

## **Enclosure (1)**

# **Coast Guard Emergency Support Function (ESF) #9/Catastrophic Incident Search and Rescue (CISAR) Policy**



**June 2018**

## Enclosure (1): Coast Guard CISAR Policy

### References

---

- (a) Emergency Support Function #9 – Search and Rescue Annex
- (b) National Response Framework (2016)
- (c) Catastrophic Incident Search and Rescue Addendum to the United States National Search and Supplement to the International Aeronautical and Maritime Search and Rescue Manual (2012)
- (d) National Search and Rescue Plan of the United States (2016)
- (e) Saving Life and Property, 14 U.S.C. § 88
- (f) Cooperation With Other Agencies, States, Territories, and Political Subdivisions, 14 U.S.C. § 141
- (g) National Search and Rescue Supplement to the International Aeronautical and Maritime Search and Rescue Manual
- (h) The U.S. Coast Guard Addendum to the United States National Search and Rescue Supplement (NSS) to the International Aeronautical and Maritime Search and Rescue (IAMSAR) Manual, COMDTINST M16130.2F
- (i) International Convention on Maritime Search and Rescue (1979)
- (j) Convention on International Civil Aviation, Annex 12 – Search and Rescue
- (k) Coast Guard Incident Management Handbook, COMDTPUB P3120.17 (series)
- (l) Convention on International Civil Aviation, Annex 12 – Search and Rescue
- (m) Robert T. Stafford Disaster Relief and Emergency Assistance Act, Public Law 93-288 (codified as amended at 42 U.S.C. § 5121 *et seq.*)
- (n) Financial Resource Management Manual, COMDTINST M7100.3 (series)
- (o) FEMA Mission Assignment Guide, 2017

## Enclosure (1): Coast Guard CISAR Policy

### Section 1: Catastrophic Incident Search and Rescue (CISAR)

---

#### 1. Overview.

- a. CISAR consists of SAR operations carried out as all or part of the response to an emergency or disaster declared by the President, under provisions of references (a) and (b).
- b. The nature of CISAR could range from limited SAR operations (e.g., limited number of persons in distress) to the conduct of Mass Rescue Operations (MRO).
- c. For an incident to be identified as CISAR:
  - (1) The response is associated with a Presidential Declaration; and
  - (2) Reference (a) is activated.

#### 2. Catastrophic Incident Search and Rescue (CISAR) Addendum to the National Search and Rescue Supplement (NSS) to the International Aeronautical and Maritime Search and Rescue (IAMSAR) Manual (Reference (c)).

- a. There are many different Federal, State, Tribal, Territorial/Insular Area, and local SAR response cultures, each with unique capabilities, terminology, and responsibilities. During a catastrophic incident, the Coast Guard, Department of Defense (DoD), National Park Service (NPS), and the Federal Emergency Management Agency (FEMA) may conduct multi-agency CISAR operations together in support of a unified command.
- b. Reference (c) was developed to provide a common overarching framework for Federal SAR services on the interagency planning, management, and conduct of CISAR operations. It is an invaluable resource for Area and District SAR Coordinators, Sector Commanders, and Coast Guard SAR units in the conduct of CISAR operations. Reference (c):
  - (1) Helps to resolve differences and define relationships between Federal Agencies under references (a) and (b), SC responsibilities under reference (d), and Incident Commander responsibilities under the National Incident Management System (NIMS);
  - (2) Provides universal CISAR terminology and guidance that would apply in a multi-agency CISAR response in a catastrophic incident;
  - (3) Highlights the coordination required between the Federal SAR authorities and FEMA Regions, States, Tribes, Territories/Insular Areas responsible for SAR support (e.g., logistics support, animal rescue, body recovery, etc.); and
  - (4) Standardizes CISAR geo-referencing.

#### 3. Application.

- a. In a disaster, the affected State, Tribe, Territory/Insular Area normally assumes responsibility for the SAR response. Each SAR authority may have different SAR capabilities and response

## Enclosure (1): Coast Guard CISAR Policy

plans—some SAR authorities are better prepared and equipped to conduct CISAR operations than others.

- b. Area and District SC and Sector Commander coordination and planning with their respective SAR authority partners before an incident occurs helps to improve coordination, cooperation, timeliness, and effectiveness of a unified response when a CISAR operation is conducted.

