COMMANDANT INSTRUCTION 16003.2B

Subj: MARINE PLANNING TO OPERATE AND MAINTAIN THE MARINE TRANSPORTATION SYSTEM (MTS) AND IMPLEMENT NATIONAL POLICY

Ref: (a) U.S. Coast Guard, Primary Duties, 14 United States Code § 2 (Pub. L. 87-396, as amended)
(b) Ocean Policy to Advance the Economic, Security, and Environmental Interests of the United States, Executive Order No. 13840 of 19 June 2018
(c) COMDT COGARD WASHINGTON DC 011425 JUN 18/ALCOAST 214/18
(d) Policy for the Sharing of Automatic Identification System (AIS) Information that is Collected by the Coast Guard Nationwide Automatic Identification System (NAIS), COMDTINST 5230.80 (series)
(e) U.S. Coast Guard Mission Management System, COMDTINST 5200.4 (series)
(f) Guidance for Coast Guard Coordination of Marine Transportation System (MTS) Improvement Efforts at the Regional and Local Level, COMDTINST 16010.9 (series)
(g) Multiple Use Waterway Management Planning Guide, COMDTINST 5223.1 (series)
(h) Waterways Management (WWM), COMDTINST 16001.1 (series)
(i) Marine Transportation System Recovery Planning and Operations, COMDTINST 16000.28 (series)
(j) Maritime Security and Response Operations (MSRO) Manual, COMDTINST M16600.6 (series) (FOUO)
(k) Aids to Navigation Manual - Administration, COMDTINST M16500.6 (series)
(l) Bridge Administration Manual, COMDTINST M16590.5 (series)

1. PURPOSE. This Instruction promulgates Coast Guard policy, roles, and responsibilities to carry out statutory requirements per Reference (a), including implementation of Executive Orders, such as the Ocean Policy to Advance the Economic, Security, and Environmental Interests of the United States, Reference (b), and subsequent guidance that may require special consideration in conjunction with ongoing and future marine planning and operations.

2. ACTION. Coast Guard area and district commanders, unit commanders, commanding officers, officers-in-charge, deputy/assistant commandants, and chiefs of headquarters staff elements shall comply with the provisions of this Instruction. Internet release is authorized.
a. Deputy Commandant for Operations (DCO) is responsible for accomplishing the Coast Guard’s statutory obligations, as well as compliance with national policy guidance consistent with the Commandant’s Guiding Principles, Reference (c). Within the Coast Guard’s diverse operations portfolio, this represents unity of effort for Coast Guard and interagency initiatives, and the whole-of-government approach that is essential to effective and efficient governance.

b. Director of Marine Transportation Systems Management (CG-5PW) shall:

(1) Develop and maintain policy, standards, and programs related to marine planning efforts as part of its Navigation and Waterways Management programs, including but not limited to those defined in Appendices A through H, as well as facilitate coordination with and outreach to other affected Coast Guard missions, MTS stakeholders, including other Federal, State, tribal, and local agencies per Reference (a), and to the greatest extent possible, with national policy objectives such as Reference (b), and consistent with the Commandant’s Guiding Principles, Reference (c);

(2) represent the Coast Guard for navigation issues at International Maritime Organization (IMO) and International Association of Marine Aids to Navigation and Lighthouse Authorities (IALA) proceedings, and other similar sanctioned venues;

(3) coordinate and maintain Memoranda of Understanding and Memoranda of Agreement to marine planning activities and initiatives;

(4) evaluate all aspects of current and emerging offshore energy initiatives, port, waterway, coastal development projects, and emerging technologies and other national priorities affecting the MTS; and

(5) provide management and oversight for the Coast Guard's Ice Operations program.

c. Director of Commercial Regulations and Standards (CG-5PS) shall develop national regulations, standards, and policies to enhance maritime safety, security, and stewardship; develop and execute an engagement plan for international standards development; and administer a technical compliance program to ensure uniform application of design and operating standards on commercial vessels.

d. Director of Inspections and Compliance (CG-5PC) shall develop and maintain policy, standards, and program alignment for all prevention activities associated with the safe operation of vessels and facilities, MTS recovery planning and operations, recreational boating safety, foreign and domestic commercial vessels compliance inspections, and ports and facilities safety and security, as well as merchant mariner credentialing, vessel documentation, and marine casualty investigation.

e. Director of Emergency Management (CG-5RI) shall establish, develop, and implement Search and Rescue (SAR), marine environmental response (MER) and all-hazards emergency management (EM) goals including disaster response, strategies, policies, and doctrine to meet Coast Guard responsibilities; represent the Service in SAR, MER, EM, and other readiness-related interagency forums; and coordinate participation in defense and homeland security exercises.
f. Director of Law Enforcement, Maritime Security, and Defense Operations Policy (CG-5RE) shall provide guidance and support to marine planning activities that affect Maritime Law Enforcement (including living marine resources), Maritime Security Operations, and Defense Operations programs.

g. Director of Emerging Policy Staff (CG-DCO-X) shall identify emerging policy issues affecting the MTS and other Service goals and objectives and assist program managers in defining strategic, actionable goals to respond to those issues in a manner consistent with Service policy. CG-DCO-X shall also coordinate interagency ocean-related policy matters and issues, including those related to the Ocean Policy Committee and any of its subgroups, as established and discussed in Reference (b).

h. Assistant Commandant for Intelligence shall support as needed the vetting and validation of data or information released for marine planning objectives.

i. Area commanders shall ensure appropriate participation and support for marine planning and implementation. To the extent that any regional planning area overlaps more than one district boundary, Area commanders will determine who should represent the Coast Guard (if any and as appropriate) and shall designate a contact at the Area for program oversight and coordination among Districts, and with Headquarters.

j. District commanders shall:

1. coordinate Waterways Analysis and Management System (WAMS) per Appendix A, Navigation Safety Risk Assessments (NSRA) per Appendix B, and Waterway Suitability Assessments (WSA) per Appendix C, as may be required;

2. implement navigation safety schemes such as anchorages, Regulated Navigation Areas (RNA), Limited Access Areas (LAA), and other means within their authority;

3. conduct Port Access Route Studies (PARS) per Appendix D to determine whether existing regulations should be revised to improve navigation safety due to factors such as increased vessel traffic, changing vessel traffic patterns, conflicting off-shore uses, weather conditions, and other navigational challenges;

4. make use of Marine Planning Guidelines per Appendix E when appropriate;

5. participate in marine planning events and forums structured to carry out national and regional policy guidance in their Areas of Responsibility (AOR) per Appendix F; and

6. develop policy to support marine planning and related activities, and initiatives within their AOR.

k. Coast Guard Navigation Center (NAVCEN) shall:

1. support Automatic Identification System (AIS) data collection and sharing requirements per Reference (d);
(2) support WAMS and PARS with analysis products; and

(3) coordinate Port and Waterways Safety Assessments (PAWSA) per Appendix G.

