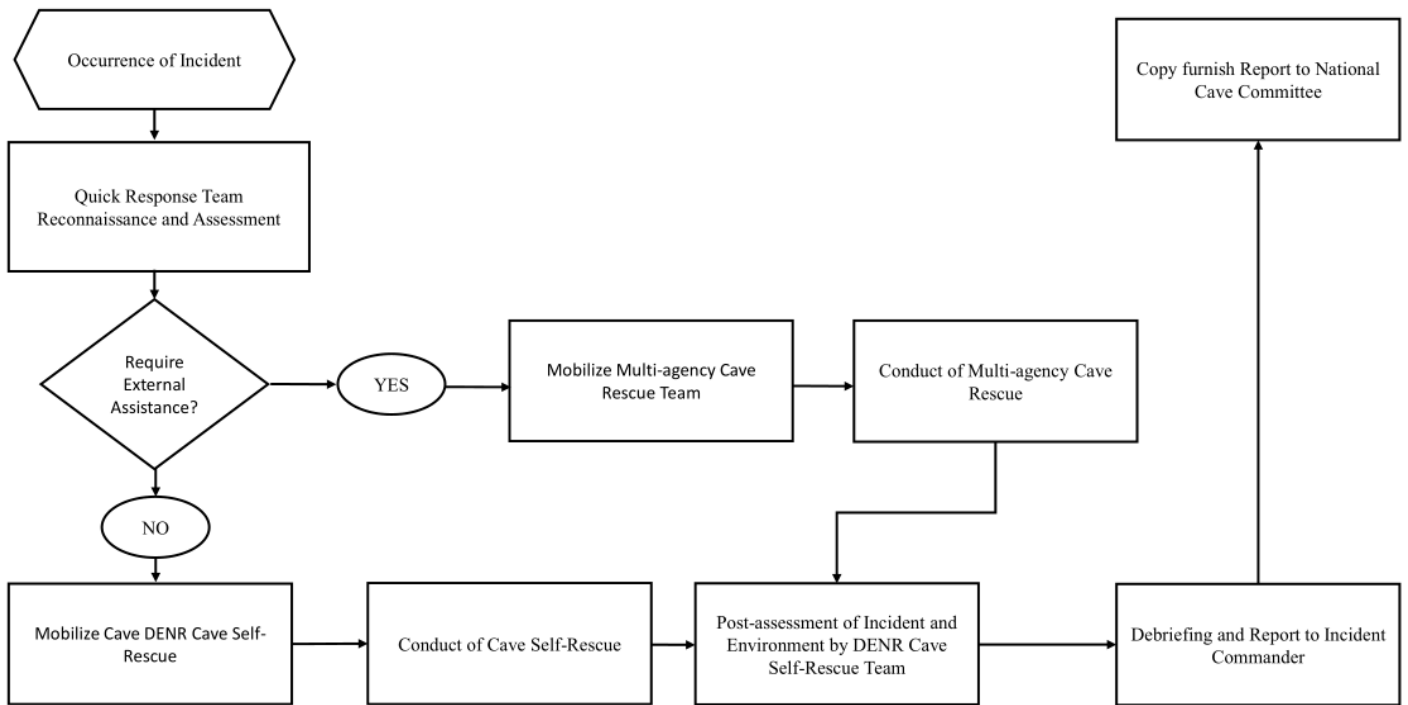


Figure 2. General Process Flow of Cave Rescue.

The Multi-Agency Cave Rescue Team shall be mobilized after initial assessment by the DENR Quick Response Team in the locality based on the severity and extent of the needed rescue operation. Severity of rescue operation shall be determined through following parameters: number of persons injured, estimated duration of rescue operation, location of cave, complexity of the cave, etc.

DENR Cave Self-Rescue Teams from other localities may be mobilized out of their jurisdiction when assistance is required by a local rescue team.

Post Assessment. Assessment of incidents shall be conducted by the DENR Cave Self-Rescue Teams, multi-agency cave rescue team, and partner caving group/s and its DENR counterpart, depending on who led the rescue. In addition, the DENR team shall assess the cave environment for damages incurred from the incident, as well as from the conduct of a rescue operation. Results of the post-incident assessment shall be reported to the DENR through the RCC/PCC. For incidents in classified caves, the post-incident assessment shall be incorporated in the latest cave assessment/monitoring results of the caves. For caves that have yet to be classified, the post-incident assessment shall serve as baseline data.

95 **ANNEX D**

96 **Capacity Building for Safe Caving and Cave Rescue**

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98 Search and rescue operations in the cave environment present a host of unique management
99 challenges. The limited environment provides some advantages and disadvantages as compared to
100 surface operations. To address this, regular trainings for Cave Rescue Teams (Multi-agency and
101 DENR Cave Self-Rescue Teams) shall be conducted by the DENR, in cooperation with and with
102 the participation of, the concerned local government units, partner agencies and caving groups.

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104 Annual trainings for the capacitation of Cave Rescue Teams shall be on Risk Reduction,
105 Preparedness and Skills Development. It shall have the following components:

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107 1. Development and Conduct of Enhanced Cave Risk Assessment (including personnel
108 vulnerability and capacity) for classified caves
109 2. Hazard identification
110 3. Establishment of risk control measures (include use of protective gears and skills
111 requirements) and strategies e.g. use of weather forecasts
112 4. Integration of risk management and response in cave management planning
113 5. Capacity building for Cave Safety and Rescue Protocol implementation
114 6. Specific trainings for Cave Rescue Officers (e.g. first-aid, rigging and ropemanship,
115 patient packaging and transport, communication protocols/call-out systems, cave
116 rescue drills in dry and flooded caves, etc.)
117 7. Orientation on Incident Command System

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119 The Cave Self-Rescue Teams shall also adhere to the Office of the Civil Defense
120 Operations Manual for Local Emergency Response, in addition to special protocols and trainings
121 exclusive for cave rescue.

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