### 4. CISAR Policy.

---

- a. *Per references (e) and (f) and in support of references (a), (b), and (d), Area and District SCs and Sector Commanders are authorized to coordinate and conduct CISAR operations.*
- b. *Area and District SCs and Sector Commanders shall review and be familiar with references (a), (b), and (c).*
- c. *Area and District SCs and Sector Commanders shall use reference (c) as an additional reference for the planning, coordination, and conduct of Coast Guard CISAR operations.*
- d. *Area and District SCs and Sector Commanders shall plan for the conduct of Coast Guard CISAR operations with appropriate FEMA Region and State, Tribal, Territorial/Insular Area, and local SAR authorities within their respective aeronautical and maritime SRRs and Sector AORs.*
- e. *References (d), (g), (h), and this policy shall remain in effect during the conduct of CISAR operations.*
- f. *Coast Guard SAR units conducting CISAR operations are authorized to support the incident command, coordinating the response under NIMS/ICS.*
- g. *If CISAR operations are conducted under reference (a), then reference (c) shall apply. Reference (c) shall support Coast Guard CISAR operations, but not supplant reference (h) and this policy.*
- h. *During the conduct of CISAR operations, the Coast Guard shall initially consider an isolated person in the alert phase.*

*(Note: Per reference (c), in an ESF #9 incident only, an isolated person is any non-distress person or persons stranded within a specific area or residence by incident conditions where immediate assistance is not determined to be required.)*

- i. *During the conduct of CISAR operations, when in receipt of notification of a possible person in distress, the Coast Guard, in coordination with other SAR authorities, as required, shall determine whether the notification is in the alert phase or distress phase. Prioritization, coordination, and conduct of the CISAR operation shall be based on this determination.*

*(Note: In non-CISAR operations, when the Coast Guard is in receipt of notification of a person in distress, the SMC initially classifies the incident as in the distress phase (i.e., the person making the notification makes the distress determination). As additional information is obtained and based on*

## **Enclosure (1): Coast Guard CISAR Policy**

*the circumstances of the incident, this initial assessment can be reevaluated and reclassified to another emergency phase. By comparison, a CISAR operation may include an MRO in which a large number of persons are in distress. With limited available CISAR resources, Coast Guard personnel, units, and other CISAR responders must be able to effectively evaluate the distress notification and determine if the person making the notification is in grave and imminent danger and requiring immediate assistance (distress phase), or if apprehension exists as to the person's safety (alert phase). This evaluation is necessary so that Coast Guard units, personnel, and other CISAR responders are able to effectively provide immediate assistance with limited resources to life-threatening situations first. However, a person considered in the alert phase may need to be reclassified to the distress phase as the incident progresses, or the person's medical condition, environment, or other on scene circumstance change. Bottom line: Coast Guard units, personnel, and other CISAR responders cannot ignore persons considered in the alert phase.)*

- j. Per reference (d), Coast Guard SAR operations in Area and District aeronautical and maritime SRRs and in Sector AORs, not in support of a CISAR operation, shall continue to be coordinated and conducted as detailed in this policy and references (h) through (l).***
- k. In a CISAR operation, the Coast Guard shall maintain and operate telecommunication capabilities to receive notification from persons in distress.***
- l. Per reference (h), the Coast Guard shall claim SAR cases for all CISAR operations conducted.***

## Enclosure (1): Coast Guard CISAR Policy

### Section 2: Emergency Support Functions (ESFs)

---

#### 1. Overview.

- a. The Federal Government and many State, Tribal, Territorial/Insular Area governments organize their resources and capabilities, as well as those of certain private-sector and nongovernmental organizations, under 14 ESF Annexes:
  - (1) ESF #1 – Transportation.
  - (2) ESF #2 – Communications.
  - (3) ESF #3 – Public Works and Engineering.
  - (4) ESF #4 – Firefighting.
  - (5) ESF #5 – Information and Planning.
  - (6) ESF #6 – Mass Care, Emergency Assistance, Temporary Housing, and Human Services.
  - (7) ESF #7 – Logistics.
  - (8) ESF #8 – Public Health and Medical Services.
  - (9) ESF #9 – Search and Rescue.
  - (10) ESF #10 – Oil and Hazardous Materials Response.
  - (11) ESF #11 – Agriculture and Natural Resources.
  - (12) ESF #12 – Energy.
  - (13) ESF #13 – Public Safety and Security.
  - (14) ESF #15 – External Affairs.
- b. ESFs are a critical mechanism to coordinate functional capabilities and resources provided by Federal Departments and Agencies, along with certain private-sector companies and NGOs.
- c. ESFs may be selectively activated for both Stafford Act and non-Stafford Act incidents where State, Tribal, or Territorial/Insular Area authorities request Federal assistance.

#### 2. ESF Primary Agency.

- a. An ESF Primary Agency (PA) is a Federal Agency with significant authorities, roles, resources, or capabilities for a particular function within an ESF. A Federal Agency designated as an ESF PA serves as a Federal executive agent under the Federal Coordinating Officer (or Federal Resource Coordinator for non-Stafford Act incidents) to accomplish the ESF mission.

