

## **8000 Marine Fire Fighting, Salvage, and Potential Places of Refuge**

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## 8100 Marine Fire Fighting

All aspects of this ACP Plan apply to a marine fire fighting response. The following two manuals are key references on the Coast Guard's (USCG) role in marine fire fighting:

- Marine Safety Manual, Volume VI, Chapter 8, Coast Guard Fire Fighting Activities
- NFPA 1405, A Guide for Land-Based Fire Fighters Who Response To Marine Vessel Fires

The San Diego Harbor Police Department responds to all fires within San Diego Bay, whether the fire is on a boat in mid-channel or at a marina. Harbor Police officers are fully equipped with fire fighting equipment and each boat has a water cannon capable of shooting a stream of water several hundred feet at a rate of 700 to 1,000 gallons per minute. Officers can hook up a wide variety of hoses, nozzles, and foam-spreading attachments to risers powered by the same pump engine as the water cannon.

In case of a fire on San Diego Bay, contact the Harbor Police at:

(619) 686-6272 (dispatch)

(619) 223-1133 (emergency) or dial 911

The U.S Navy maintains a fleet of contract tugboats in San Diego Bay. These vessels support ship movements of U.S. Navy warships in the Bay. They are the only San Diego-based waterborne assets with sufficient pumping capacity to support fire trucks at the scene of a major waterfront conflagration. During time of emergency in the seaport, the Coast Guard Captain of the Port (COTP) has authority under 14 USC 141(b) to activate all available civilian and military resources to resolve the crisis, including the U.S. Navy contract tugboats.

Points of contact for Naval Base San Diego, Port Operations:

(619) 556-3146 (Program Manager)

(619) 556-0634 (Waterfront Operations Officer)

(619) 556-5580 (Program Support Manager)

The San Diego Lifeguard Service fights fires that occur in Mission Bay. Lifeguards out of the Boating Safety Unit are fully equipped and trained to operate the Service's two 32-foot fire/rescue vessels. Each has the ability to pump approximately 1,000 gallons of seawater per minute using either a bow-mounted monitor or by connecting fire hoses to the deck-mounted stand pipes. These vessels are also capable of pumping 300 gallons/minute out of sinking vessels. Both are fully equipped with self-contained breathing apparatus (SCBA) for entering into smoke filled environments, scuba for underwater search and rescue, and medical equipment to assist with boating accidents.

In case of a fire on Mission Bay, dial **911** to reach the San Diego Lifeguard Service.

The Coast Guard has traditionally provided fire fighting equipment and training to protect its vessels and property. COTP are also called upon to provide assistance at major fires on board other vessels and waterfront facilities. Although the Coast Guard clearly has an interest in fighting fires involving vessel or waterfront facilities, local authorities are principally responsible for maintaining necessary fire fighting capabilities in U.S. ports and harbors. The Coast Guard renders assistance as available, based on the level of the training and the adequacy of

equipment. The Commandant intends to maintain this traditional “assistance as available” posture without conveying the impression that the Coast Guard is prepared to relieve local fire departments of their responsibilities. Paramount in preparing for vessel or waterfront fires is the need to integrate Coast Guard planning and training efforts with those of other responsible agencies, particularly local fire departments and port authorities. The following additional information applies to marine fire fighting.

There are several actions that generally occur during a marine fire fighting incident. They are:

- Incident Occurs.
- Call from Ship’s Master to United States Coast Guard and the owner of the ship.
- Ship’s Master initiates the Emergency Response Plan, or he/she has the option to hire a salvage/fire response company. If neither, then the Coast Guard activates a Basic Ordering Agreement (BOA) with a salvage/fire response company.
- Basic information is given to a salvage/fire response company by the owner of the ship or P & I:
  - Type of vessel (Container ship)
  - Location (8 mi. off shore of Carlsbad CA)
  - Coordinates (Lat 33.151 N, Lat 117.493 W)
  - Status of Crew (Crew is off vessel)
  - Known damage (Vessel has large section aft port side missing do to explosion/fire)
  - Cargo (mixture of plastic, chemicals, machinery - unknown amounts.)
  - Vessel movement (Vessel is adrift.)
- After the Emergency Response Plan is activated the following three steps occur simultaneously:
  - Salvage Master/Fire Incident Commander arrives on the scene within 6 hours from the initial call.
  - Mobilization of equipment and personnel based on initial report from Ship’s Master.
  - Agreements/Contract are agreed upon between salvage company and vessel owner(s).
- Salvage Master/Fire Incident Commander makes initial survey.
- Reports to USCG, Ship’s Master, Company Naval Engineer and orders more or different equipment (tugs, barges, etc.).
- Starts liquid transfers via ships system to other tanks or holds if ship is capable and safe to do so. This must be approved by USCG.
- Salvage Master formulates salvage plan based on survey, Naval Engineer’s advice, and conditions present and expected. Presents Salvage Plan to USCG for approval.
- May conduct dive survey assessing underwater damage using underwater camera or video. If more diving is needed, dive plan will be prepared, submitted, and approved.
- Equipment and personnel begin arriving at staging area and are then brought out to the incident per daily operation plans.
- All actions, plans or changes must be approved by the USCG.