1. Sector commanders, commanding officers, and officers in charge shall support headquarters, area, and district marine planning efforts, studies conducted in their AOR, and other initiatives as directed. These may include PAWSA workshops, PARS, NSRAs or WSAs, and outreach via Area Committees and Harbor Safety Committees (HSC) per Appendix H, and other pertinent initiatives as directed.

3. **DIRECTIVES AFFECTED.** Marine Planning to Operate and Maintain the Marine Transportation System (MTS) and Implement National Policy, COMDTINST 16003.2A, of 16 November 2016, is cancelled and superseded.

4. **DISCUSSION.**

   a. The Coast Guard is organized, trained, equipped, and funded to carry out statutory responsibilities per Reference (a). Marine planning is a broad description of the fundamental management activity that helps enable the Coast Guard to effectively and efficiently meet these requirements. Effective maritime governance has always been, and will continue to be, integral to meeting Service responsibilities. There are several continuing activities that encompass the Coast Guard’s core marine planning processes.

   b. The Coast Guard plays an important role in maritime governance per Reference (e); marine planning per References (f) and (g); and the MTS per References (h), (i), and (j); Aids to Navigation (ATON) system administration per Reference (k); permitting bridge construction and regulating drawbridge operations per Reference (l); and numerous other actions that are guided by various other Coast Guard Directives. The Coast Guard’s broad authorities, expansive network of interagency, military, and industry relationships, unique operational capabilities and presence, and international partnerships enable it to execute daily, steady-state operations and respond to major incidents. It requires prioritization and uniformity throughout the Coast Guard and coordination of ongoing and projected activities with other stakeholders in shaping a consistent national approach, while affording operational commanders necessary flexibility to accommodate unique regional factors. A comprehensive and well integrated concept for these governance responsibilities, within the bounds of existing Coast Guard statutory authorities, applied to the ocean, coastal, the Great Lakes, and inland waterways, will have positive impacts across all Coast Guard mission areas.

   c. Executive Orders and other directives provide policy guidance that often influence Coast Guard planning and operations. For example, Reference (b) directs Federal departments and agencies to advance the economic, security and environmental interests of the United States in the maritime regions by balancing sustainable economic development and growth with the protection and preservation of the marine environment. This Policy and other directives provide additional considerations for the Coast Guard to apply in its ongoing marine planning activities. Although the Coast Guard is actively pursuing development and maintenance of the MTS, the Service must be attuned to other emerging requirements such as renewable energy development, hydrokinetics, and aquaculture, while continually engaging industry, academia, and all marine
environment stakeholders to ensure the safety, security, and stewardship of the Nation’s waters, including the polar regions.

d. The Coast Guard will continue to play a critical role in shaping the Nation’s activities in the marine environment. The Coast Guard will promote a safe, secure, efficient, environmentally sound, and resilient MTS by focusing on risk management and hazard prevention, including development and enforcement of routing measures, safety and security standards, contingency planning, and incident management. The Coast Guard’s marine planning processes and tools will define and analyze requirements to shape decision-making. The Coast Guard will support existing and evolving requirements involving traditional and renewable energy and other emerging changes in ship design and construction, construction and operation of coastal and offshore facilities and other infrastructure, and the safe and secure transportation of energy products. The Coast Guard will participate in planning entities as appropriate to carryout statutory obligations and national policy objectives to the greatest extent possible.

5. **DISCLAIMER.** This guidance is not a substitute for applicable legal requirements, nor is it itself a rule. It is intended to provide operational guidance for Coast Guard personnel and is not intended to nor does it impose legally-binding requirements on any party outside the Coast Guard.

6. **MAJOR CHANGES.** Major changes in this update include guidance for the transition from the National Ocean Policy to the Ocean Policy to Advance the Economic, Security, and Environmental Interests of the United States discussed in Reference (b), as well as other emerging policy implementation within authorized MTS programs.

7. **ENVIRONMENTAL ASPECT AND IMPACT CONSIDERATIONS.**

   a. The development of this Instruction and the general policies contained within it have been thoroughly reviewed by the originating office in conjunction with the Office of Environmental Management, Commandant (CG-47). This Instruction is categorically excluded under current Department of Homeland Security (DHS) categorical exclusion (CATEX) A3 from further environmental analysis in accordance with "Implementation of the National Environmental Policy Act (NEPA),” DHS Instruction Manual 023-01-001-01 (series).

   b. This Instruction will not have any of the following: significant cumulative impacts on the human environment; substantial controversy or substantial change to existing environmental conditions; or inconsistencies with any Federal, State, or local laws or administrative determinations relating to the environment. All future specific actions resulting from the general policy in this Instruction must be individually evaluated for compliance with the National Environmental Policy Act (NEPA), Department of Homeland Security (DHS) and Coast Guard NEPA policy, and compliance with all other applicable environmental mandates.


9. **RECORDS MANAGEMENT CONSIDERATIONS.** This Instruction has been thoroughly reviewed during the directives clearance process, and it has been determined there are no further records
scheduling requirements, in accordance with Federal Records Act, 44 U.S.C. 3101 et seq., NARA requirements, and Information and Life Cycle Management Manual, COMDTINST M5212.12 (series). This policy does not have any significant or substantial change to existing records management requirements.

10. **FORMS/REPORTS.** None.

11. **REQUEST FOR CHANGES.** Units and individuals may recommend changes via the chain of command to the Office of Navigation Systems (CG-NAV).

