Offshore lightering is a traditional maritime activity in the Gulf of Mexico and has taken place for many years. The Coast Guard's 1993 Deepwater Ports Study contains a summary of data on U.S. crude oil spills from 1986 to 1990. The casualty analysis in the Study considered only non-catastrophic oil spills and grouped them into three basic categories:

(1) *Transit casualties*: Navigationrelated accidents, such as groundings or collisions, that occurred when the vessel was inbound and loaded with cargo oil.

(Ž) *Transfer casualties*: Accidents which occur during cargo transfer operations when lightering, or discharging in-port, or at LOOP. These include human error and equipment failure such as hose ruptures, leaking valves, tank overflows, and improper connections.

(3) Intrinsic casualties: Accidents associated with the operation of the ship itself rather than the activity (mode) in which it is engaged. These accidents would include leaks from hull cracks, sea chests or rudder/propeller seals, accidental discharge of dirty bilges, and fuel/lube oil spills. Fires and explosions not associated with transfer operations or navigation are also intrinsic casualties which may result in oil spills. These accidents are equally probable for any vessel in any mode. Consequently, spills resulting from such intrinsic casualties are grouped separately from those resulting from navigation or transfer operations.

The data revealed that for transit casualties in the Gulf of Mexico, none occurred more than 20 miles offshore.

For transfer casualties in the Gulf of Mexico, the Study lists 15 minor spills attributed to offshore lightering operations, with a total discharge of 45 barrels. The rate for these offshore transfer casualties was 3 to 4 times per 1,000 transfers with an average spill size of 3 barrels.

Not included in the transfer casualty data analyzed by the Study was the catastrophic spill from the MEGA BORG incident in 1990. A pump room explosion occurred while the MEGA BORG was engaged in lightering 57 miles off the coast of Texas. As a result of the explosion, a fire started in the pump room and spread to the engine room. An estimated 92,857 barrels of crude oil were burned or released into the water from the MEGA BORG.

For intrinsic casualties, the data shows 18 casualties on vessels associated in some manner to offshore lightering activities in the Gulf.

Rendezvous in the Gulf of Mexico between vessels to be lightered and service vessels generally occurs in the vicinity of one of nine locations. These locations are listed in the New Worldwide Tanker Nominal Freight Scale 1993 (Worldscale) published by the Worldscale Association of London and New York. Worldscale lists these points as Offshore Transshipment Areas (Offshore TSAs). The coordinates of these locations are as follows:

	Latitude N.	Longitude W.
Offshore Corpus Christi No. 1.	27°28′	96°49′
Offshore Corpus Christi No. 2.	27°48′	95°31′
Offshore Freeport	28°45′	95°03′
Offshore Galveston No. 1.	28°27′	94°30′
Offshore Galveston No. 2.	28°40′	94°08′
South Sabine Point	28°30′	93°40′
South West Point	28°27′	90°42′
Gulfmex	28°00′	89°30′
Offshore Pascagoula	29°27′	88°13′

Following rendezvous, the two ships maneuver and berth alongside one another. Lightering operations are then conducted in the general area near these transshipment points. Typically, it takes between four and six lighter voyages to empty a very large crude carrier (VLCC). Each discharge to a service vessel normally takes about 18 hours, although this may be accomplished in as few as 12 hours to specially equipped lighters. Under ideal conditions, a VLCC can be turned around in about 4 days, provided lighters are available for continuous, back-to-back operations. However, conditions rarely remain ideal for that length of time. More typically it takes a week for a VLCC to be completely offloaded. It may take longer if bad weather interrupts operations; if fewer lighters are used; or if the capacity of the receiving storage facility, pipeline, or refinery does not permit it to take delivery at the optimum rate. Bunkering (refueling) occurs before or after lightering; it is not undertaken during lightering operations.

This proposed rulemaking does not affect lightering operations in the traditional lightering areas. Double hull tankers and single hull tankers allowed to operate under OPA 90 could continue to use the traditional areas. Only those vessels not otherwise permitted to operate within the EEZ would be limited to lightering in the zones proposed in this rulemaking. The Coast Guard seeks comments on whether it should consider a rulemaking to change those traditional lightering areas into formal lightering zones, and whether any of the concepts developed in this rulemaking should be used in such a subsequent rulemaking.

Lighterers generally utilize the "Ship to Ship Transfer Guide" published by the Oil Companies International Marine Forum (OCIMF) and the "Guide to Helicopter/Ship Operations" published by the International Chamber of Shipping (ICS) as the voluntary standard for industry practice during lightering. This rulemaking proposes to incorporate these guides and require consistent use of the practices contained therein.

General operational limitations have been voluntarily adopted by the lightering industry in the Gulf of Mexico in addition to those contained in the OCIMF and ICS guides. This rulemaking proposes to make those limitations mandatory in the designated zones. For example, the service vessel would be prohibited from mooring alongside the vessel to be lightered when the wind velocity is 30 knots or more, the wave height is 10 feet or more, or when the eye of a hurricane is predicted to pass within 160 miles in the next 36 hours. When lightering at anchor, operations could not occur within 1 nm of offshore structures. When lightering underway, operations could not be conducted when the vessels come within 3 nm of an offshore structure. Vessels engaged in lightering would not be permitted to anchor over pipelines, charted artificial reefs or historical resources. The prohibited areas would include live topographical features found beyond the 60 mile boundary

During normal lightering operations, the vessel to be lightered remains in one general area and several (between four and six) service vessels rendezvous with it to take its cargo. Often these service vessels rapidly follow each other alongside the vessel to be lightered. Some crews of service vessels may be afforded opportunities to rest between cargo transfer operations, and some may not, depending upon the cargo's final delivery point. Service vessels transiting congested shipping lanes and pilotage waters typically require additional watch standers. Some crew members of the vessel to be lightered could become overly tired because their lightering operations continue for uninterrupted periods. Tired crew members tend to be less attentive to detail. Such inattention increases the risk of a casualty. To reduce the likelihood of a casualty caused by fatigue, the Coast Guard proposes that work hour limitations be established for crew members of the vessels to be lightered, and associated service vessels. These proposed work hour limitations are the same as those