Operational fire fighting priorities for marine fire incidents are listed below:

*Rescue:* Safety of life must always be the first consideration in any fire or emergency situation. When lives are in danger, the Incident Commander (IC) must quickly assess whether the situation necessitates immediate removal of personnel, the number of persons who need to be extracted and the hazards to the rescue team. Importantly, a safety zone must be established around the vessel.

*Exposures:* The fire should be fought so as to prevent the spread of fire on or off the vessel. Typical exposures include flammable liquid or gas tanks, open stairways, explosives or any other substance that would accelerate or aid the spread of the fire. Provided there is no danger of water reactivity, exposures are best cooled by application of a fog pattern until no visible steam is generated. For some two-dimensional surfaces foam may be an appropriate agent for exposure protection.

*Confinement:* Control over the fire must be established by impeding the fire's extension to non-involved areas and limiting the fire to the area of origin. To accomplish proper containment, all closures and all ventilation (unless personnel are trapped inside the space) should be secured. Monitor and cool boundaries, as necessary, on all six sides of the fire (fore, aft, port, starboard, above, and below).

*Extinguishment:* The main body of the fire should be attacked and suppressed. The goal is to cease combustion by disrupting the cycle of the fire tetrahedron. Tactics and agents to be used will be determined by the fuel source, amount of fuel/surface area, and the location of the fire.

*Overhaul:* Actions to complete incident stabilization and begin the shift to property conservation should occur in any overhaul. Specific considerations include hazards from structural conditions at the fire scene, atmospheric conditions (air packs should remain mandatory in the case of interior fire overhaul due to the likely presence of toxic vapors, carbon monoxide, and low oxygen levels), monitoring scene to ensure fire will not re-ignite, and determination of fire's point of origin and source of ignition.

*Ventilation:* Ventilation tactics will vary depending upon the location and conditions of the fire. Generally, all ventilation on a vessel will initially be secured and all dampers shut upon receipt of a fire alarm. Utilization of ventilation to aid fire-fighting efforts should not begin until a coordinated attack is staged.

*Stability:* The use of water for fire fighting can significantly raise the center of gravity of a vessel. Experts from the Marine Safety Center, Atlantic Strike Team, or Navy Support and Salvage should be consulted for stability calculations and advice.

*De-watering:* Oil and hazardous materials (the term hazardous substance is defined in CERCLA § 101; a list of hazardous substances can be found in 40 CFR 302.4) may enter the waters during de-watering operations. Containment and recovery of these materials is an important consideration and thus hazardous substances should be considered early on in the incident. Section 4710 in the ACP contains detailed information on hazardous substances. Fire fighting operations take precedence over environmental concerns. However, pollution response should be considered at this stage of response. Oil spill and/or hazardous materials release response strategies should be initiated prior to this stage.

## **8110 Command**

The Unified Command (UC) Structure as described in [Section 2100](#) of this plan will be implemented as the command structure for marine fire fighting incidents. As a matter of customary maritime law and practice, the Master of the vessel is presumed in charge of, and capable of, all onboard ship operations, including shipboard fire fighting. It is only at the specific request of the Master, or when it becomes obvious that the vessel's condition threatens the port's safety or environment that relieving the Master of his responsibility as IC should be considered. The COTP is designated as the Federal On-Scene Coordinator (FOSC) and will be responsible for the response and management of all aspects of the disaster and has ultimate responsibility. The local fire department with jurisdiction over the location of the ship or facility will be the IC.