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Appendix A  Waterways Analysis and Management System (WAMS)
Appendix B  Navigation Safety Risk Assessment (NSRA)
Appendix C  Waterway Suitability Assessment (WSA)
Appendix D  Port Access Route Studies (PARS)
Appendix E  Marine Planning Guidelines
Appendix F  Maritime Planning Entities
Appendix G  Ports and Waterways Safety Assessments (PAWSA)
Appendix H  Harbor Safety Committees (HSC)
APPENDIX A. WATERWAYS ANALYSIS AND MANAGEMENT SYSTEM (WAMS)

1. **Overview.** Periodically, the Coast Guard conducts a Waterways Analysis and Management System (WAMS) study to validate the adequacy of the existing Aids-to-Navigation (ATON) system. The WAMS study focuses on the existing ATON system, channel framework, marine casualty information, port/harbor resources, changes in marine vessel usage (both recreational and commercial), user capabilities, training and carriage requirements, available technology, environmental considerations, stakeholder feedback, and planned developments. WAMS is the cornerstone of navigable waterway design, which seeks to continuously improve service delivery for marine safety information, modernize the ATON system, and improve communications with Marine Transportation System (MTS) stakeholders. This involves several steps as discussed in this Appendix.

2. **Preparation.**
   b. Review initial/latest WAMS Report and accompanying information for subject waterway; and
   c. Announce WAMS Study in Local Notice to Mariners (LNM).
   d. Contact NAVCEN for risk assessment and geospatial information system (GIS) products and support.

3. **Soliciting User Input.**
   a. Develop user survey;
   b. Develop stakeholder list;
   c. Conduct public/stakeholder outreach (to include survey distribution);
   d. Advertise WAMS Study via radio/newspaper/web site/etc.;
   e. Hold public WAMS meetings to discuss stakeholder’s concerns;
   f. Maintain WAMS bridge logbook to document radio conversations relating to ATON;
   g. Conduct user rides;
   h. Contact the local Vessel Traffic Service (if applicable);
   i. Contact facility managers; and
   j. Contact U.S. Army Corps of Engineers (USACE) and Port Authorities.

4. **Waterway Research.**
   a. Query Marine Information for Safety and Law Enforcement (MISLE) and State/Local databases for CAG (Collisions, Allisions, and Groundings) data and other information related to the WAMS study area;
   b. Contact all Coast Guard units in WAMS study area for CAG data and other information;
   c. Collect AIS traffic, environmental, maritime planning, hydrographical, and cargo data;
   d. Review Coast Pilot and identify updates that may be required to update Coast Pilot based on your research;
Appendix A to COMDTINST 16003.2B

e. Review bridge clearance information and drawbridge operating schedule (if applicable);
f. Review 33 CFR Part 334 (Danger Zones and Restricted Areas);
g. Review 33 CFR Part 109-110 (Anchorages);
h. Review 33 CFR Part 165 (Regulated Navigation Areas);
i. Review traffic patterns;
j. Obtain/plot casualty data and note trends;
k. Review nautical charts, the Coast Guard Light List, and Aid To Navigation Information System (ATONIS) information to check for any discrepancies between published information and actual conditions; and
l. Review applicable PARS data.

5. Review of ATON.
   a. Review aid discrepancies and note trends;
   b. Review environmental factors;
   c. Review pending projects for the WAMS area;
   d. Review private ATON;
   e. Review luminous ranges of ATON;
   f. Review channel surveys;
   g. Analyze minor and major aids to determine adequacy;
   h. Evaluate accuracy and range of DGPS;
   i. Review ATON servicing assignments; and
   j. Review Level of Service for specified waterway type, and ensure ATON system is providing as appropriate.

6. WAMS Report.
   a. Analyze collected data and information;
   b. Determine waterway criticality;
   c. Write WAMS Report;
   d. Submit Coast Pilot Report to the Office of Coast Survey on-line http://ocsdata.ncd.noaa.gov/idrs/discrepancy.aspx, if needed; and
   e. Complete action summary.

7. Submission.
   a. Complete chartwork;
   b. Forward WAMS Report to District (dpw). Attn: WAMS Officer via First Class mail; and
   c. Provide feedback to the users upon receipt of WAMS Board results from District.

APPENDIX B. NAVIGATION SAFETY RISK ASSESSMENT (NSRA)

1. **Overview.** The U.S. Coast Guard is the navigation safety expert for the Federal Government and serves as its navigation safety center of excellence. The appropriate Coast Guard unit, i.e., Sector, District, Area, or Headquarters, conducts or reviews navigation safety risk assessments (NSRA) at the request of, or in response to, a permitting agency that is considering a project proposal from an applicant that will place a structure on or near the navigable waters of the United States. The permitting agencies most frequently permitting these structures are the U.S. Army Corps of Engineers (USACE), Coast Guard, and Bureau of Ocean Energy Management (BOEM). The Coast Guard’s role as a cooperating agency is limited to supporting the permitting agency; the Coast Guard is rarely the permitting agency. The scope and breadth of projects associated with these applications range from simple piers at a local marina, to bridges, large waterfront facilities such as liquefied natural gas terminals or offshore renewable energy installations such as offshore wind farms. The appropriate Coast Guard unit will advise the permitting agency of potential impacts to navigation safety that might result from approval of a proposed project. The advice might include recommended mitigation measures the applicant should take to reduce or alleviate hazards to navigation expected because of the proposed project.

2. **Tools.** The following tools follow a continuum with progressive levels of review:
   a. **Initial Screenings** are a “first look” at applications for a project, done to identify projects that may have risk and require an assessment. It is conducted when the Coast Guard receives correspondence or public notice of a permit application under consideration by a permitting agency. This readily identifies potential or actual risks and determines whether a navigation safety risk assessment is needed. If the Coast Guard determines that no further assessment is necessary, the permitting agency is notified, and the situation is monitored as needed.
   
   b. **Basic Navigation Safety Risk Assessments** are conducted when it has been determined from the initial screening that there may be an adverse effect on safety of navigation, but not enough to require the five-step risk assessment. The basic navigation safety risk assessment is commonly sufficient for minor projects, and typically handled at the Captain of the Port (COTP) level, but might be appropriate for major projects given the nature of the risk. Six criteria are used to explore risk associated with a particular project application:
      (1) Location;
      (2) Vessel traffic;
      (3) Response;
      (4) Anticipated environmental factors;
      (5) Severe and sudden environmental factors; and
      (6) Hydrological effects to waterway.
   
   c. **Five-Step Navigation Safety Risk Assessments** are conducted when the initial screening or basic navigation safety risk assessment concludes that a more thorough, qualitative risk assessment is warranted, but does not meet the requirements to conduct a formal navigation safety risk assessment. This assessment highlights how different factors relate to a project’s potential effect on navigation safety. The risk model provides an initial
assessment of navigation safety risk. It does not replace an extensive risk assessment based on complete analysis of all available data. The five-step assessment uses three broad categories to assess how different factors relate to a project’s potential effect on navigation safety. These categories are:

(1) Location;
(2) Activity; and
(3) Environmental conditions associated with the proposed project.

