



Carroll County Department of Fire & EMS

Standard Operating Procedure

DOCUMENT DETAILS

Standard Operating Procedure: 4.3.3	Effective Date: 7/14/2025
Subject: Inaccessible Person Rescue	Section: Fire/Rescue Operations
Authorized: Deputy Chief Paul Supko	Revision Date: N/A

Applicability: ☒ Volunteer ☐ Career

I. PURPOSE

This SOP provides guidance in developing and implementing strategic and tactical decisions during Search and Rescue operations in and around the Backcountry/Inaccessible area/environment. This includes search and rescue for lost or known locations of subjects during Emergency Medical Services incident operations, rescue incident operations, and non-emergency/recovery incident operations.

Initial Assignment: Inaccessible Person Rescue

OPS 101, 1- Engine, 1- Truck or Squad (Closest), 1- Medic, 1- EMS Car, 1- ATV

II. DEFINITIONS

CALTopo- A digital mapping software used to plot data and maintain accountability of crews operating in a backcountry environment.

Coordinates- There are two sets of coordinators Longitude and Latitude, and US National Grid. While available in multiple styles the preferred style used by the Department is Decimal Degrees (DD), ei: 39.610033, -76.85186. Longitude and Latitude coordinates may come in various formats like: Degrees Seconds (DD MM SS), Degree Decimal Minutes (DD MM.mm) and Decimal Degrees (DD.dd). The other style primarily used in Search and Rescue is US National Grid, ei: 18S UJ 41026 86148. All coordinates used should be done under the WGS84 datum system.

Hasty Search- Searches the immediate area for the victim. It is designed to be fast and precise with 2-4 personnel per team. Quickly deployed to locate the subject by searching high probability areas such as trails, and likely spots.

Initial Planning Position (IPP)- The point that is initially used to plan the search incident. The IPP may be the original Point Last Scene (PLS) or the Last Known Position (LKP). The IPP may also be a point entirely separate based on the best available investigative information. IPP is a planning point and does not move after the planning begins.

Initial Reflex Tasking- In search and rescue (SAR) refers to the immediate actions taken when a person is reported missing. These actions are based on common patterns and high-probability areas where the person might be found. The goal is to quickly mobilize resources and start the search without delay. Initial reflex tasking includes Investigation, Containment, and Hasty Searches.

Last Known Position (LKP)- The last substantiated (by clues or evidence) position that the subject was known to be. The LKP may change as more clues, direction of travel, and physical evidence are discovered.

Loose Grid Search- A fast but systematic search, 3-4 persons per team, spread roughly 100' apart.

Last Person Behavior (LPB)- Refers to the typical patterns and actions of individuals who are lost. This concept is crucial in search and rescue operations, as it helps predict potential locations and actions of the lost person based on historical data and behavioral studies. The data provides range rings in distances from the IPP in increments of percentage based on behavior and category of subject.

Point Last Seen (PLS)- Point used to describe where the subject was seen by a witness. The PLS is expected to lend credibility and reliability to another point for data comparison.

Rebid- A function conducted by Fire Dispatch where the Subject's cell phone is triangulated and assigned a Latitude and longitude location. This bearing is given in Decimal Degrees (DD): 39.####, -76.####.

Reporting Party (RP)- The person or persons who reported the incident to 911.

Rescue Action Plan (RAP)- The strategic goals and tactical objectives to conduct search and rescue operations.

Rescue/Injured vs Lost/Missing Subject- When operating in a backcountry environment it is important to differentiate the incident between subject(s) requiring 911 assistance versus reports of a Lost or Missing Person. An IAP must be developed prior to anyone entering the backcountry area. All Missing Subject incidents are a Police Matter and require an officer on scene coordinating with the IC.

Subject- The individual(s) that Emergency Teams are looking for.

Tight Grid Search- Search that is slow but systematic. Typically searching for clues like cigarette butts and jewelry. Search team members are spaced arms distance apart. Should be used as a last resort.

United States National Grid (USNG)- A nonproprietary alphanumeric location reference system derived from the Military Grid Reference System (MGRS) that is being promoted to increase interoperability of location services appliances with printed map products by providing a nationally consistent grid reference system. The National Search and Rescue committee has recommended USNG as the primary geo reference system for land-based search and rescue resources. This full form (15 characters) uniquely identifies a single one-meter grid square out of the entire surface of the earth. It consists of three parts (each of which follows a "read-right-then-up" paradigm familiar with other "X, Y" coordinates) Example: 18S UJ 23371 06519.