Refer to [Section 2100](#) of this Plan for detailed command structure coverage.

## **8120 Operations**

### **8120.1 Marine Incident Initial Response Strategy**

The Marine Safety Manual specifically addresses USCG fire fighting activities: "Generally, USCG personnel shall not actively engage in fire fighting except in support of a regular fire fighting agency under the supervision of a qualified fire officer. USCG personnel shall not engage in independent fire fighting operations, except to save a life or in the early stages of a fire to avert a significant threat without undue risk." With this guidance, the local fire department with jurisdiction will be the IC for shipboard or waterfront facility fire fighting activities. COTP Sector San Diego works with port authorities, local governments, and fire departments within the AOR to maintain current and effective contingency plans, and to coordinate Federal, State, municipal and commercial resources that respond to fires and other incidents. COTP Sector San Diego shall provide personnel to a marine fire incident to render assistance with vessel specific information, vessel stability, pollution abatement, enforcement of USCG specific authority, and/or waterside security.

More details are contained in [Section 3300](#) of the ACP and [Section 8100](#) of the Region 9 Regional Contingency Plan (RCP).

Refer to the Sector San Diego Salvage Response Plan and the Maritime Transportation System Recovery Unit (MTSRU) Plan located in <https://cg.portal.uscg.mil/units/sectorsandiego/SitePages/Home.aspx> .

### **8120.2 Movement of a Burning Vessel**

A crucial decision in response to a marine fire involves movement of a burning vessel – whether to allow it to enter the port, to move it to or away from an anchorage or a pier, to ground the vessel or to scuttle it offshore. The COTP shall be consulted prior to moving or setting a burning vessel free. Among the considerations to evaluate in deciding whether to allow a vessel to move within a port are the following:

- Location and extent of fire.
- Capabilities and training of the crew.
- Status of shipboard fire fighting equipment.
- Class and nature of cargo.
- Possibility of explosion.

- Hazards to the environment.
- Hazards to crew or other resources where vessel is situated.
- Forecast weather.
- Maneuverability of the vessel.
- Effect on bridges under or through which the vessel must transit.
- Potential for fire to spread to pier or shore side facilities.
- Fire fighting resources available shore side.
- Consequences or alternatives if the vessel is not allowed to enter port or move.

The decision to allow a burning vessel in San Diego Bay must be decided by the COTP with discussions with each Fire Chief from the respective fire departments.

## **8130 Planning**

See [Section 4710](#) of this plan, as well as Federal, State, and local hazardous material spill contingency plans either directly referenced in this document or implied by association of applicability. In addition, the following pre-designation of responsibilities are provided for planning purposes:

### **8130.1 Municipal Fire Departments**

Upon arriving at the scene, the jurisdictional fire chief assumes charge of all aspects of the fire fighting operation. The vessel's master should contact the local fire chief and place himself and his crew at this disposal of the fire chief. At no time shall the vessel crew or other agencies or groups, either from shore side or waterside, engage in independent fire fighting activities beyond their capabilities or once the local fire department has taken command of the incident. The jurisdictional fire chief's responsibilities shall include but not necessarily be limited to:

- Control of all fire fighting operations, both from the shore side and waterside.
- Establishment of a workable communication system with the units engaged in fire fighting operations, including: assisting vessels, police departments, civil defense, and other agencies engaged in the overall operation.
- Formulation of a plan of action for the extinguishing of the fire and the safety of personnel and property.
- Procurement of needed fire fighting equipment, material, and manpower (Mutual Aid Agreements, etc.).
- Direction of the activities of all personnel and equipment engaged in fire fighting.
- Procurement of the individual vessel's fire fighting plan and stability data and information on that particular vessel.
- Requesting assistance from local police for traffic and crowd control.
- The evacuation of effected persons.
- Requesting assistance of local hospitals and doctors for medical requirements.
- Requesting ambulance service.
- Notification to USCG if not previously done.