The Five Step Risk Assessment Tool may be found at https://cg.portal.uscg.mil/units/cgwwm1/WWMPolicy%20Library/3-71_7%205-Step%20Navigation%20Safety%20Risk%20Assessment%20Tool.xltm. The information required to complete the risk assessment is normally contained in the public notice of the permit application, the appropriate charts, and the Waterways Management staff expertise. For additional information, contact the project officer from the lead Federal agency.

(1) Open the risk model and enable macros if necessary to use the spreadsheet. Save the spreadsheet locally;
(2) Complete the project information section;
(3) Complete the risk assessment worksheets;
(4) Recommend a permit action; and
(5) Print the report.

d. Formal Navigation Safety Risk Assessments are for major projects of unique or extraordinary nature. A major project of unique or extraordinary nature is the scope of the project or anticipated level of risk to safety of navigation cannot be determined using the five-step risk assessment. It is an in-depth analysis of a project that is completed by the applicant. The Coast Guard may recommend that the project permitting agency require the permit applicant to conduct a formal risk assessment if the initial screening or re-evaluation suggests that the project could adversely affect safety of navigation to determine the scope and degree of those impacts. It also determines if the project is enforceable within the scope of public interest factors that the Coast Guard has statutory and regulatory authority to protect. The formal assessment should consider public interest factors that are limited to reducing the possibility of

(1) Injury or loss of life;
(2) Damage or loss of vessels, cargo, or structures in, on, or immediately adjacent to the navigable waters of the United States; and
(3) Damage to the marine environment from navigation incidents reasonably expected to result if the project is approved.

The Coast Guard will review the NSRA and provide its recommendations concerning the level of risk and mitigation measures that the assessment identifies.

APPENDIX C. WATERWAY SUITABILITY ASSESSMENT (WSA)

1. **Overview.** The Coast Guard Captain of the Port (COTP) uses the Waterway Suitability Assessment (WSA) to assist in making a determination on the suitability of the waterway for Liquefied Natural Gas (LNG) marine traffic and Liquefied Hazardous Gas (LHG) facilities which are being built or modified in such a way to result in an increase in the size and/or frequency of LNG or LHG marine traffic on the navigable waterway associated with a proposed facility or modification to an existing facility.

2. **Application Process.**
   a. **Preliminary WSA.** A prospective applicant seeking to site, construct, and operate an LNG facility is required to submit a Preliminary WSA, along with the Letter of Intent (LOI), to the COTP of the zone in which the facility is or will be located at or before the time when the applicant begins the Pre-Filing period with Federal Energy Regulatory Commission (FERC). The main purpose of the Preliminary WSA is for applicants to provide an outline to the COTP of the various risk factors they plan to analyze and the risk analysis methodology they plan to use in the Follow-on WSA. It gives the COTP the opportunity to point out any issues or factors the applicant may have overlooked when considering the various potential safety and security impacts the LNG marine traffic may have on the port and associated waterway(s). It also provides an opportunity for the applicant and the COTP to identify the stakeholders at the port with whom the applicant should consult in developing the Follow-on WSA. The Preliminary WSA is typically a short document, often fewer than 10 pages in length, and provides a brief discussion on the following topics to be addressed and analyzed in the fully developed Follow-on WSA:
      (1) Port Characterization;
      (2) Characterization of LNG Facility and LNG Tanker Route;
      (3) Risk Assessments for Maritime Safety and Security;
      (4) Risk Management Strategies; and

      In addition to the above, the WSA should have a section listing recommended risk mitigation measures and conclusions.

   b. **Follow-on WSA.** The applicant must prepare and submit a Follow-on WSA to the COTP. The Follow-on WSA provides a complete analysis of the topics outlined in the Preliminary WSA. It should identify credible security threats and navigational safety hazards for the LNG marine traffic, along with appropriate risk management strategies and the resources needed to carry them out.

3. **Review and validation of a WSA.** The COTP shall review and validate the applicant’s WSA in cooperation with key stakeholders at the port such as the Harbor Safety Committee, Area Maritime Security Committee, and other stakeholders identified by the COTP (e.g., State and local governments, tribal authorities, appropriate members of the public, etc.).

   For more information on the conduct of Waterway Suitability Assessments, please refer to 33 CFR 127.007 - Letter of Intent and Waterway Suitability Assessment; and Guidance Related to Waterfront Liquefied Natural Gas (LNG) Facilities, NVIC 01-11, dated 24 January 2011.
APPENDIX D. PORT ACCESS ROUTE STUDIES (PARS)

1. **Overview.** Port Access Route Studies (PARS) are the means by which program managers determine the need to establish traffic routing measures, shipping safety fairways, Traffic Separation Schemes (TSS’s), limited access areas, recommended routes, and regulated navigation areas in order to ensure navigational safety in the Nation’s off-shore approaches and coastal waters. PARS can serve as justification for regulatory projects or IMO submissions.

   a. Under the PWSA the Secretary of Homeland Security may designate or adjust shipping safety fairways and TSS’s to provide safe access routes for vessel traffic proceeding to and from ports or places that fall under the jurisdiction of the United States. The Secretary’s authority to make these designations or adjustments was delegated to the Commandant, U. S. Coast Guard, in Department of Homeland Security Delegation No. 0170.1. The designation or adjustment of shipping safety fairways and TSS’s recognizes the paramount right of navigation over all other uses in the designated areas.
   b. The PWSA requires the Coast Guard to conduct a study of port-access routes before establishing new or adjusting existing fairways or TSS’s. A Notice of Study announcing the start of the study must be published in the Federal Register. Throughout the study process, the Coast Guard must coordinate with Federal, State, and foreign state agencies (as appropriate) and consider the views of maritime community representatives, environmental groups, and other interested stakeholders. A primary purpose of this coordination is, to the extent practicable, to reconcile the need for safe access routes with other reasonable waterway uses. In addition to aiding the Coast Guard in establishing new or adjusting existing fairways or TSS’s, the PARS process may be used to determine and justify if safety zones, security zones, recommended routes, and regulated navigation areas should be created.