What Three Words- Is a proprietary geocode system designed to identify any location on the surface of Earth with a resolution of about 3 meter (9.8 ft). What3words divided the world into a grid of 10ft x 10ft squares, labeling each one with a unique three-word identifier – a what3words address. Carroll County 911 utilizes a software program called RapidSOS to determine callers' location when they do not know where they are. RapidSOS has partnered with What3words. You may see these identifiers on your MDT in the comments to assist with locating a person. Download their app to convert their words to coordinates.

III. PROCEDURES

A. General Guidelines

Each response to an inaccessible, lost or missing person incident shall be evaluated upon arrival by the Incident Commander to assess the risk to Department personnel.

The priority for rescue shall be:

1. Yourself.
2. Other responders.
3. The victim(s).

All operations at the scene if an inaccessible, lost, or missing person incident shall be performed in a safe manner consistent with the identified level of operational capability. No Department member shall conduct, or participate in, an activity for which he/she is not trained, certified, and/or properly equipped to handle.

When conducting a training exercise, body recovery, evidence search, incident involving animals, or other operations not essential to the immediate protection of life, the Incident Commander shall utilize the same procedures employed during an actual rescue operation but at a level of urgency commensurate with the risk/benefit analysis.

- B. Size up the situation- This is the total information gathering process about a situation to affect an efficient search, rescue, or recovery. Determine if this is a search or rescue operation. If a search, ensure that law enforcement is on the scene managing the investigation and search operations. The Rescue Group Supervisor/Branch Director's pre-planning and initial Risk Assessment shall include potential operational and environmental obstacles/problems and the potential need for specialized equipment.
- C. Establish goals and objectives that are based on an on-scene assessment regarding the search and rescue being time critical, the weather factors, is air support available, and the subject's condition. If the person is missing, ensure that law enforcement is contacted as they should be the lead agency for the missing persons with assistance from fire department resources.
- D. Identify Resources Needed. This is a planning stage where resource expertise and capabilities are identified, or additional resources are requested for support based upon the terrain and environmental conditions.
- E. Build a plan and structure- Complete the IAP and RAP.

 1. After choosing a course of action, at least two alternative plans should also be formulated. Whatever plan is chosen, be flexible.

2. Five elements should be considered simultaneously: **LASER** -Locate, Access, Stabilize, Extricate, Responder Accountability
- F. Take Action- Deploy existing resources
 - G. Demobilization- Accountability check, Hot Wash, Resource release, and terminate command.

IV. PERSONAL PROTECTIVE EQUIPMENT

- A. **ABSOLUTELY NO TURNOUT GEAR**
- B. Head, Hand, and Eye Protection
- C. Sturdy footwear (uniform boots)
- D. Radios
- E. Drinking Water
- F. Rain gear if warranted.
- G. Highway Safety Vest
- H. Hand light(s)

V. INACCESSIBLE AREA OPERATIONS/KNOWN OR PORTABLE LOCATIONS

- A. **Locate:** (This is the Search Phase). Locating the subject can be one of the most challenging parts of the operation. Weather conditions, daytime vs. night-time, as well as the terrain, all play a major role. Good intelligence gathering from dispatch, the Reporting Party (**RP**), witnesses, the Subject themselves, and using various mapping software and or hard maps becomes key.
 1. Establish the Incident Command Post (**ICP**) with a designated and fixed location. Request an 'Inaccessible Person Rescue' assignment if not already dispatched.
 2. Establish a staging area early, the location may need to be remote of the ICP. ICS 211. The ICS Form 211 can be a valuable tool for the Staging Officer to assist in collecting assets on scene.
 3. Assign an Incident Safety Officer (**ISO**) and a Rescue Group Supervisor/Branch Director with Technical Safety Officer (**TSO**) if warranted.
 4. Gather intelligence and have dispatch attempt a **REBID** of the subject's location via their cell phone. If the **RP** has the subject's cellphone number, a texted Live-Tracking Link can be sent via CalTopo. If the subject's location was obtained via RAPIDSOS/what3words, convert the words to coordinates to plot on the map. To do this open the What3words app, click the menu button in the upper left of the screen, tap display settings, and select decimal degrees. Either locating method should then be plotted in CalTopo. In addition to the REBID, the following can be key for good intel:

- a. Dispatch information
 - b. The Reporting Party (**RP**)
 - c. Witnesses
 - d. The subject(s) of the operation
 - e. Mapping software/hard maps
 - f. Local residents' knowledge/familiarity of the area
 - g. Gather trail maps/pre-plans of the area via CalTopo. Designate someone to manage the CalTopo data and research to assist the IC. When possible, obtain the Point Last Scene (**PLS**) or Last Known Point (**LKP**) and the Initial Planning Point (**IPP**) and put them into the map. There may be multiple PLS's and LKP's but only one IPP. Note the date and time of the PLS's and LKP's.
 - h. Brief all personnel with vital statistics about the subject.
 - i. Establish Level II accountability and collect all PAT tags at all points of entry. Consider multiple accountability officers. CALTopo should be used to provide live digital tracking of teams deployed. Ideally one individual from each team provides tracks.
 - j. Establish and deploy Search Teams, with a minimum of 2 personnel per team, based on search level: Hasty, Tight Grid, and Loose Grid.
 - k. Ensure the Hasty teams communicate intel/CAB reports (Conditions/Actions/Needs) back to command and CALTopo, such as hazards, conditions, and any items found during the search.
 - l. Continue to refine the search and adjust based on continuous intelligence.
 - m. Ensure accountability checks are being conducted for deployed teams every 15 minutes.
 - n. If subject is not located by Hasty teams in a timely matter, regroup personnel and deploy grid search teams accordingly for a more thorough search.
5. Ascertain projected weather/sunset and plan ahead. Recheck weather conditions every 60 minutes.
 6. Resources: Assess the on-scene capabilities, the need for additional resources, and request them. This may include: ATR30, DECON 30, ATVs, Swiftwater Teams, Dive Teams, Aircraft for Search & Rescue, Boats, Law Enforcement, K-9 Teams, MSP Search Manager, Natural Resources Police if the incident is in a State Park, Baltimore City Environmental PD for reservoirs, and Mutual Aid Special Ops Teams. Considering that Swiftwater Teams are trained and equipped for SAR, it may be easier to search, access, and extricate the Subject by boat if a waterway is involved. Staging an ATV with litter capabilities as a dedicated RIT Team is always suggested. Use of UAS/Drones may be effective for search and rescue operations. **ONLY**

LICENSED PILOTS SHOULD FLY UAS/DRONES DURING SAR OPERATIONS.

7. **Communication Considerations:** If having issues with radios being able to transmit, two options are available:
 - a. Utilizing a Talk-Around channel (line of sight) may have to use multiple relay radios.
 - b. Utilize Maryland First Responder Radio System Team (FIRST). Request that dispatch obtains a TAC Channel from MJOC on the MD FIRST System
- B. **Access:** Once information and intelligence have been gathered and an IAP developed, it is time to move into the **Rescue Phase** of the search. It is counterproductive to blindly send resources into the environment, so it becomes imperative that an IAP is established, and all personnel are briefed. Command and the planning section should begin to develop a Rescue Action Plan (**RAP**). Access is based on locating the subject and gaining access to the subject – down a cliff, in a tree, stuck in a cave or under a rock, etc. Need to determine how to access them.
- C. **Stabilization:** Once crews have gained access/located the subject, ensure that the subject and/or the location are stabilized. This may necessitate additional resources such as rescue assets, rope rescue teams, BLS/ALS providers, or Police.
 1. Ascertain and document the location on the subject, Latitude-Longitude (Decimal Degrees, DD), and plot on CalTopo map.
 2. Have communications mark the time of subject contact.
 3. Brief all units of the subject's location to ensure additional assets can be guided to the subject.
 4. Ascertain the subject's status:
 - a. Mobility
 - b. Priority Level and injuries. If priority 4, request police assistance.
 - c. Ascertain additional assets that may be needed for rescue/extrication.
 - d. Ascertain the trail conditions and if a litter wheel or ATV would be applicable.
 - e. Ensure appropriate medical gear is sufficient for the subject's conditions and environment.
- D. **Extricate:** This phase of the operation can range from simple to complex. Nighttime conditions will always make this a complex extrication. The need for additional trained personnel and equipment are often underestimated by the crews who have gained access. The staging of trained personnel and rescue equipment is key for the prompt deployment of assets.
 1. Activate the RAP if warranted.
 2. Ensure there is a designated Leader for the Extrication Group.