### **8130.2 U.S. Coast Guard**

The Coast Guard's responsibility during a marine fire incident in port is the coordination of and direction of USCG resources and to send a representative to the command post in an advisory role. In addition, the USCG is responsible for:

- Directing the anchoring, mooring, or movement of vessels.
- Restricting vessel operations in hazardous areas.
- Acting as lead agency in the containment and control of any hazardous materials discharge as the result of the marine fire incident.
- Assisting in fire fighting operations within capabilities as determined by the COTP or representative in the Command Post.
- Advising the IC concerning marine fire fighting systems, ship's capabilities, ship stability, environmental considerations, and other aspects where the Coast Guard has special expertise.
- Coordinating marine fire fighting planning and assisting in training development.
- Taking command or acts as the lead agency on incidents where jurisdictional questions arise or where it is mutually agreed to by the appropriate fire department representative and the COTP.

## **8140 Logistics**

### **8140.1 Marine Fire Fighting Resources**

The primary missions of all USCG boats in Sector San Diego are search and rescue (SAR) and maritime law enforcement activities. Each USCG boat has limited fire fighting capabilities and, as noted in the introduction, is not the primary resource for actual firefighting activities. Thus, the Coast Guard depends on the local resources and specialized firms to provide the needed assistance.

### **8140.2 Local Operational Resources**

The main fire department in this quadrant is the San Diego Fire Department. This department has numerous resources available and can mobilize additional resources through mutual aid. A complete list of fire station locations and apparatus is available at [www.sandiego.gov/fire/about/firestations](http://www.sandiego.gov/fire/about/firestations).

Refer to [Section 9230.7](#) in this Plan for more information on area fire departments hazardous materials capabilities.

#### Contacts for Specialized Information/Equipment Sources

San Diego, California Fire Department Prevention Bureau  
(619) 533-4388

Mr. Jeff Johnson  
West Coast Representative  
Resolve Marine Group  
c/o National Response Corporation  
Pier D, Berth #47  
Long Beach, CA 90802  
(360) 601-2997

Officer Troy Nicholas  
San Diego Harbor Police  
Fire Training Coordinator  
3380 N. Harbor Drive  
San Diego CA. 92101

(619) 686-6538

Williams Fire and Hazard Control  
1675 Farm to Market 2802 Road, Vidor, TX 77662  
(409) 745-3232, (800) 231-4613  
<http://www.williamsfire.com/>

Boots & Coots  
7908 N. Sam Houston Parkway W, #5  
Houston, Texas 77064  
(281) 931-8884 (Emergency)

### **8150 Finance/Administration**

The finance and administration considerations regarding marine fire incidents are made by the FOSC or the designated representative.

The following resources are valuable tools for the FOSC:

[Financial Resource Management Manual \(FRMM\)](#)

[National Pollution Funds Center \(NPFC\)](#)

For additional information on fund access, cost, documentation, time, compensation, and other finance/administration issues, refer to [Section 6000](#) of this Plan.

### **8160 Communications**

It is vitally important that there is seamless communication interoperability among the various federal, state, and local government agencies as well as private companies that respond to marine fire incidents. A thorough, well constructed plan is of no use if the parties are unable to give and receive orders/instructions.

Refer to [Section 9250](#) of this Plan for a listing of available resources and appropriate contact information.






Dangerous/Hazardous Information:			
Type	Quantity	Distance from Fire	Location

Nearby Vessels/Facilities			
Type	Quantity	Distance from Fire	Location

**Rapid Salvage Survey**  
 Fill this sheet out as completely as possible, when seeking salvage engineering assistance, and contact SERT duty member using the contact information listed below of this document. All fields marked with an \* are necessary for increased accuracy of salvage calculations. This document can be found at [Rapid Salvage Survey](#).



Description of Vessel Cargo

Aim/Intent of Salvage Operation: (check all that apply)
<input type="checkbox"/> Transfer <input type="checkbox"/> Dewatering <input type="checkbox"/> Lifting <input type="checkbox"/> Towing <input type="checkbox"/> Patching <input type="checkbox"/> Beach Gear <input type="checkbox"/> Other: _____

Technical Assistance Requested: (check all that apply)
<input type="checkbox"/> Salvage Plan Review <input type="checkbox"/> Oil Outflow Analysis <input type="checkbox"/> Ground Reaction <input type="checkbox"/> Force to Free <input type="checkbox"/> Structural Analysis <input type="checkbox"/> Stability Analysis <input type="checkbox"/> Review Lightering Plan <input type="checkbox"/> Other: _____