3. **Objectives.** PARS results help program managers establish traffic routing measures, shipping safety fairways, TSS, limited access areas, recommended routes, and regulated navigation areas. They may provide justification for regulatory projects or IMO submissions. If the PARS recommends vessel routing measures, Commandant (CG-NAV) will validate the recommendations and initiate the Federal rulemaking process and/or IMO’s ships routing measures process. The objectives of the PARS are to:
   a. Determine present traffic density;
   b. Determine potential traffic density;
   c. Determine if existing vessel routing measures are adequate;
   d. Determine if existing vessel routing measures require modifications;
   e. Determine the type of modifications;
   f. Define and justify the needs for new vessel routing measures;
   g. Determine the type of new vessel routing measures; and
h. Determine if the usage of the vessel routing measures must be mandatory for specific classes of vessels.

**Note:** The focus of the PARS is off-shore approaches/coastal waters.

4. **Process.** A PARS is conducted at the District level. A Notice of Study (NOS) is first published in the *Federal Register*. Any such notice will identify the study area, provides the reasons for the PARS, and invites public comments and additional information. PARS usually take from 1-2 years to complete. The following outlines the PARS process:

a. **Determine if a PARS is required.** The District Commander must determine if a PARS is required. This decision may be made based on:

   (1) **A request from a private party.** This request should propose a study in a particular area, identify problems due to the lack of vessel routing measures, identify problems with existing vessel routing measures, and provide possible solutions or alternatives to the present situation in the waterway;

   (2) **New information.** The District Commander is made aware of the need for new or modified vessel routing measures due to increased Outer Continental Shelf (OCS) activities, port development or improvements, increase or decrease in vessel traffic flow and congestion, or any other factors or information deemed appropriate; and

   (3) **A review of previous PARS.** The District Commander will review any previous PARS for the identified study area and will determine if any conditions or information has significantly changed enough since the last PARS to justify a new study.

b. **Identify the study area.** The District Commander must identify the applicable geographic study area in offshore approaches and coastal waters. The study area must be large enough to consider all activities that may affect or be affected by new or modified existing vessel routing measures.

c. **Prepare a draft Notice of PARS.** The District Commander will prepare a draft Notice of PARS. The notice will:

   (1) Delineate the study area and provide a summary of the reasons for the PARS;

   (2) Invite submission of public comments and additional information. Instructions will be provided on how and where to send comments and information;

   (3) Present issues and ask specific questions for which we are seeking answers; and

   (4) Explain any contemplated vessel routing measures and any associated legal effect of those measures.

d. **Publication of the Notice of PARS.** The District Commander will ensure publication of the notice in the *Federal Register*.

e. **Conduct the Study.** There are various methods to conduct a PARS. The following provides a basic framework for conducting the PARS. District Commanders are encouraged to modify or
expand this framework as necessary and to direct any questions concerning the PARS process to Commandant (CG-NAV). NAVCEN is equipped to assist with risk analysis and GIS products. Persons conducting studies should request assistance when needed either directly with the NAVCEN Waterways Risk Assessment and Support division or via request at navcen.uscg.gov.

(1) Collect and analyze data and other information on:

(a) Vessel traffic characteristics and trends (both existing and potential), including traffic volume, size and types of vessels, potential interference with the flow of commercial traffic, presence of any unusual cargoes, and other similar information;
(b) Fishing activity;
(c) Recreational boating traffic;
(d) Commercial ferry traffic;
(e) Military activities;
(f) Existing and potential OCS resource development activities;
(g) Environmental information and factors which may be impacted by potential or amended vessel routing measures;
(h) Underway and projected dredging projects;
(i) Port development activities;
(j) Native American Tribal activities and impacts of potential or amended vessel routing measures;
(k) Economic (costs and benefits) effects and impacts; and
(l) Any additional information that arises as a result of public comments.

(2) Notifications and consultations. The District Commander will notify and consult with all Federal, State, tribal, and local government agencies located in or near the PARS study area that may be affected by the results of the PARS. If these actions are unsuccessful at the District level, then the District Commander will notify Commandant (CG-NAV) who will initiate contact and advise the applicable government agencies of the PARS. The District Commander should also notify and consult with representatives of the maritime community, port and harbor authorities/associations, pilot associations, and any other local customer or interest group deemed appropriate.

(3) Public meetings. The District Commander should conduct public meetings if deemed necessary or if requested by an interested party. When planning any such PARS-related public meeting, a Notice of Meeting must be published in the Federal Register.

(4) Other uses. The District Commander will consider other uses of the marine environment in the PARS area such as:

(a) The exploration for or exploitation of oil, gas, or other mineral resources;
(b) The construction or operation of deepwater ports, renewable energy installations, or other structures on or above the seabed or subsoil of the submerged lands or the OCS of the United States;

(c) The establishment or operation of marine or estuarine sanctuaries; and

(d) Activities involving recreational or commercial fishing, boating, or diving.

(5) **Final PARS Report.** The District Commander will publish a final PARS report and forward a copy of the report to Commandant (CG-NAV) via First Class mail. The following provides a basic format for the report:

(a) Introduction. This provides a general overview of the study;

(b) Background. This may include such items as statutory authority, definition of terms, description of study area, and history;

(c) Maritime trends and analysis. These may include statistics, projections, and any other pertinent data;

(d) New issues;

(e) Summary and conclusion;

(f) Recommendations;

(g) Enclosures, including supporting documents such as other studies; and

(h) Appendices, including spreadsheets and charts.

The public may be afforded another opportunity to comment on the Final PARS Report. The District Commander should make this determination based on the level of public participation in the study and the whether there was significant disagreement or controversy on possible outcomes of the study. If another public comment period is warranted, the input received could alter the study results.

(6) **Notice of Study Results.** After the PARS is received and reviewed, Commandant (CG-NAV) will work with the District Commander to draft a Notice of Study Results, which will be published in the Federal Register. This completes the PARS process; no further public input will be considered.

(7) **Implementation.** It is important to note that implementing the results of a PARS could trigger environmental obligations and consultations under the National Environmental Policy Act (NEPA), the Endangered Species Act (ESA), or the Marine Mammal Protection Act (MMPA). District Commanders should consult with a Coast Guard environmental law specialist to ensure these requirements are properly addressed.
APPENDIX E. MARINE PLANNING GUIDELINES

1. Recommended Navigational Safe Distances.

   a. **Purpose.** These guidelines assist offshore developers and marine planners with their evaluation of the navigational impacts of any projects with multiple permanent fixed structures. The coastal areas include multiple users such as commercial shipping, tug and barge operations, commercial and recreational fishing, research vessels, offshore support vessels, oil and gas exploration and production, sand and gravel mining, offshore wind farms, and aquaculture apparatus. The guidelines consider sea space necessary for ships to maneuver safely, and discuss other factors to be considered when determining appropriate separation distances for the siting of offshore structures near shipping routes and other multiple use areas.