3. Ensure the lowest risk method to the subject and the crew for extrication is considered.
 4. Request an approximate ETA of extrication to the “Hard Road.”
 5. Advise the Extrication Group to communicate to the IC when they are en-route to the “Hard Road.”
 6. Conduct a PAR when all personnel are leaving the extrication site en-route to the “Hard Road.”
 7. Continue accountability checks on all personnel in the environment every 15 minutes
- E. **Responder Accountability:** Accountability involves a personal commitment to work within the safety system at an incident. It will be everyone’s responsibility to keep their supervisors informed of their activities and location. Freelancing of activities will not be permitted and can lead to individuals becoming injured or lost in the environment.
1. **Track all Teams deployed via CALTopo mapping software.**
 2. Once all crews are out of the environment conduct a PAR.
 3. Have all crews that were actively engaged in rescue report to medical rehab.
 4. Begin the demobilization process.

VI. DEMOBILIZATION

Once the search/rescue/recovery/ is complete, the Rescue Group Supervisor/Branch Director and the Safety Officer shall confer with the Incident Commander as to an appropriate demobilization plan.

- A. Assure that all information gathered from the incident has been properly documented, and all forms are completed and turned into the Incident Commander.
- B. Follow-up and information passed on to the appropriate agency. (i.e., CCSO, MSP, Natural Resources Police, Department of Natural Resources, Baltimore City Environmental Police, County Police, etc.)
- C. A complete inventory of all equipment used is accounted for, and any items lost or damaged are documented.
- D. Assure that initial steps are underway for the proper decontamination of all personnel and equipment if warranted.
- E. Adjust Pre-Plans/Mapping Markers to reflect any new pertinent information.
- F. **Turn off all Live-Tracking devices in CalTopo.**

VII. COMMUNICATIONS RESPONSIBILITIES

Once determined by PROQA questions that the caller's emergency meets the criteria for an inaccessible person rescue response the following shall occur:

- A. Communications personnel shall access the appropriate map to begin the documentation process. To access the maps, go to www.caltopo.com/map.html
- B. Click the login button and select the email provider you created your account with, login to CALTopo and click on the MY Data button
- C. There has been a default map created for each battalion it is saved in a folder CCDFEMS xxxx Incidents. Double click on the battalion map where the incident is located.
- D. Add pertinent dispatch information to the working map:
 1. Dispatched call location 
 2. Rebid Location(s) 
 3. Additional Caller Location 
- E. Once a team has deployed start the IDR clock and prompt command every 15 minutes until all crews are back at the command post or until the IC discontinues the IDR.

IV. RESCISION

This Standard Operating Procedure rescinds all directives regarding Inaccessible Person Rescue or similar content previously issued for personnel of the Carroll County Department of Fire & EMS.

V. RELATED STANDARD OPERATING PROCEDURES / DOCUMENTS

N/A

VI. ATTACHMENTS

Appendix

APPENDIX



CARROLL COUNTY DEPT FIRE / EMS Inaccessible Person Rescue Pre-Plan



Rescue Pre-Plan

Box

Purpose:

Sartopo Map Link:

Location and Area:

GPS Coordinates:

Rescuer Hazards:

Initial Assignment: Inaccessible Person Rescue

1-OPS 101, SAFETY 100, 1-Engine, 1-Truck or Squad (Closest), 1- Medic, 1- EMS Car, 1- ATV

Contact Numbers:

Communication Considerations:

- If having issues with radios being able to transmit, 2 options are available
 - utilize talk around channel B15 FIRE TA (line of sight) may have to use multiple relay radios
 - Utilize MD FIRST NET channel MD FIRST CALL
 - Procedures for requesting FIRST NET channel switch radio to zone MD FIRST (MD CALL)
 - Call MJOC and identify yourself (Carroll County Chief 2 to MJOC)
 - Request a tactical channel for your incident type
 - MJOC will ask if you need the channel encrypted
 - MJOC will assign a tactical channel to switch to for operations
 - MJOC will ask for a point of contact phone number
 - The FIRST NET tactical channel will be assigned to your operations you will have to call MJOC at the conclusion of your operation to release the channel.
 - On all mutual aid responses the FIRST NET channel should be utilized for interoperability

Equipment Considerations:

Positioning/ Approach/ Staging:

FIELD OPERATIONS

Carroll DFEMS CALTOPO TAC GUIDE

SCENE CHECKLIST

911 Call Received (Communications)

- ☐ Plot CAD verified incident location. 
- ☐ Perform & plot rebid (Manual Rebid & SMS Tool). 

Pre-Arrival (Field Operations)

- ☐ Pre-Arrival Survey (Review Map Data/Preplans)

Initial Arrival (Field Operations)

- ☐ Establish Command & Place Designated Map 
- ☐ Establish Staging & Place Designated Map 
- ☐ Gather pertinent incident background information & details
- ☐ Develop Incident Action Plan/ Rescue Action Plan
- ☐ Designate Safety Officer/Rescue Branch/Situation Unit Leader

On Scene (Field Operations)

- ☐ Level 2 Accountability Established?
- ☐ Verification All Teams Being Deployed Are Utilizing "Share Location" function.
- ☐ Deploy Resources (min 2 Personnel per team)
- ☐ Obtain Updates & Re-evaluate As Needed

Demobilization (Field Operations)

- ☐ Conduct PAR to verify all personnel on back on "Hard Road".
- ☐ Assess for any decontamination needs. Document any damaged or missing equipment.
- ☐ **ENSURE ALL PERSONNEL TURN OFF "SHARE LOCATION" FUNCTION PRIOR TO LEAVING SCENE**

INCIDENT ACTION PLAN/RAP

L-A-S-E-R

- ☐ - LOCATE
- ☐ - ACCESS
- ☐ - STABILIZE
- ☐ - EXTRICATE
- ☐ - RESPONDER ACCOUNTABILITY

ADDING MAP MARKER

Click the  button under "Map Object" located on the left column

Click the  button to open the add marker information box

NOTE

Label – A Brief Title for Marker

Comments – Specific Details & Time Placed

Style – Icon Selection

Label	
Comments	
Coordinates	<input ,="" -76°39'21"="" type="text" value="39°36'51"/> WGS84
Folder	Markers 
Size	Normal 
Style	
Color	
Orientation	N/A
Cancel OK	

FIELD OPERATIONS

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PLOT INCIDENT LOCATION

Manually place the map marker  at the CAD Verified Address.

*****DO NOT USE THE
ADDRESS SEARCH
LINE ON THE MAP
UNLESS LAST RESORT**

Label	Dispatched Location
Comments	3800 Loch Raven Drive
Coordinates	39.42595, -76.54466
Folder	Markers
Size	Large (2x)
Style	Color
Orientation	N/A



PLACING REBID MARKER

Manually place the  map marker at the Rebid Locations.

PRIMARY METHOD

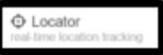
Utilize the SMS Tool Feature to send a text msg to the mobile phone of the rebid target (should auto populate map). Dot will appear for live tracking, dot cannot be changed – drop marker on point to mark spot if communication lost. Drop a REBID marker on the initial tracking dot.

SECONDARY METHOD

Have 911 perform REBID to get the coordinates of the phone target and manually add a rebid icon at those coordinates.



SMS TOOL FUNCTION

Click on the  button to open the ADD LOCATOR options. Select the **SMS Locator** option.

Fill out SMS Box: Must be Labeled Victim Rebid & Include the specific message. Then click OK.