Salvage Information Available: (check all that apply)
<input type="checkbox"/> General Arrangement Plan <input type="checkbox"/> Loading Plan <input type="checkbox"/> Trim & Stability Book <input type="checkbox"/> Section Modulus <input type="checkbox"/> Midship Section <input type="checkbox"/> Computer Model (HECSALV, GHS, SCHP, etc.) <input type="checkbox"/> Other: _____

Your Contact Information
CG Contact: _____ (name) _____ (phone) _____ _____ (fax) _____ (other)

SERT Contact Information	
Workday Contact Information (M-F, 0700-1600): Duty Member: (202) 327-3985 Day Fax: (202) 475-3927 mark fax "Salvage Team-URGENT"	After Hours Contact Information: Flag Plot: 1-800-323-7233 Duty Member Cell: (202) 327-3985



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*Description of Cargo by Tank	
Pre-Casualty Loading:	<input type="checkbox"/> Available and Attached <input type="checkbox"/> Not Available
Post-Casualty Loading:	<input type="checkbox"/> Available and Attached <input type="checkbox"/> Not Available
<p>A loading description should be provided and include the following information for all fuel, oil, lube oil, feed water, potable water, ballast water, and cargo tanks: (1) Tank Name, (2) Type of Cargo, (3) Current Tank Capacity, (4) API/Temp, (5) Inerted, and (5) Specific Volume</p>	

Water Depth Around Vessel		
Location	Port	Starboard
Forward		
Midships		
Aft		

Status of Vessel
Secured? <input type="checkbox"/> Yes <input type="checkbox"/> No
How Secured? <input type="checkbox"/> Beach Gear <input type="checkbox"/> Ballasted Down <input type="checkbox"/> Other: _____
Lively? <input type="checkbox"/> Yes <input type="checkbox"/> No
Description of Lively Condition: _____

Additional Surveys Completed
Topside Survey Completed? <input type="checkbox"/> Available and Attached <input type="checkbox"/> Not Available
Interior Hall Survey Completed? <input type="checkbox"/> Available and Attached <input type="checkbox"/> Not Available

Dive Survey Completed?       Available and Attached     Not Available

**Status of Vessel Systems**

Main Propulsion and Steering: \_\_\_\_\_

Fire Fighting Equipment: \_\_\_\_\_

Cargo Transfer Pumps: \_\_\_\_\_

**Additional Vessel Particulars**

Flag: \_\_\_\_\_      Year Built: \_\_\_\_\_

Builder & Hull No.: \_\_\_\_\_

Class Society: \_\_\_\_\_      Class ID No.: \_\_\_\_\_

Stern Type:     Transom     Cruiser

No. of Screws: \_\_\_\_\_

Lightship:      Displacement \_\_\_\_\_ (Long Tons)

Full Load:      Displacement \_\_\_\_\_ (Long Tons)

Deadweight:    Displacement \_\_\_\_\_ (Long Tons)

TPI: \_\_\_\_\_ (at normal displacement)

MT1: \_\_\_\_\_ (at normal displacement)

House Location:     Aft     3/4 Aft     MS     FWD

Engine Room:       Aft     3/4 Aft     MS

**Structural and Stability Information Available: (check all that apply)**

Computer Model:     HECSALV     GHS     SHCP     Other: \_\_\_\_\_

Trim & Stability Book:                       Available     Not Available

Loading Manual:                               Available     Not Available

Hydrostatics/Curves of Form:               Available     Not Available

Capacity Plan:                                  Available     Not Available

Lines Plans:                                      Available     Not Available

General Agreements:                          Available     Not Available

Onboard Loading Computer:                  Available     Not Available

Plans for structural sections at midship & cargo area:  Available     Not Available

Contact Information	
CG Contact: _____ (name) _____ (phone)	
_____ (fax)	_____ (other)
Owner/Rep: _____ FAX: _____	phone: _____ pager: _____
QI/Local Contact: _____ FAX: _____	phone: _____ pager: _____
Salvage Master: _____ FAX: _____	phone: _____ pager: _____

## 8200 Salvage

Refer to Section 6400 of the Sector San Diego Area Maritime Security Plan and the Sector San Diego Salvage Plan.