## Enclosure (1): Coast Guard CISAR Policy

- b. When an ESF is activated in response to an incident, the PA is responsible for:
- (1) Supporting the ESF Coordinator and coordinating closely with the other PAs and Supporting Agencies (SAs).
  - (2) Orchestrating Federal support within their functional area for an affected State.
  - (3) Providing staff for the operations functions at fixed and field facilities.
  - (4) Notifying and requesting assistance from SAs.
  - (5) Managing their respective Mission Assignments (MAs).
  - (6) Coordinating with SAs, as well as appropriate State officials, operations centers, and agencies.
  - (7) Working with appropriate private-sector organizations to maximize use of all available resources.
  - (8) Supporting and keeping other ESFs and organizational elements informed of ESF operational priorities and activities.
  - (9) Conducting situational and periodic readiness assessments.
  - (10) Executing contracts and procuring goods and services as needed.
  - (11) Ensuring financial and property accountability for ESF activities.
  - (12) Planning for short and long-term incident management and recovery operations.
  - (13) Maintaining trained personnel to support interagency emergency response and support teams.
  - (14) Identifying new equipment or capabilities required to prevent or respond to new or emerging threats and hazards, or to improve the ability to address existing threats.

## Enclosure (1): Coast Guard CISAR Policy

### Section 3: ESF #9 – Search and Rescue

---

#### 1. Overview.

- a. Reference (a) is the means in which Coast Guard SAR units are provided to assist a FEMA Region, or State, Tribe, Territory/Insular Area SAR authority requesting Federal SAR assistance.
- b. During incidents or potential incidents requiring a unified SAR response, Federal SAR responsibilities reside with ESF #9 PAs that provide timely and specialized SAR capabilities. SAs provide specific capabilities or resources that support reference (a). In summary, reference (a):
  - (1) Assigns the process in which Federal SAR facilities are deployed to support FEMA Regions, and State, Tribal, Territorial/Insular Area, and local SAR authorities when there is an actual or anticipated request for Federal SAR assistance.
  - (2) Is scalable to meet the specific requirements of each incident, based upon the nature and magnitude of the event, the suddenness of onset, and the availability of existing SAR facilities supporting the response. Federal SAR facilities are drawn from ESF #9 PAs and SAs.
  - (3) Is divided into three operational environments with PAs assigned for each environment:
    - (a) Structural Collapse (Urban) SAR (US&R).
      1. PA: Department of Homeland Security (DHS)/Federal Emergency Management Agency (FEMA).
      2. US&R includes operations for natural and manmade disasters and catastrophic incidents, as well as other structural collapse operations that primarily require FEMA US&R task force operations.
    - (b) Maritime/Coastal/Waterborne SAR.
      1. PA: DHS/U.S. Coast Guard.
      2. Maritime/coastal/waterborne SAR includes operations for natural and manmade disasters that primarily require Coast Guard air, cutter, boat, and response team operations.
    - (c) Land SAR.
      1. PAs: Department of the Interior (DOI)/National Park Service (NPS); Department of Defense (DoD).
      2. Land SAR includes operations that require aviation and ground forces to meet mission objectives, other than maritime/coastal/waterborne and structural collapse SAR operations.



## Enclosure (1): Coast Guard CISAR Policy

c. ESF #9 Coordinator.

- (1) DHS/FEMA is designated the ESF #9 Coordinator and is responsible for ESF #9 management and oversight.
- (2) For every incident, the ESF #9 Coordinator assesses the specific SAR requirements and assigns one of the four PAs as the Overall Primary Agency (OPA) for that particular incident. Designation is dependent upon incident circumstances and the type of response required.

### 2. Application.

- a. Because ESF #9 has four PAs for three different SAR environments, coordinating which PA provides the requested SAR resources to a FEMA Region, State, Tribe, or Territory/Insular Area can be a challenge. Based on the SAR environment, the ESF #9 Coordinator may designate the Coast Guard as ESF #9 Overall Primary Agency (OPA) during an incident response.
- b. Designation as ESF #9 OPA is a coordination responsibility between the Coast Guard and the other ESF #9 PAs, FEMA, and the SAR authority requesting Federal SAR assistance.
- c. When a FEMA Region, State, Tribe, or Territory/Insular Area requests Federal SAR support, the ESF #9 OPA receives the request and determines, in consultation with the other ESF #9 PAs, which PA provides the requested resources.
- d. Important ESF #9 OPA considerations include the following:
  - (1) ESF#9 Federal SAR facilities operate in support of the FEMA Region, State, Tribe, or Territory/Insular Area requesting the support.
  - (2) When Federal SAR facilities are requested by a FEMA Region, State, Tribe, or Territory/Insular Area, reference (c) provides operational guidance during the CISAR operation.
  - (3) Anticipate only having a 72-96 hour window to conduct CISAR operations.
  - (4) Federal SAR facilities contracted to a requesting SAR authority under a Mission Assignment (MA) continue to follow Agency specific policies, procedures, and doctrine in the conduct of CISAR operations.

