CHART SYMBOLS

Above Baton Rouge, LA (mile 235.0) to Memphis, TN, Western Rivers System of Buoyage

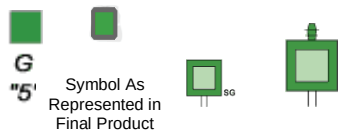
NR – Diamond-shaped dayboard divided into four diamond-shaped colored sectors with the sectors at the side corners white and the sectors at the top and bottom corners red, with white reflective border.

NG – Diamond-shaped dayboard divided into four diamond-shaped colored sectors with the sectors at the side corners white and the sectors at the top and bottom corners green, with white reflective border.

TR – Red Triangle

	Fl (2)	Flashing (2)
	Fl	Flashing
	Occ	Occulting
	Fl	Flashing
	Iso	Isophase

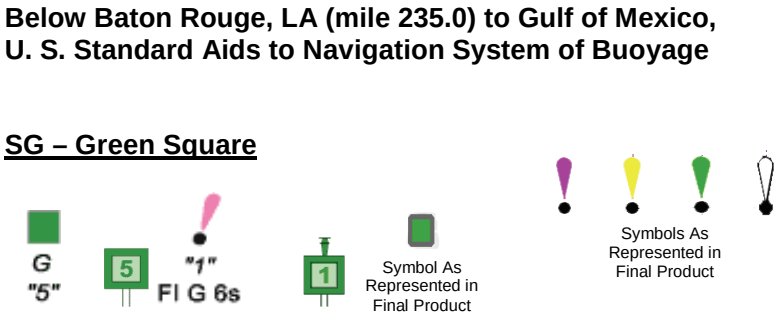
SG – Green Square



	Fl	Flashing
	Occ	Occulting
	Q F	Quick Flashing
	Iso	Isophase

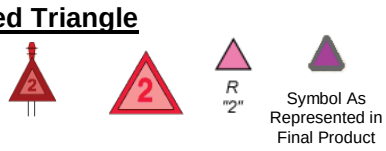
Below Baton Rouge, LA (mile 235.0) to Gulf of Mexico, U. S. Standard Aids to Navigation System of Buoyage

SG – Green Square



	Fl (2)	Flash (2)
	Fl	Flashing
	Occ	Occulting
	Q F	Quick Flashing
	ISO	Isophase

TR - Red Triangle



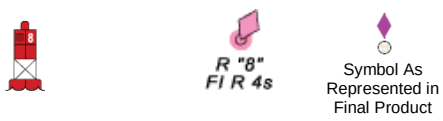
	Fl (2)	Flashing (2)
	Fl	Flashing
	Occ	Occulting
	Fl	Flashing
	Iso	Isophase

G C – Green Can Buoy

R N – Red Nun Buoy

G – Green Buoy

R – Red Buoy



KRW- Rectangular Red dayboard bearing a central white stripe

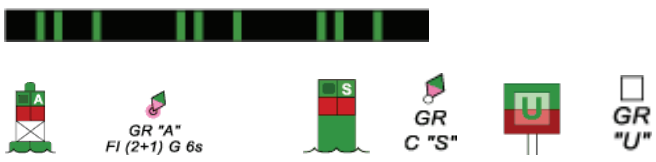
KWG - Rectangular White dayboard bearing a central green stripe

KWR - Rectangular White dayboard bearing a central red stripe

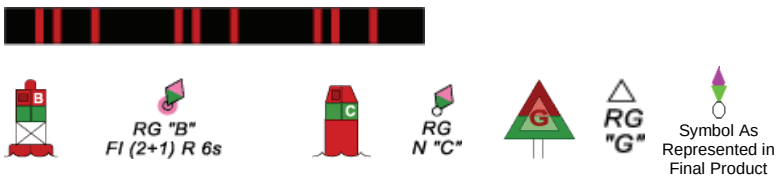
SY – Intracoastal Waterway Yellow Square

TY – Intracoastal Waterway Yellow Triangle

JG- Green and Red Junction Dayboard



JR – Red and Green Junction Dayboard



NB – Diamond-shaped dayboard divided into four diamond-shaped colored sectors with the sectors at the side corners white and the sectors at the top and bottom corners black, with white reflective border.

Anchorage Day Board

HYDROGRAPHIC FEATURES

Sailing Line - The Sailing Line shown is an approximate representation of the track a down bound vessel would follow during a low river stage equal to the Low Water Reference Plane water level.