   These guidelines are not regulatory. They do not impact the boundaries of any existing leases for site characterization and site assessment activities, but do inform suitability of siting structures within a lease area. These guidelines should be considered during the area identification phase for both unsolicited and solicited development areas and when determining the siting of structures within existing areas. These guidelines also serve as one of the references to inform the Navigation Safety Risk Assessments (NSRA) conducted by developers. As a cooperating agency in the National Environmental Policy Act (NEPA) process, the Coast Guard will request, through the Lead Federal Agency, that the developer complete an NSRA to evaluate potential impacts to navigational safety.

   b. **Discussion.** There is no international standard that specifies minimum distances between shipping routes and fixed structures. However, it is widely accepted that fixed structures in the offshore environment should not interfere with navigation. Specifically, the following standards were used in the development of the U.S. guidelines:


      (2) The Confederation of European Shipmasters' Associations (CESMA);

      (3) The World Shipping Council (WSC); and


   c. **Planning Guidelines.** This Appendix provides the general guidelines for the placement of multiple structures near shipping routes and established ships routing measures, and other multiple use areas. These guidelines will result in the lowest level of acceptable risk reduction because they are based on minimum distances for the largest vessels to maneuver safely. Additional mitigation measures should be considered to achieve a low level of navigational safety risk.
2. **Recommended Guidelines for General Assessment of Areas for Potential Development.**

   a. **Port Approaches and Traffic Separation Schemes (TSS).**

      (1) **Planning Guidelines:**

      (a) 2NM from the parallel outer or seaward boundary of a traffic lane; and
      (b) 5NM from the entry/exit (terminations) of a TSS.

      **Note.** These recommendations are based on the maneuvering characteristics of a generic deep-draft vessel of approximately 300-400 meters in length. They are consistent with existing European guidelines. They account for the *minimum* distances for such larger vessels to maneuver in emergency situations.

      ![Diagram of TSS with 2NM and 5NM separations]

      **Note.** The 5 NM mile separation from the entry and exit of a TSS is necessary to enable vessels to detect one another visually and by radar in areas where vessels are converging and diverging from and to multiple directions.

   b. **Coastwise or Coastal Shipping Routes.** Vessels that tend to follow the coastline are typically smaller vessels that cannot safely transit too far offshore due to sea state limitations. The necessary sea space for vessels to safely maneuver is determined by the size and maneuverability of vessels and density of vessel traffic. When determining routes near shore the depth of water and location of underwater obstructions must be considered, especially if vessel routes will be displaced by the introduction of fixed structures. Towing vessels towing astern on a wire are of particular concern. For these vessels, the catenary of the tow wire will dictate significantly larger required safe water depths than the drafts of the tug or barge. Also, such a vessel-and-tow configuration has a large footprint and the resulting maneuvering ability is constrained.
Appendix E to COMDTINST 16003.2B

(1) **Planning Guidelines:**

(a) Identify a navigation safety corridor to ensure adequate sea area for vessels to transit safely;

(b) Provide inshore corridors for coastal ships and tug/barge operations;

(c) Minimize displacement of routes further offshore;

(d) Avoid displacing vessels where it will result in mixing vessel types; and

(e) Identify and consider cumulative and cascading impacts of multiple Offshore Renewable Energy Installations (OREIs), such as wind farms.

c. **Offshore Deep Draft Routes.** Offshore deep draft routes can be more flexible in terms of the location of the routes. It is still necessary to have adequate sea area for safe navigation, but less critical to preserve existing routes to achieve safe conditions.

(1) **Planning Guidelines:**

(a) Avoid creating an obstruction or hazard on both sides of an existing route; and

(b) If not practicable to avoid structures or hazards on both sides of a route, a navigation safety corridor should be of sufficient size to provide for the safe transit of the largest vessels. Large ocean-going ships often operate at high speeds that affect maneuvering response time. This should be accounted for when making the determination.

d. **Navigation Safety Corridors.** Navigation safety corridors identify the amount of area necessary for vessels to safely transit along a route under all situations. These corridors are not considered routing measures by the Coast Guard or the International Maritime Organization (IMO), but are a tool to delineate areas where no offshore development should be considered. These corridors should not be confused with shipping safety fairways, two-way routes, or Traffic Separation Schemes, which are routing measures that identify specific inshore traffic areas. Density plots (“heat maps”) of Automatic Identification System (AIS) information are useful in determining the location of a route, but are less useful in determining the appropriate size of a route where multiple vessels may be required to pass one another safely. Navigation safety corridors should be given priority consideration over other potential uses of the same water space. In determining the appropriate size of navigation safety corridors, the following factors must be considered for the largest and least maneuverable vessels expected to use a route:

(1) **Cross Track Error (CTE).** CTE is the difference between the intended and actual track. Factors leading to a vessel deviating from intended track include:

(a) Environmental Forces - include wind, currents, and sea state:

1) Wind forces can set a vessel in the downwind direction. The impacts of the wind will vary according to the size and shape of the vessel;
2) Currents, particularly cross currents, can significantly affect the maneuverability of a vessel and space required to navigate safely; and

3) Sea state, including size and direction of waves, can cause vessels to pitch, heave, and roll. Yawing motions could result in the vessel drifting off course. Following seas can impact the ability of the vessel to steer a steady course.

(b) Swept Path - (the sum of various factors to determine the total width of the tug and barge path) will depend on the abilities of the vessel operator and the maneuvering characteristics of the vessel and are a secondary cause of CTE:

1) Vessel Operator Response - the time for the vessel operator to recognize deviation from an intended track and to take corrective action; and

2) Vessel Response - the speed that the vessel responds to rudder and main engines.