### 3. ESF #9 – Search and Rescue Policy.

---

- a. *Per reference (a), the Coast Guard is designated ESF #9 PA for maritime/coastal/waterborne SAR.*
- b. *When Federal SAR facilities are requested under ESF #9 for CISAR operations, based on the geographical location of the incident, Commanders, Atlantic or Pacific Area may be designated ESF #9 OPA for a maritime/coastal/waterborne disaster (e.g., flooding, hurricane landfall). This designation shall be made by the ESF #9 Coordinator.*

## **Enclosure (1): Coast Guard CISAR Policy**

*(Note: Designation as ESF #9 OPA is not based on whether Coast Guard SAR units are involved in the response, but solely on the type of incident.)*

*(Note: Coast Guard designation as ESF #9 OPA is based on the type of incident that has occurred (e.g., maritime, coastal, or waterborne event). For example, if flooding occurs within the continental U.S. beyond the U.S. coastal region, the Coast Guard normally is designated ESF #9 OPA because the incident is considered to be a “waterborne” incident.)*

*(Note: For hurricane landfall where there is minimal flooding, but significant structural/wind damage, the ESF #9 Coordinator may designate another ESF #9 PA to assume OPA other than the Coast Guard. However, this is the exception rather than the rule. The Coast Guard should always plan to assume ESF #9 OPA for any maritime, coastal, or waterborne incident requiring ESF #9 Federal SAR support.)*

**b. Coast Guard ESF #9 OPA responsibilities shall include the following:**

***(1) Support the ESF #9 Coordinator.***

***(2) Coordinate requested Federal SAR support with the other ESF #9 PAs and SAs.***

***(3) Notify and request assistance from ESF #9 SAs, as assigned in Reference (j).***

***(4) Coordinate tasking of Coast Guard SAR units and personnel conducting ESF #9 CISAR operations.***

***(5) Conduct ESF #9 planning with FEMA, other ESF PAs and SAs, as required.***

***(6) For each incident operating period, compile Coast Guard SAR statistics for submission to FEMA and the other ESF #9 PAs.***

**c. Area SCs shall develop policy for the coordination and conduct of ESF #9 OPA responsibilities.**

**d. Area SCs shall coordinate ESF #9 policy and activities with District SCs to ensure effective CISAR response coordination and communication.**

**e. Per reference (c) and this policy, when designated ESF #9 OPA, the Area shall coordinate the provisioning of Federal SAR facilities in support of the requesting FEMA Region or State, Tribe, Territory/Insular Area SAR authority requesting Federal SAR support.**

**f. Headquarters, Area and District SCs, and Sector Commanders preplanning between the ESF #9 PAs at the respective organizational level before an incident occurs shall be conducted to ensure effective coordination and provisioning of Coast Guard CISAR units and personnel when requested.**

**g. Headquarters, Area and District SCs, and Sector Commanders shall conduct ESF #9/CISAR planning and response preparedness activities with their respective Federal, State, Tribal,**

## **Enclosure (1): Coast Guard CISAR Policy**

***Territorial/Insular Area and local SAR authorities, as well as other local, State and regional ESF #9 PA representatives.***

*(Note: Coast Guard CISAR planning is critical before an incident occurs to set expectations and improve coordination for an effective, unified SAR response.)*

- h. For the conduct of a CISAR operation, the ESF #9 Coordinator may activate a Federal SAR Coordinator Group (FSARCG) comprised of representatives from each ESF PA to assist in coordinating the use of Federal SAR resources and information concerning the response. When activated by the ESF #9 Coordinator, the Coast Guard ESF #9 OPA shall provide a representative to the FSARCG.***
- i. Area SCs shall develop FSARCG policy, training, and identify personnel available to deploy when the FSARCG is activated by the ESF #9 Coordinator.***
- j. The Coast Guard ESF #9 OPA shall conclude Federal SAR support for a CISAR operation when the following three criteria are met:***
  - (1) No Federal ESF #9 SAR facilities are being utilized by the SAR authority that requested Federal SAR assistance;***
  - (2) The SAR authority requesting ESF #9 support no longer requires or anticipates the use of Federal SAR facilities; and***
  - (3) The Coast Guard ESF #9 OPA, in consultation with FEMA and the ESF #9 PAs, concurs with terminating Federal ESF #9 SAR support.***