Low Water Reference Plane - The Low Water Reference Plane (LWRP) from Mile 313.7 to 242.0 is based on 97% discharge duration at Tarbert Landing (1974-1993) and corresponding to stages from 1974 – 1993.

LWRP from Mile 242.0 to Head of Passes is based on the Mean of 40 years (1891-1930) low water at Regular (M.R.C.) gauges and adjusted. from low water information obtained Sept 1931 and Nov. 1933. (Include graph of LWRP).

LWRP from Mile 320 to Mile 610 is the 1993 LWRP computer from 1982 to 1991 average low water stage at discharge equaled or exceeded 97% of the time.

Water Edge equals Low Water Reference Plane +5 feet above Mile 320 AHP. Water Edge equals Low Water Reference Plane zero below 320 AHP.

Drying Height Area is defined as an area denoting the range between water edge and high water conditions. Drying height is denoted as dark brown in this publication. The feature applies only to that section of the river that is not controlled by a lock and dam, also know as open river.

Color for Water Areas
A dark blue tint is shown on pages in this Navigation Book to represent areas of less than Project Depth. The light blue areas represents depths of project depth or greater.

The navigation channel will be marked with buoys as per U.S. Coast Guard.

Channel data a depicted is as of date of survey.

Mean Lower Low Water – (MLLW) The tidal datum that is the average of the lowest low water height of each tidal day observed over the National Tidal datum Epoch, 19-years metonic cycle.

Channel Condition Reports and Surveys
In general, this Navigation Book gives project depths for deep-draft ships, 45', up to Baton Rouge LA (Mile 232.2) and project depth for shallow draft, 9', tows above Baton Rouge, LA. In all cases mariners are advised to consult with pilots, local, State or Federal authorities for the latest channel controlling depths. The controlling depths are shown on these charts and published in the appropriate Local Notice to Mariner. Current channel conditions for high shoal areas at passes and at Mississippi River Crossings are obtained from hydrographic surveys and posted to: http://www.mvn.usace.army.mil/ChannelSurveys.

Submarine Cables and Submerged Pipelines
Submarine Cables and Submerged Pipelines cross many of the navigable waterways used by both large and small vessels. Normally warning signs are posted on the banks where submerged cables or a pipeline exists to warn mariners of their existence; in some areas warning signs are not always present.

CHART PAGE DESCRIPTIONS
Courses – These are true and given in degrees clockwise from 000° (north) to 359°. Courses given are courses to be made good.

Bridges and Cables
Vertical Clearances for Bridges are in feet above the appropriate reference gage zero reading. To obtain actual bridge clearness the mariner must subtract the appropriate gage river stage reading from the bridge clearance given.

Vertical Clearances for Overhead cables are in feet above the appropriate river gage mean high water readings; they may be as-built (verified by actual inspection after completion of structure), laser-range surveyed or authorized (design values specified in permit issued prior to construction. No differentiation is made in this Navigation Book between as-built, re-surveyed or authorized clearances.

Vertical Clearance for drawbridges and lift bridges are for the closed position and the open position as referenced to the appropriate river or tide gage as listed.

Vessels with masts, stacks, booms or antennas should allow sufficient clearance under power cables to avoid arching.

Horizontal clearances for all bridges are in feet, as measured from the narrowest features. Mariners should use caution when navigating within these restricted areas.

Obstructions
Wrecks and other obstructions are mentioned only if of a relatively permanent nature and in or near normal traffic routes.

Depth is the vertical distance from the chart datum to the bottom and is expressed in feet. Depth contours are lines connecting points of equal depth.

Controlling Depth of a channel or crossing is the least depth within the limits of the channel; it restricts safe use of the channel to drafts of less than that depth.

Federal Project Depth is the designed dredging depth of a channel constructed by the U. S. Army Corps of Engineers; the project depth may or may not be the goal of maintenance dredging after completion of the channel and for this reason project depth must not be confused with controlling depth.

Region Covered	Begin Mile	End Mile	Project Depth
Baton Rouge, LA to Cairo, IL	234	960	9′ [1]
Philadelphia Point to Baton Rouge, LA	180	233	40'
Gulf of Mexico to Philadelphia Point	-22	180	45'

[1] Maintained depth is 9′ Project Depth plus 3' advance maintenance dredging.