SMS Locator

Send someone a text message in order to record their location on the map. Their phone will need a web browser a

Label	Victim Rebid	Name shown on the map
Target Phone #	911-867-5309	eg: 530-555-0123
Message	This is the Fire Department, open this link so we may locate you. (80 char max)	

ICON QUICK REFERENCE



-DISPATCHED LOCATION



-ADDITIONAL CALLER



-STAGING



-COMMAND POST



-REBID LOCATION

FIELD OPERATIONS

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SHARE LOCATION

-  - PRESS located lower right hand corner
-  - PRESS "SHARE LOCATION" ICON
- FILL OUT Location Sharing Box & SELECT CCoDFEMS 2024 Incident
- PRESS "START SHARING"
- ***SHARE LOCATION SHOULD***
TURN BLUE WHEN ENABLED

Location Sharing

Display Name: E60 Patrylak Color: 

Share Location With: ☒ BCoFD 2023 Incidents

Cancel Start Sharing

Display Name = (Unit ID)(Last Name)

STOP SHARING LOCATION

-  - PRESS located lower right hand corner
-  - PRESS "SHARE LOCATION" ICON
- UNSELECT checked blue box (BCoFD 2023 Incidents)
- PRESS "STOP SHARING" ICON

Location Sharing

Display Name: E60 Patrylak Color: 

Share Location With: ☐ BCoFD 2023 Incidents

Cancel Stop Sharing

MOBILE DEVICES

CHANGE MAPS

CLICK on the  located in the upper left of the screen. Then CLICK on "BCoFD 2023 Incident Maps" – select the appropriate map that you wish you operate on.

EXIT MAP COMPLETELY (TO FRESH NEW MAP)

CLICK on the  located in the upper left of the screen. Then CLICK on  Close Map

ADD MAP MARKER

CLICK on the  and select the type of "MAP ITEM" you wish to add to the map.

ACCESS MAP ITEMS ALREADY PLOTTED (AND PREPLANS)

CLICK on the  and activate the folder or marker you wish to access. By directly clicking on a specific marker you can be taken directly to it's location on the map.

ACCESS MAP LAYERS

CLICK on the  and select the layer for which you want to view, turn on, or turn off.

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FIELD OPERATIONS

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TURN RECORD TRACK ON/OFF

TURN ON

CLICK on the specific personnel "SHARE LOCATION" marker on the map. (Left Click if using mouse)

CLICK "Record to Map" to turn the Record Track On.

Track Details

Device Info
Type: Shared Location
Call Sign: HCVHTK011TB1

Track Attributes
Label: Live Tracks
Folder: Live Tracks
Line Weight: 1
Color: Red
Line Opacity: Solid

TO REMOVE TRACK

To remove track created CLICK on it and then select delete.

E60 Patrylak
5/31/2023 4:06:35 PM
39°39.786', -76°13.690'
18S 0394649E 4391087N

Edit
Truncate Here
Copy
Delete

THIS FUNCTION SHOULD ONLY BE USED BY INCIDENT COMMAND POST – RECORD TRACK SHOULD NOT BE ENABLED BY PERSONNEL OPERATING IN THE FIELD.

ACCESSING MAPS DESKTOP/TABLETS

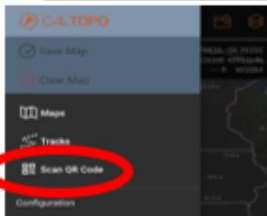
- Once Logged into CALTOPO CLICK **Your Data** located in the upper right corner.
- On the "Your Data" Page you will see a MAPS SAVED TO drop down box. Click the drop down box and select CCDFEMS 2024 Incidents.

Maps Saved to **CCDFEMS 2024 INCIDENTS**

- All available BCoFD maps will now populate the screen, select the map for which you want to operate on.
*****REMEMBER*** UNLESS OTHERWISE DIRECTED – INCIDENT MAP DEPENDS ON DISPATCHED BOX AREA. EXAMPLE: 2-25 BOX = 1st BATTALION INCIDENT MAP**



OUT OF COUNTY UNITS



EXISTING ACCOUNT

When an incident has outside agencies responding (MUTUAL AID) they can join BCoFD CALTOPO by:

- SCAN QR under their menu if they have a registered account.
- Join Via Guest Account Option



GUEST ACCOUNT



Carroll County Department of Fire / Emergency Medical Services

CalTopo QR Codes

1ST Battalion Working Incident Map (Stations 2,3,4,7,9)

CalTopo Map



68A1S - Update

2nd Battalion Working Incident Map (Stations 5,6,8,10,11)

CalTopo Map



G2RNB - Update

3rd Battalion Working Incident Map (Stations 1,12,13,14)

CalTopo Map



D1LME - Update