## Enclosure (1): Coast Guard CISAR Policy

### Section 4: Mission Assignments (MAs)/Mission Assignment Task Orders (MATOs)

---

#### 1. Overview.

##### a. Mission Assignment (MA).

- (1) Per references (m) and (n), a MA is a work order issued by FEMA to another Federal Agency that directs the completion of a specific task (e.g., State requests Coast Guard SAR logistical support), and cites funding, managerial controls, and other requirements. A MA may or may not provide funding for the work ordered.
- (2) In general, a MA is:
  - (a) Issued leading up to and during the emergency response phase of an incident in anticipation of, or in response to, a presidential declaration of an emergency or major disaster;
  - (b) Involves only non-permanent work;
  - (c) Capitalizes on the unique resources of a Federal Agency; and
  - (d) Is directive in nature.
- (3) FEMA may issue a MA to any Federal Agency, with or without reimbursement, in support of disaster relief efforts. The FEMA Disaster Relief Fund (DRF) is a funding source available to Federal Agencies to seek reimbursement for activities conducted pursuant to these actions.
- (4) ESF #9 PAs providing SAR facilities during a CISAR response may be issued a MA for the provisioning of that support.

##### b. Mission Assignment Task Order (MATO).

- (1) A MATO is a specific task associated within a MA.
- (2) MATOs may be issued for specific personnel, requirements, locations, dates, logistics, duration of assignments, etc.

#### 2. ESF #9 Mission Assignment Policy.

---

- a. *References (n) and (o) provide MA policy on reimbursement of expenses for Coast Guard support of CISAR operations.*
- b. *The Coast Guard is authorized to receive ESF #9 MAs for CISAR operations under the Stafford Act.*

*(Note: The Coast Guard is appropriated to maintain, establish, and operate lifesaving services on the high seas and navigable waters of the United States. The Coast Guard is not funded to carry out*

## Enclosure (1): Coast Guard CISAR Policy

*sustained, large-scale CISAR operations in support of FEMA, FEMA Regions, States, Tribes, Territories/Insular Areas, or other Federal Agencies.)*

- c. The Coast Guard ESF #9 OPA shall coordinate ESF #9 MAs with FEMA and the State, Tribe, or Territory/Insular Area, or other Federal Agency requesting Coast Guard CISAR support, as required.***

*(Note: Coast Guard ESF #9 MAs should normally identify the SAR tasks to be performed rather than directing the use of specific response assets. This ensures the Coast Guard retains the flexibility, in coordination with the unified command, to provide CISAR assistance while maintaining the capability to respond to SAR events in areas of Coast Guard responsibility as a Federal SC under reference (d).)*

- d. The Coast Guard will retain Tactical Control (TACON) and Operational Control (OPCON) of Coast Guard personnel and SAR units conducting CISAR operations under an ESF #9 MA, unless mutually agreed upon by the Coast Guard and the receiving agency.***
- e. By agreement, circumstances may dictate that TACON of Coast Guard personnel and SAR units should be delegated to a Federal, State, Tribal, Territorial/Insular Area SAR authority, or other Federal Agency for improved CISAR operational coordination. The Area SC shall ensure adequate SAR facilities are available to render assistance to other persons, vessels, aircraft, or other craft in distress in the U.S. aeronautical and maritime SRRs.***

*(Note: FEMA recognizes the dual Coast Guard responsibilities as Federal SC under reference (d) and in support of ESF #9 CISAR operations conducted in support of FEMA under reference (m). The Coast Guard must have the flexibility to effectively coordinate and conduct SAR and CISAR concurrently.)*

- f. The Coast Guard is authorized to assign MATOs to existing MAs to support ESF #9 CISAR operations. ESF #9 MATOs shall be coordinated with FEMA, FEMA Region, State, Tribe, Territory/Insular Area, or other Federal Agency requesting Coast Guard SAR unit support.***
- g. The Coast Guard may accept or decline a MATO from FEMA, FEMA Region, State, Tribe, Territory/Insular Area, or other Federal Agency requesting Coast Guard SAR unit support.***

*(Note: For example, the Coast Guard may need to reject an ESF #9 MATO to conduct other SAR missions of a higher lifesaving priority not directly associated with ongoing CISAR operations (e.g., SAR offshore). If a MATO is declined, the Coast Guard should pursue the provisioning of other resources either within the Coast Guard or with the other ESF #9 Primary Agencies to support the request.)*

- h. Per reference (n), the Coast Guard ESF #9 OPA shall track and compile expenses associated with CISAR logistical support provided via ESF #9 MA for reimbursement.***
- i. Per reference (m), the Coast Guard ESF #9 OPA shall track and compile expenses associated with Coast Guard personnel and SAR unit expenses provided via ESF #9 MA for reimbursement.***