U. S. Buoyage Systems – Aids to Navigation
Aids to navigation depicted on charts comprise a system of fixed and floating aids with varying degrees of reliability. Therefore, prudent mariners will not rely solely on any single aid to navigation, particularly a floating aid. Consult the latest Light List or the Coast Guard Navigation Center website at: http://www.navcen.uscg.gov.

The mariner is also cautioned that buoys may be missing or off station as the result of ice, running ice or other natural causes (high water), collisions, or other accidents.

Therefore, a prudent mariner must not rely completely upon the position or operation of floating aids to navigation, but will also utilize bearings from fixed objects and aids to navigation on shore. Further, a vessel attempting to pass close aboard always risks collision with a yawing buoy or with the obstruction that the buoy marks.

The U. S. Coast Guard Light List Volume V, Mississippi River System and Light List Volume IV, Gulf of Mexico, should be consulted for determination between Federally Maintained Aids to Navigation and Private Aids to Navigation.

Western Rivers System of Buoyage
The Western Rivers System – a variation of the standard U.S. Aids to Navigation System is employed on the Mississippi River and its tributaries above Baton Rouge, LA and on certain rivers which flow toward the Gulf of Mexico. The Western Rivers System varies from standard U. S. system, as follows:

1. Aids to navigation are not numbered.
2. Numbers on aids to navigation do not have lateral significance, but rather indicate mileage from a fixed point (normally a river mouth or confluence).
3. Diamond shaped crossing dayboards, red and white or green and white as appropriate are used to indicate where the river channel crosses from one bank to another.
4. Lights on the green aids to navigation show a single-flash characteristic, which may be green or white.
5. Lights on the red aids to navigation show a group-flash characteristic, which may be red or white.
6. Isolated Danger marks are not used.

U. S. Standard Aids to Navigation System of Buoyage
The waters of the United States and its territories are marked to assist navigation by the U.S. Aids to Navigation System. This system encompasses buoys and beacons conforming to the International Association of Lighthouse Authorities (IALA) buoyage guidelines and other short range aids to navigation. All U. S. lateral marks are located in the IALA Region B (IALA B)and follow the traditional 3R rule; Red, Right Returning from sea. For more information on aids to navigation access the U.S. Coast Guard Navigation Center website at: http://www.navcen.uscg.gov

DISTRICT	HYDROGRAPHIC SURVEY DATES
MEMPHIS	JANUARY – APRIL 2004
VICKSBURG	MAY – JUNE 2005
NEW ORLEANS	AUGUST – DECEMBER 2003

COMMUNICATIONS

Normal Lower Mississippi River VHF communication channels:

Channel Number	Usage
16	International Distress, Safety and Calling Channel. Ships required to carry radio, the USCG, and most coast stations maintain a listening watch on this channel.
22A	USCG Liaison and Maritime Safety Information Broadcasts. Broadcasts are announced on channel 16.
14	Most locks monitor and work this channel.
13	Devil's Swamp Light, Mile 242.4, AHP and above.
67	Devil's Swamp Light, Mile 242.4, AHP to the Gulf of Mexico.

Both channels 13 and 67 should be monitored by vessels transiting in this locality to ensure being altered to all traffic movements in the area.

Maritime Safety Information Broadcasts

The U.S. Coast Guard and other government agencies broadcast different kinds of maritime safety warnings, using a variety of different radio systems to ensure coverage of different ocean areas for which the United States has responsibility, and ensure all ships of every size and nationality can receive this safety information. All broadcasts except those over VHF and MF radiotelephone are made by computer.

Coastal Maritime Safety Broadcasts

VHF Marine Radio Broadcasts. Urgent marine navigational and weather information is broadcast over VHF channel 22A (157.1 MHZ) from over 200 sites covering the coastal areas of the U.S., including the Great Lakes, major inland waterways, Puerto Rico, Alaska, Hawaii and Guam. Broadcasts are first announced over the distress, safety and calling channel 16 before they are made. All ships in U.S. waters over 20m in length are required to monitor VHF channel 16, and must have radios capable of tuning to the VHF simplex channel 22A.

U. S. Coast Guard National Distress System

National Distress System VHF site consists of a receiver guarding VHF Channel 16, the maritime distress, safety and calling channel, and a transceiver capable of operating on one of six fixed maritime channels. Two of these channels are always Channel 16 and 22A.