(2) Closest Point of Approach (CPA). CPA is the safe distance at which a vessel can pass a fixed or moving hazard accounting for existing conditions. In complying with the International Regulations for Preventing Collisions at Sea 1972 (COLREGS), the captain of a vessel is required to consider all dangers of navigation and collision and any special circumstances, including limitations of the vessels involved, which may make a departure from the COLREGS necessary to avoid immediate danger per Rule 2, Responsibility. When determining an appropriate CPA, all factors of weather, maneuvering capability, visibility, etc., must be considered, as well as potential emergency situations. Under ideal conditions with low sea states, good visibility, and good communications between vessels to arrange a passing agreement, a CPA of ½ to 1 NM may be acceptable. Under less ideal weather and sea conditions and/or higher vessels speeds, a CPA of 2 NM or more may be necessary to ensure safe passage. By increasing the planned CPA, the chance of a collision or allision will be decreased.

(3) Density of Traffic. The amount of traffic along a route will dictate the likelihood of vessels sharing sea space in meeting, overtaking, or crossing situations. With good communications and early actions, vessels can make arrangements to limit the number of vessels interacting with each other. However, there will be times when multiple vessels converge on the same location, such as in a cluster of OREIs, and additional sea space is necessary to maneuver safely and maintain appropriate CPAs for all vessels. The longer the route is constrained, the more likely multiple vessels will meet along a route. Crossing traffic, such as fishing vessels or offshore support vessels transiting to/from offshore installations, will further complicate vessel interactions. A navigation safety corridor should be designed to accommodate an appropriate number of vessels passing abeam of one another and other vessel operations in the area. In low density situations such as offshore, a minimum of two vessels may be appropriate. For moderate vessel density situations a minimum of three vessels should be used for planning purposes.

Note. The factors are interrelated and should be considered in the context of the maximum most probable weather and sea state conditions. The types of operations requiring the most sea space for maneuvering under normal and emergency situations should be used as the reference point.
e. Other Site-specific Considerations.

(1) Potential contributions to risk:

(a) High density traffic areas with converging or crossing routes. Similar to port entrances, areas where vessels are approaching from different directions into a smaller area will produce complex vessel interactions and increase navigational safety risk. This could occur in natural choke points or off shore of a cape, peninsula, or other obstruction that vessels must go around;

(b) Obstructions/hazards on opposite side of a route. If hazards or obstructions are present on the opposite side of a route from a development area, the impact will be the constriction of vessel traffic and elimination of collision assessment time and avoiding action of vessels in an emergency situation;

(c) Severe weather/sea state conditions. Predominant severe weather and sea state conditions can impact visibility, maneuverability, and navigation, all of which would negatively impact navigational safety;

(d) Severe currents. Severe currents will impact maneuverability of a vessel and ability to maintain intended track, thus negatively impact navigational safety;

(e) Mixing of vessel types. Vessels of differing types will naturally segregate not only due to vessel requirements for a safe transit, such as depth of water and sea state limitations, but also to avoid each other for safety reasons. Smaller or slow moving vessels will tend to avoid major shipping lanes containing larger, faster moving vessels. When these vessels are displaced into the routes of other vessel types the number of overtaking situations will increase, thereby increasing risk, particularly if sea space is limited;

(f) Complexity of vessel interactions. In areas where interactions are more complex, impacts due to new obstructions could be amplified. Complexity can be driven by a number of factors, such as those previously discussed above where routes are converging/crossing or mixing of vessel types. Complexity could also be driven by other operations being conducted in the area such as fishing, recreational traffic, or pilot boarding areas;

(g) Large distances along a route. The longer the distance obstructions are present along a route, the greater the risk. Increased distance equates to increased exposure to the navigational hazard; and

(h) Undersized routing measures. If an existing TSS or other routing measure was not designed to accommodate existing or future density and size of vessels, additional separation may be appropriate.
(2) **Potential mitigations of risk:**

(a) Mitigating factors such as pilotage areas, vessel traffic services, precautionary areas, areas to be avoided, anchorages, limited access areas, and routing measures. Mitigating factors can be used to lower risk in many ways, such as increasing predictability of vessel traffic, increasing local knowledge and expertise, increasing situational awareness, or improving navigation. Proper marking and lighting of the structures of a wind farm can be used for navigation purposes improving the ability to fix a vessel’s position and avoid the hazard;

(b) Low traffic density. Low traffic density will decrease vessel interactions and allow for more space for transiting vessels to maneuver;

(c) Predominantly smaller vessels. If only smaller vessels call on a port or if large vessel transits are very infrequent, smaller planning distances may be appropriate; especially if other mitigations are in place for the large vessel transits, such as tug escorts or moving safety zones;

(d) Distance from ports, shoals, and other obstructions. If there are large distances to other hazards, vessels will be able to adjust their route to ensure safe transits; and

(e) Aids to Navigation. Enhanced Aids to Navigation may assist vessels in more accurately determining their position as well as identifying potential hazards.

(3) **Other Critical Routes.** This refers to routes that may not be obvious when looking at regular traffic patterns and may involve specific or unique requirements of particular vessels:

(a) Natural Deepwater Approaches. Natural deep water approaches may not be used by the majority of vessels but may be necessary for some deep-draft vessels to safely enter or depart port at present or in the future.

(b) Unique Transits. Other requirements such as sea space, draft, lack of maneuverability, necessary for the safe transit of infrequent, but important vessel transits, such as periodic provisioning of remote communities.
APPENDIX F. MARINE PLANNING ENTITIES

1. **Overview.** The District Commander having responsibility to participate in a marine planning entity may either personally take part or appoint a staff member at an appropriate level. The level of Coast Guard representation should be determined by the issues the participants will deliberate or decide and the impacts of those issues or outcomes on national security, Coast Guard missions, navigation safety, and other important considerations. The District Commander should consider playing a more active role if the Coast Guard has considerable equities relative to other participating Federal agencies in the issues put before marine planning entity or if the Coast Guard is seen as the authoritative agency in maritime matters in the region, especially involving development and maintenance of the MTS. In some cases, the Coast Guard may not have a role to play.

2. **Priority Emphasis.** Coast Guard members participating as members of any marine planning organization or through various other engagement mechanisms should consider the following factors during any deliberations:

   a. **Navigation safety.** Will the flow of commerce and the navigation safety of a mariner’s vessel be impeded and/or negatively impacted based on the placement of alternative activities in maritime regions (keeping in mind that the navigation safety and safe flow of commerce is paramount)?

   b. **National and homeland security.** Would there be an impact on the ability of the Coast Guard to take action or provide authoritative oversight to meet its obligation in assuring the homeland security and defense of the United States?

   c. **Effect on missions.** Would there be any improvement or limiting effect on the ability of the Coast Guard to carry out or enforce any of its mandates or responsibilities established by law or regulation, especially any impediments to Search and Rescue and the safety of life at sea?

   d. **Resources.** Are there any issues related to present and future resource requirements that could affect the Coast Guard?

   e. **Political and media interest.** In cases where actions of a marine planning body may generate significant media or political interest, the Coast Guard representative shall inform his cognizant Area command, who will work with through appropriate channels to develop a cohesive communications plan.