## Enclosure (1): Coast Guard CISAR Policy

- j. The Coast Guard ESF #9 OPA shall track and compile Coast Guard logistical, personnel, and SAR unit expenses associated with CISAR operations that may be provided through supplemental appropriations.*
- k. Per reference (m), the Coast Guard is authorized to seek reimbursement through ESF #9 MAs for CISAR personnel, logistics, and operational costs, including, but not limited to, the following personnel, capabilities, and services expenses:*
  - (1) The establishment, operation, and support of forward operating bases for ESF #9 personnel and units;*
  - (2) Coast Guard personnel logistics, including travel and per diem costs;*
  - (3) Coast Guard SAR unit (e.g., helicopters, fixed wing aircraft, boats, etc.) operational, maintenance, and support costs; and*
  - (4) Any costs associated with the transportation of Coast Guard and other ESF #9 personnel, SAR facilities, or capabilities.*

## Enclosure (1): Coast Guard CISAR Policy

### Section 5: Geo-Referencing During SAR and CISAR Operations

---

#### 1. Overview.

- a. No single map/chart projection or coordinate/grid system is perfect for all applications. In the case of projecting the earth's curved surface on a flat surface, distortion of one or more features occurs.
- b. In the aftermath of Hurricane Katrina and other maritime disasters, the review of the Federal, State, Tribal, Territorial/Insular Area, and local SAR operations found that SAR agencies used different methods to communicate geographic information. This added confusion and complexity to large-scale CISAR operations. Three primary issues were identified:
  - (1) How do Coast Guard and other CISAR responders navigate when landmarks such as street signs and homes are destroyed?
  - (2) How do Coast Guard and other CISAR responders communicate position in a common language?
  - (3) Resource de-confliction: the ability to ensure limited assets are not inappropriately operating in the same area, which can be a significant problem for CISAR responders.

#### 2. Geo-Referencing Methods. Per reference (c), two geo-referencing methods are routinely used for CISAR operations in the U.S.:<sup>1</sup>

- a. U.S. National Grid (USNG).
  - (1) USNG is intended to create a more interoperable environment for developing location-based services within the U.S. and to increase the interoperability of location services appliances with printed map products by establishing a preferred nationally consistent grid reference system.
  - (2) The USNG:
    - (a) Is the primary geo-referencing system utilized by most State/local fire/rescue and FEMA Urban Search and Rescue (US&R) teams.
    - (b) Can be extended for use world-wide as a universal grid reference system, and can be easily plotted on U.S. Geologic Survey (USGS) topographic maps by using a simple "read right, then up" method.

---

<sup>1</sup> Reference (c) identifies three different geo-referencing methods used for CISAR operations. The third method is the Global Area Reference System (GARS). For the purposes of this policy, GARS is not normally used by Coast Guard CISAR responders for the coordination and conduct of ESF #9/CISAR operations.

## Enclosure (1): Coast Guard CISAR Policy

- (c) Coordinates are easily translated to distance, as they are in meters. Thus, the distance between two coordinates can quickly be determined in the field.
  - (d) Can be used for area gridding, as well as for pinpoint locations.
- (3) Appendix A provides an overview of how to read USNG coordinates.
- b. Latitude/Longitude.
- (1) Latitude/longitude is a geographic coordinate system used for locating positions on the Earth's surface.
- (a) Lines of latitude are horizontal lines shown running east-to-west on maps and are known as "parallels," due to being parallel to the equator. Latitude is measured north and south ranging from 0° at the Equator to 90° at the poles (90° N for the North Pole and 90° S for the South Pole).
  - (b) Lines of longitude are vertical lines shown running north and south on maps and are known as "Meridians," intersecting at the poles. Longitude is measured east and west ranging from 0° at the prime meridian to +180° East and -180° West (Figure 2-11-3 below).
- (2) Latitude/longitude can usually be read and written in three different formats:
- (a) Degrees, Minutes, Decimal Minutes (DD° MM.mm').
  - (b) Degrees, Decimal Degrees (DD.DDDD°).
  - (c) Degrees, Minutes, Seconds (DD° MM' SS").
- (3) Per reference (c), the standard latitude/longitude format for CISAR operations is Degrees, Minutes, Decimal Minutes (DD° MM.mm').
- (4) Reference (c) standardized verbalizing latitude/longitude. For example:
- (a) 39° 36.06'N 76° 51.42'W, should be stated as:  
  
*"Three nine degrees, three six decimal zero six minutes North; seven six degrees, five one decimal four two minutes West."*
  - (b) The words, "degrees," "minutes," and "decimal" are spoken.

### 3. Geo-Referencing Matrix during CISAR Operations.

- a. Coast Guard personnel and SAR units, as well as other CISAR responders, need to be able easily interface between the Incident Command, land, aeronautical, and maritime CISAR responders. Because each has unique geo-referencing requirements, effective interface between each component is vital to an effectively coordinated CISAR response.