Vessel Traffic Services

The purpose of a Vessel Traffic Service (VTS) is to provide active monitoring and navigational advice for vessels in particularly confined and busy waterways. All Vessels transiting the Lower Mississippi River, New Orleans Harbor area, Mile 103 AHP to Mile 88 AHP are required to contact New Orleans Vessel Traffic Service on VHF Channel 67 at the following locations:

Contact Governor Nicholls Light (VHF Ch 67):

- All Northbound Traffic at Chalmette Ferry Crossing, Mile 88.6 AHP.
- All Northbound Traffic at the Industrial Forebay, Mile 92.8 AHP.
- All traffic exiting the Inner Harbor Navigational Locks, before entering the Mississippi River.

Contact Gretna Light (VHF Ch. 67):

- All South Bound Traffic at Cargill Westwego Grain Elevator, Mile 103.0 AHP.
- All South Bound Traffic at Marlex Dock s", "The Navy Ships," Mile 99.1, AHP.

All other traffic departing docks within Mile 103 to Mile 88 area, contact the appropriate Traffic Light to request vessel movements.

NOAA Weather Radio Frequencies

Channel	Frequency (MHz)
WX1	162.550
WX2	162.400
WX3	162.475
WX4	162.425
WX5	162.450
WX6	162.500
WX7	162.525

U. S. Marine VHF Channels

Channel Number	Ship Transmit MHz	Ship Receive MHz	Usage
01A	156.050	156.050	Port Operations and Commercial, VTS. Available only in New Orleans / Lower Mississippi area.
05A	156.250	156.250	Port Operations or VTS in the Houston, New Orleans and Seattle areas.
06	156.300	156.300	Intership Safety
07A	156.350	156.350	Commercial
08	156.400	156.400	Commercial (Intership only)
09	156.450	156.450	Boater Calling. Commercial and Non-Commercial.
10	156.500	156.500	Commercial
11	156.550	156.550	Commercial. VTS in selected areas.
12	156.600	156.600	Port Operations. VTS in selected areas.
13	156.650	156.650	Intership Navigation Safety (Bridge-to-bridge). Ships >20m length maintain a listening watch on this channel in US waters.
14	156.700	156.700	Port Operations. VTS in selected areas.
15	--	156.750	Environmental (Receive only). Used by Class C EPIRBs.
16	156.800	156.800	International Distress, Safety and Calling. Ships required to carry radio, USCG, and most coast stations maintain a listening watch on this channel.
17	156.850	156.850	State Control
18A	156.900	156.900	Commercial
19A	156.950	156.950	Commercial
20	157.000	161.600	Port Operations (duplex)
20A	157.000	157.000	Port Operations
21A	157.050	157.050	U.S. Coast Guard only
22A	157.100	157.100	Coast Guard Liaison and Maritime Safety Information Broadcasts. Broadcasts announced on channel 16.
23A	157.150	157.150	U.S. Coast Guard only
24	157.200	161.800	Public Correspondence (Marine Operator)
25	157.250	161.850	Public Correspondence (Marine Operator)
26	157.300	161.900	Public Correspondence (Marine Operator)
27	157.350	161.950	Public Correspondence (Marine Operator)
28	157.400	162.000	Public Correspondence (Marine Operator)
63A	156.175	156.175	Port Operations and Commercial, VTS. Available only in New Orleans / Lower Mississippi area.
65A	156.275	156.275	Port Operations
66A	156.325	156.325	Port Operations
67	156.375	156.375	Commercial. Used for Bridge-to-bridge communications in lower Mississippi River. Intership only.
68	156.425	156.425	Non-Commercial
69	156.475	156.475	Non-Commercial
70	156.525	156.525	Digital Selective Calling (voice communications not allowed)
71	156.575	156.575	Non-Commercial
72	156.625	156.625	Non-Commercial (Intership only)
73	156.675	156.675	Port Operations
74	156.725	156.725	Port Operations
77	156.875	156.875	Port Operations (Intership only)
78A	156.925	156.925	Non-Commercial
79A	156.975	156.975	Commercial. Non-Commercial in Great Lakes only
80A	157.025	157.025	Commercial. Non-Commercial in Great Lakes only
81A	157.075	157.075	U.S. Government only - Environmental protection operations.
82A	157.125	157.125	U.S. Government only
83A	157.175	157.175	U.S. Coast Guard only
84	157.225	161.825	Public Correspondence (Marine Operator)
85	157.275	161.875	Public Correspondence (Marine Operator)
86	157.325	161.925	Public Correspondence (Marine Operator)
AIS 1	161.975	161.975	Automatic Identification System (AIS)
AIS 2	162.025	162.025	Automatic Identification System (AIS)
88A	157.425	157.425	Commercial, Intership only.