## 8300 Potential Places of Refuge

### 8310 Purpose and Scope

In accordance with RRT9 Guidelines for Places of Refuge Decision-Making and COMDTINST 16451.9, this Potential Places of Refuge (PPOR) section provides information/guidance for both an effective and efficient response to requests from ships in need of assistance seeking a place of refuge. The objective of this section is to identify docking, anchoring, mooring, and/or grounding locations that may be selected as Potential Places of Refuge and to provide decision-making tools in order to enhance the overall effectiveness of the response process. While information on possible sites is pre-inventoried, this does not imply that any of these sites will be the location of choice in a future event. Decision-makers must address many issues including safety as well as environmental and operational issues when determining where to send a stricken vessel.

The U.S. Coast Guard Captain of the Port, San Diego, has jurisdiction over approving a PPOR site for a vessel in distress. When it is practical, the COPT will seek to confer with other federal, state, and local officials before deciding where and when to move a stricken vessel. Selection of a place of refuge by the U.S. Coast Guard COTP in consultation with other agencies and stakeholders will always be made on a case-by-case basis. Nevertheless, prior coordination and identification of Potential Places of Refuge significantly enhances the decision-making process and facilitates the overall response operation. Taking these actions help prevent or minimize potential adverse affects to the vessel, the public, environment, and resource users.

In coordination with the State of California and RRT9, workgroups were established to provide the following: A decision-making process to assist USCG COTP in determining whether a vessel needs to be moved to a place of refuge, which place of refuge to use, and a framework for developing pre-incident information on PPOR sites. Keeping in mind that there is no perfect mooring or anchoring site for all vessels and all situations, the PPOR committee convened and

developed an approach to pre-survey possible Potential Places of Refuge, not pre-determine them. The data gathered was streamlined and incorporated into a California statewide database.

A hard copy of this data is contained within this section as pre-incident summaries. These pre-incident summaries provide specific information for potential places of refuge within the respective areas of responsibility and identify the advantages and consequences in the use of each potential site. Collectively, the pre-incident summaries contain information about concerns for the potential impacts on human health and safety, natural resources, and economic consequences for all options a distressed vessel may have to stabilize their situation, serve as a job aid designed for use during an incident.

The pre-incident summaries are to be used in coordination with the PPOR decision making process found in [COMDTINST 16451.9, Coast Guard Places of Refuge Policy](#). This instruction contains a matrix that compares the risk associated with six options that a vessel in distress could select:

1. Going to Place of Refuge (A)
2. Going to Place of Refuge (B)
3. Continue Voyage
4. Repair in Place
5. Scuttle
6. Ground

By including these pre-incident summaries for potential places of refuge in the San Diego AOR, the Area Committee has given the COTP a tool that should expedite decisions about the available places of refuge to select for analysis using the decision matrix tool. Readers must remember that although the risk analysis matrix might assign the lowest risk score to one option, the Unified Command does not have to follow this suggestion if it deems another site is more appropriate based on the circumstances.

### **8320 Definitions**

Pre-Incident Summary – Site specific summary which contains detailed geographic and navigational data in addition to information about concerns for the potential impacts on human health and safety, natural resources, and economic consequences.

“Potential Place(s) of Refuge” (PPOR) - Is defined as a location where a vessel needing assistance can be temporarily moved to, and where actions can then be taken to stabilize the vessel, protect human life, reduce a hazard to navigation, and/or protect sensitive natural resources and other uses of the area. A place of refuge may include constructed harbors, ports, a natural embayment, potential grounding sites, or offshore waters.

### **8330 San Diego Area PPOR Subcommittee**

The Area Committee queried the mariner community and selected eight potential places of refuge in the San Diego AOR. These eight places were viable locations for a variety of scenarios and the committee believed it was valuable to collect pre-incident non-scenario specific data on these sites. The PPOR Subcommittee met for a one day seminar to collect information on these eight sites and input their information into the statewide database. The eight sites for the San Diego AOR are Broadway Pier, B St. Pier, 10<sup>th</sup> Ave Marine Terminal, Buoy 1 going into Glorietta Bay, Outer Anchorage, Pyramid Cove, Buoy 22A, and Commercial Anchorage off of Harbor Island.

#### **8330.1 Pre-Incident Summaries**

The following are the pre-incident summaries for the eight sites. They are labeled based on a system developed by the state.