## Enclosure (1): Coast Guard CISAR Policy

- b. Per reference (c), the geo-referencing matrix (Table 1) minimizes confusion and provides a basis for coordinating geo-referencing systems between CISAR responders.

<b>Table 1: CISAR Geo-referencing Matrix</b>		
<b>Geo-reference System User</b>	<b>U.S. National Grid (USNG)</b>	<b>Latitude/Longitude DD°-MM.mm' (Note 1)</b>
<b>Land SAR Responder (Note 2)</b>	Primary	Secondary
<b>Maritime SAR Responder (Note 3)</b>	Secondary	Primary
<b>Aeronautical SAR Responder (Note 4)</b>	Secondary	Primary
<b>Air Space Deconfliction (Note 5)</b>	N/A	Primary
<b>Land SAR Responder/Aeronautical SAR Responder Interface (Note 6)</b>	Primary	Secondary
<b>Incident Command: Air/Maritime SAR Coordination Land SAR Coordination</b>	Secondary Primary	Primary Secondary
<p><b>Note 1:</b> During CISAR operations (and to avoid confusion) latitude/longitude shall be in one standard format: DD°-MM.mm'. If required, use up to two digits to the right of the decimal. If required, allow three digits in the Degrees field for longitude (i.e., DDD°-MM.mm'). Do not use leading zeros to the left of the decimal for Degrees or Minutes that require fewer than the maximum number of possible digits to express their value. The minimum number of digits is always one, even if it is a zero. (Example: Recommended: 39° 36.6'N 76° 51.42'W; Not Recommended: 39° 36.600'N 076° 51.420'W).</p>		
<p><b>Note 2:</b> Land SAR responders use USNG; however, a good familiarity with latitude/longitude is necessary to ensure effective interface between land, maritime, and aeronautical SAR responders ("Land SAR" includes SAR on flooded terrain).</p>		
<p><b>Note 3:</b> Maritime SAR responders normally use latitude/longitude for CISAR operations; however, familiarity with USNG is necessary to ensure effective interface between maritime/land SAR responders.</p>		
<p><b>Note 4:</b> Aeronautical SAR responders normally use latitude/longitude for CISAR operations; however, familiarity with USNG is necessary to ensure effective interface between aeronautical/land SAR responders.</p>		
<p><b>Note 5:</b> Air space deconfliction will only use latitude/longitude.</p>		
<p><b>Note 6:</b> Aeronautical SAR responders working with land SAR responders have the primary responsibility of coordinating SAR using USNG. However, both must be familiar with the USNG and latitude/longitude.</p>		

### 4. Application.

- a. During CISAR operations, Coast Guard personnel must to use caution in reading and receiving latitude/longitude coordinates.
- b. Based on experience, different government agencies and personnel may write and read latitude and longitude differently. Although the error may be small it can make a critical difference in a timely CISAR response.
- c. It is important to confirm the coordinates if unsure which format is being communicated.

## Enclosure (1): Coast Guard CISAR Policy

### 5. Coast Guard Geo-Referencing Policy.

---

- a. Headquarters and Area and District SCs shall ensure Coast Guard personnel and SAR units can effectively communicate position information using the U.S. National Grid during CISAR operations.*
- b. Per reference (c), the Geo-Referencing Matrix shall be utilized during interagency CISAR operations.*
- c. The Geo-Referencing Matrix may be applied during interagency non-CISAR operations.*
- d. Per reference (c), the standard latitude/longitude format for CISAR operations shall be Degrees, Minutes, and Decimal Minutes (DD° MM.mm'). This standard latitude/longitude format shall also apply for all non-CISAR operations coordinated and conducted in the U.S. aeronautical and maritime SRRs in which the Coast Guard is responsible.*

# Enclosure (1): Coast Guard CISAR Policy

## Appendix A: How to Read U.S. National Grid (USNG) Coordinates

**Background.** The Federal Geographic Data Committee's (FGDC) consensus based USNG standard provides a nationally consistent *language of location -- optimized for local applications --* for maps, Global Positioning System (GPS) receivers, and mapping web portals. It is an alpha-numeric point reference system overlaid on the Universal Transverse Mercator (UTM) numerical grid. Truncated USNG coordinates (geoaddresses) range in precision from 1,000 to 1-meter and provide universal map index values for streets and other features. USNG and Military Grid Reference (MGRS) values are identical when referenced to WGS 84 or NAD 83 datum -- USNG only uses a single 100,000-m Square Identification scheme regardless of datum. This example locates the Jefferson Pier at USNG: 18S UJ 23371 06519.