3. **Approach.** Coast Guard military or civilian members serving as a representative to maritime planning entities should take an active role in the deliberations of the organization, review all documents produced, prepare Coast Guard positions and responses with input from subject matter experts from across the spectrum of Coast Guard missions and coordinate detailed Coast Guard input to any local or regional plans with senior staff. The representative must be able to clearly and persuasively communicate Coast Guard positions and responsibilities.

4. **Understanding of Coast Guard Roles and Missions is Essential.** Coast Guard representatives must have a working knowledge of the full spectrum of Coast Guard roles and missions. Specifically, the Coast Guard representative should have a broad understanding and ability to reach back to subject matter experts regarding Coast Guard
activities involving waterways and maritime traffic management; port safety and security; vessel tracking and monitoring; marine environmental protection; fisheries management, maritime law enforcement, permitting of offshore platforms, permitting and regulating bridges, and other man-made structures; maritime domain awareness; and marine scientific research. The representative must be sensitive to the relationship between government and commercial maritime interests and the Federal Government’s relationships with State, regional, local, and tribal governments.

5. **Headquarters and Area Support the Districts.** Due to the broad scope of topics maritime planning entities may choose to address, program managers and Area commanders must be ready to provide guidance and support to the representatives of marine planning entities, ensuring the are equipped and aligned to achieve Coast Guard program objectives.
APPENDIX G. PORTS AND WATERWAYS SAFETY ASSESSMENT (PAWSA)

1. **Overview.** The Ports and Waterways Safety Assessment (PAWSA) process identifies major waterway safety hazards, estimates subsequent risk levels, evaluates potential mitigation measures, and sets the stage for implementation of selected measures to reduce risk. The process involves convening a select group of waterway users/stakeholders and conducting a 2-day structured workshop to identify and discuss these aforementioned elements of risk mitigation. A sponsor (e.g., Captain of the Port) is required to initiate and manage the workshop. However, the process must be a unified effort involving waterway users, stakeholders, and the agencies/entities responsible for implementing selected risk mitigation measures.

2. **Risk Categories.** Since risk is defined as the product of the probability of a casualty and its consequences, the Waterway Risk Model includes variables dealing with both the causes of waterway casualties and their effects. The six risk categories are:

   a. **Vessel Conditions.** The quality of vessels and their crews that operate on a waterway;

   b. **Traffic Conditions.** The number of vessels that use a waterway and their interactions;

   c. **Navigational Conditions.** The environmental conditions that vessels must deal with in a waterway relating to wind, currents, and weather;

   d. **Waterway Conditions.** The physical properties of the waterway that affect how easy it is to maneuver a vessel;

   e. **Immediate Consequences.** The immediate impacts of a waterway casualty: people can be injured or killed, petroleum and hazardous materials can be spilled and require response resources, and the marine transportation system can be disrupted; and

   f. **Subsequent Consequences.** The effects of waterway casualties that are felt hours, days, months, and even years afterwards, such as shoreside facility shut-downs, loss of employment, destruction of fishing areas, decrease or extinction of species, degradation of subsistence living uses, and contamination of drinking or cooling water supplies.

APPENDIX H. HARBOR SAFETY COMMITTEES (HSC)

1. **Purpose and Scope.**
   a. The enormous breadth and scope of our nation’s marine transportation system, its increasing complexity with larger size vessels, alternative fuels, and more congested waterways is rapidly accelerating. Ports and the Marine Transportation System (MTS) are critical components of national economic security, facilitating the movement of U.S. goods and services throughout the global marketplace. Additionally, the extraordinary diversity of the stakeholders in the MTS such as recreational boaters, fishing vessels, inland barges, and ocean going vessels makes it imperative that the economic efficiency, prosperity, and safety of the nation’s waterways must be a collaborative effort between governments and industry. The work done by Harbor Safety Committees (HSCs) make our ports and waterways safe, secure, and environmentally sound and efficient by addressing all issues on the waterfront and is a key component of ensuring a robust, secure, and resilient Global Supply Chain.

   b. HSCs serve as a port’s primary marine transportation coordinating body and are uniquely created to fit the specific needs of each port. The make-up of the HSCs will reflect the port interests and their membership will include representatives of each industry that uses the waterway or has some maritime interest.

   c. HSCs work because the Coast Guard and other government agencies are partners in the process, not controllers of it. Typically, the U. S. Army Corps of Engineers (USACE), National Oceanic and Atmospheric Administration (NOAA), and state and local governments are well represented along with Non-Governmental Organizations (NGOs) and special interest groups on ocean protection and others.

   d. Sector Commanders are encouraged to have their waterways managers actively participate in their local HSCs. If there is no HSC or HSC like coordination body in a port, the Waterways Managers should explore with their industry stakeholders if there is a need to establish one.

2. **Membership.** An HSC is typically comprised of representatives of governmental agencies, maritime labor and industry organizations, environmental groups, and other public interest groups, to the extent that they are active in a particular port:

   a. Port Authority;

   b. Vessel owners and operators (tankers, dry cargo, barges, ferries);

   c. Harbor pilots and pilot associations;

   d. Marine Exchange;

   e. Docking pilots/tug and tow operators;

   f. Shipping agents;
Appendix H to COMDTINST 16003.2B

g. Terminal operators;
h. Shipyards;
i. Industry associations (national, state, and local);
j. Organized labor;
k. Commercial fishing industry associations;
l. Federal, State and local government agencies:
o. Environmental/Citizens groups/Waterfront developers;
p. Recreational boaters;
q. Rowing clubs;
r. Yacht racing associations; and
s. Members of the general public.

For more information on HSCs, contact the Office of Waterways Management and Ocean Policy (CG-WWM) at (202) 372-1530 or review Guidance for the Establishment and Development of Harbor Safety Committees Under the Marine Transportation System (MTS) Initiative, NVIC 1-00, dated 25 Apr 2000.