ADDITIONAL U. S. ARMY CORPS OF ENGINEERS

Controlling Depth of a channel or crossing is the least depth within the
Inland Electronic Navigational Charts

The U.S. Army Corps of Engineers produces Inland Electronic Navigational Charts (IENCs) for the Lower Mississippi River, Mile 236 upwards throughout the Inland Waterway System.

These IENCs are created for use in Electronic Chart Systems (ECS) to position a vessel upon the electronic navigational chart display. Use of ECS in conjunction with IENCs does not eliminate the USCG paper chart carriage requirement. Until such guidance and policy is established, IENCs provide a valuable adjunct to the 2007 Navigation Book.

IENCs offer significant benefits to vessels including accurate and real-time display of vessel position relative to waterway features, voyage planning and monitoring tools, Automatic Identification Systems (AIS) integration, and training tools for new personnel and integrated display of river charts, radar, and AIS.

IENC chart products, services, and information are available for download at: http://www.tec.army.mil/echarts

IENC Maintenance

All Mississippi River IENCs are maintained with updates of new or corrected Local Notice to Mariner information as it becomes available. IENCs are updated at least annually and monthly maintenance is currently underway.

Specialized IENCs

The U. S. Army Corps of Engineers has and can develop large-scale specialized IENCs to respond to unique or short-term navigational requirements within the Inland Waterways System.

IENC information and contact information for unique IENC or charting chart products product requirements contact the Corps via: http://www.tec.army.mil/echarts

Other Electronic Navigational Charts

The National Oceanic & Atmospheric Administration's (NOAA) Office of Coast Survey produces Electronic Navigational Charts (ENC) for the Mississippi River, Mile 236 to the Gulf of Mexico and associated side channels. NOAA ENCs are available the Navigation Chart site at: http://chartmaker.ncd.noaa.gov/staff/charts.htm.

Port Series Report Books

The U. S. Army Corps of Engineers, Navigation Data Center, produces the Port Series Report Books that describe the physical and inter-modal (infrastructure) characteristics of the coastal, Great Lakes, and inland ports of the United States. Imagery sheets are included that reference the Port Series facility numbers for easy of locating individual facilities. Port Series products are may be obtained from:

Port Series Reports
U.S. Army Corps of Engineers
CEIWR-Navigation Data Center
7701 Telegraph Road, Casey Building
Alexandria, VA 22315-3686

http://www.iwr.usace.army.mil/ndc

Report No.	Area of Coverage
20	Port of New Orleans, LA
20A	Mississippi Ports Below and Above New Orleans, LA
21	Ports of Baton Rouge, LA and Lake Charles, LA
71	Ports of Memphis, TN, Helena, AR and Ports on the Lower Mississippi River
72	Ports of Natchez, Vicksburg and Greenville, MS and Ports on the Lower Mississippi River

Waterborne Commerce Statistics Center

The U. S. Army Corps of Engineers, Waterborne Commerce Statistics Center under the authority of the Rivers & Harbors Act of 1922, collects, processes, distributes, and archives vessel trip and cargo data.

Under Federal law, vessel operating companies must report domestic waterborne commercial movements to the Corps.

Data summaries include origin to destination information of foreign and domestic waterborne cargo movements by region and state, and also waterborne tonnage for principal ports and state and territories. Internal waterway tonnage indicators are updated monthly on the NDC web site.

This acquired vessel movement data is primarily for Corps and other government agencies' use. However, summary statistics, which do not disclose movements of individual companies, are also released to private companies and to the general public

The Waterborne Commerce Statistics Center's summarizes this data in the publication, *Waterborne Commerce of the United States.* It is issued in five parts (one to cover each coast and a national summary). A database that aggregates information of foreign and domestic waterborne cargo movements is available on CD. The publication *Transportation Lines of the United States* contains listings of domestic vessel operators, details their equipment and references their service areas. Most data are available in both hard copy and electronic form. Specialized data processing requests are considered on a case-by-case basis. Products and services may be obtained by request to:

Waterborne Commerce Statistics Center (WCSC)
P.O. Box 61280
New Orleans, LA 70161-1280
(504) 862-1424 or (504) 862-1404

http://www.iwr.usace.army.mil/ndc/wcsc/wcsc.htm

Photo on back cover taken by Mike Kelly of Wild Exposures. Mike is also a survey inspector with the USACE, Vicksburg.