### Grid Zone Designation (GZD):

6° x 8° longitude zone / latitude band.

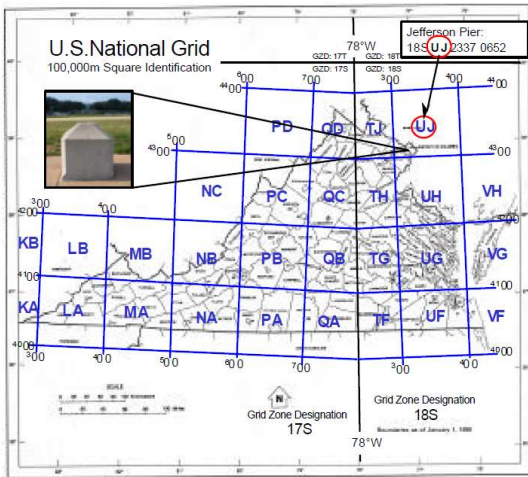
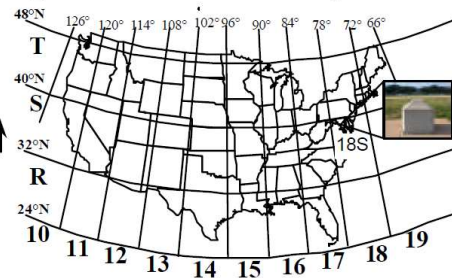
### 100,000-m Square Identification:

18S UJ 2337 0651

### Grid Coordinates:

Read *right*, then *up*

### U UTM/USNG Grid Zone Designations



Users determine the required precision. These values represent a point position (southwest corner) for an area of refinement.

- Four digits: 23 06 Locating a point within a 1,000-m square.
- Six digits: 233 065 Locating a point within a 100-m square.
- Eight digits: 2337 0651 Locating a point within a 10-m square.
- Ten digits: 23371 06519 Locating a point within a 1-m square.

Only an 8-digit grid is typically required to locate a modest size home out of a local area.

Full USNG: 18S UJ 2337 0651 - World wide unique.

- Without Grid Zone Designation (GZD): UJ 2337 0651 - Regional areas.
- Without GZD and 100,000-m Square ID: 2337 0651 - Local areas.

### Reading USNG Grid Coordinates.

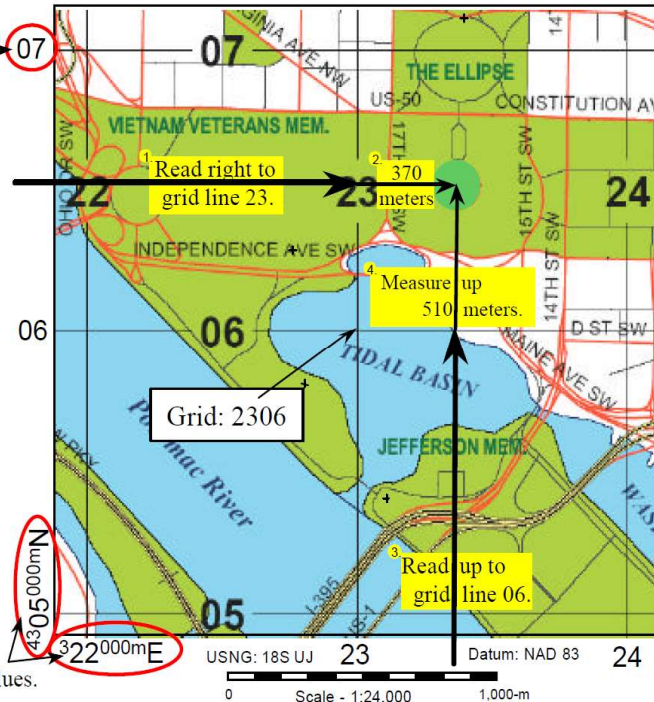
#### Principal Digits

- The UTM 10,000 and 1,000 digit values are known as Principal Digits.
- Coordinates are always given as an even number of digits (i.e. 23370651).
- Divide coordinates in half (2337 0651).

<sup>1</sup> Read right to grid line 23. <sup>2</sup> Then measure right another 370 meters. (Think 23.37)

<sup>3</sup> Read up to grid line 06. <sup>4</sup> Then measure up another 510 meters. (Think 06.51)

Grid:	Examples:
228058	FDR Memorial: +
231054	George Mason Memorial: +
2338 0710	Zero Milestone: +
2275 0628	DC War Memorial: +
213017	Ft. Scott Park:



UTM values.

Edition: 20051116 - 1Sheet\_USNGInstruct\_v2

USNG values are formally written as a single string: 18SUJ23370651 or parsed to ease viewing: 18S UJ 233065