

Certification, Licensing, and Recertification of Marine Pilots: A Perspective from the U.S. “State Pilot System”

By Clayton L. Diamond

I. Introduction.

Marine pilotage dates back to ancient times, perhaps as early as when waterborne commerce first emerged. While not generally well-understood outside the maritime industry, pilotage is among the industry’s most valued professions. For centuries vessel masters have relied upon the expertise of pilots to safely navigate their ships into and out of port. In order to successfully guide large commercial vessels through confined and shoaled waterways, pilots must be – and are – the most highly trained mariners in the world. They must not only be unquestioned experts about their port, but they must also possess superior shiphandling and navigation skills and be able to adapt quickly to various types and sizes of ships. Pilots must also be competent and confident enough to exercise informed independent judgment – frequently in the face of fierce economic pressure – with a singular focus on safety.

The economic and environmental risks posed by today’s maritime operations, combined with the reality that ships are growing far faster than shipping channels, make pilots more important than ever. Given the critical safety role pilots will continue to play in 21st century shipping, there is understandably interest in how these professionals are certified, licensed, and recertified.

Any general discussion of the certification, licensing, and recertification of pilots must begin with an understanding of a basic truism - given vast differences in countries’ governments, legal systems, history, port operations, shipping traffic and navigational waterways, there is no one “right way” to administer a pilot licensure program. No matter how effective a program may be in a particular country or port area, it is not certain to be equally effective elsewhere. Pilotage is an inherently local matter and pilot certification, licensing, and recertification schemes must be based on the unique needs of each pilotage area.

II. Pilotage System in the U.S.

With this truism as context, following is an overview of how the typical compulsory pilot¹ is certified, licensed, and periodically recertified in the United States. Before beginning this overview, a brief review of the U.S. pilotage system is helpful. As in other countries, pilot regulation in the U.S. reflects unique political, legal and historical developments and is tailored to U.S. needs and requirements.²

The central feature of pilotage regulation in the U.S., including certification and licensure, is that States (i.e., provinces), not the national or federal government, play the central role. This system of State primacy reflects a judgment made by the first U.S. Congress that pilotage is best regulated at the State or local level. The legislation putting this judgment into effect, the

¹This chapter is focused on independent compulsory pilots, who are experts in all navigational aspects of a local waterway and who temporarily go aboard vessels to guide them into and out of port. This is in contrast to individuals who may obtain authorization to serve as a pilot while being assigned as a permanent member of a ship’s crew.

² For a complete review of the history and development of the pilotage system in the U.S. see the following article: Paul Kirchner and Clayton Diamond, *Unique Institutions, Indispensable Cogs, and Hoary Figures: Understanding Pilotage Regulation in the United States*, 23 U.S.F. Mar. L.J. 168 (2011). The article is available at: http://www.americanpilots.org/docs/Understanding_Pilotage_Regulation_APA_Law_Review_Article_.pdf

Lighthouse Act of 1789³, has been reaffirmed by Congress and courts many times in the intervening two centuries. The U.S. Supreme Court declared that Congress' decisions with respect to pilotage oversight "leave no doubt of the superior fitness and propriety, not to say the absolute necessity, of different systems of regulation, drawn from local knowledge and experience, and conformed to local wants."⁴ As a result of this legislation, the U.S. system is principally a "State Pilot System", with States being primarily responsible for oversight of pilotage.

Over the past 224 years Congress has, however, carved out a limited role for the federal government with respect to pilotage.⁵ Federal pilotage regulations, administered by the U.S. Coast Guard (USCG), apply only to certain U.S. flag vessels sailing between ports or places in the U.S.⁶ This small segment of shipping in the U.S. is required to be under the pilotage of an individual with a USCG-issued federal pilot endorsement.⁷ Pilotage of international trade vessels in the U.S. (i.e., non-U.S. flag vessels entering/departing U.S. ports, or U.S. flag vessels sailing to/from a non-U.S. port), which accounts for about 95% of all large ocean-going traffic moving in U.S. waters, is governed by the 24 U.S. coastal States through comprehensive pilotage regulation systems. While in State pilotage waters, these vessels are required to be under the direction and control of a State-licensed pilot.

III. Certification, Licensing, and Recertification of Pilots in the U.S.

Each coastal State has taken the authority granted by Congress to regulate pilotage and fashioned a comprehensive licensing system tailored to the local conditions and navigational demands of its waters. While the pilot certification, licensure, and recertification programs under the "State Pilot System" in the U.S. are distinctive in some respects from such systems in other countries, time and a remarkable safety record have proven these programs to be extremely effective. While there are variations in the approaches States take to pilot licensure, in general, these programs consists of the following core attributes:

- a) Licenses are authorized or issued by a regulatory body within a State, normally called a pilot commission.
- b) The selection process for candidates to enter a pilot training program generally requires an applicant to take a competitive examination or undergo extensive testing or interviews, have a college degree, and have substantial maritime experience or, if they possess less experience, be prepared to go through a considerably longer apprenticeship program.

³ Section 4 of this Act states, "That all pilots in the bays, inlets, rivers, harbors, and ports of the United States shall continue to be regulated in conformity with the existing laws of the States, respectively, wherein such pilots may be, or with such laws as the States may respectively hereafter enact for the purpose, until further legislative provision shall be made by Congress."

⁴ Cooley v. Board of Wardens of the Port of Philadelphia, 53 U.S. 299 (1852).

⁵ For the general statutory framework establishing the division between State and federal pilotage responsibilities, see Title 46, Chapter 85 of the U.S. Code.

⁶ The 35 American pilots on the U.S. Great Lakes are also regulated by the USCG. Since any pilotage system covering all of the U.S. waters of the Great Lakes would require consultations and formal agreements with Canada (and would therefore have significant foreign policy implications), from practical, diplomatic, and U.S. law perspectives, a federal, as opposed to state-by-state approach, was required. The U.S. Great Lakes pilotage system was established by the Great Lakes Pilotage Act of 1960, now codified in Title 46, Chapter 93, of the U.S. Code.

⁷ This federal pilotage endorsement is usually applied to an underlying mariner credential, such as a master or mate credential.

c) Pilot trainees are only certified for licensure after undergoing apprenticeships and extended periods of route specific training under the guidance of experienced pilots. This hands-on training is supplemented with classroom and simulator instruction.

d) In State pilot apprentice programs, obtaining a federal pilot endorsement is either an entry level requirement for initial selection or one of the many steps in such a program preparing an individual for an eventual State license.

e) Licenses are frequently issued in stages, with pilots progressively earning licenses that permit them to pilot larger and larger vessels.

f) Pilots are subject to rigorous medical fitness certifications.

g) Pilots must comply with periodic recertification requirements and must undergo regular continuing education, including bridge resource management for pilots, emergency shiphandling, fatigue issues, and new navigation technology, as well as instruction on full mission bridge simulators and manned models.

A more detailed discussion of the typical pilot certification, licensing, and recertification program in place in U.S. coastal States follows.

a. Pilot Commission

Generally, State pilots in the U.S. are certified and licensed by a pilot commission, a governmental entity that is part of a State or local governmental agency or a port authority. While the make-up of pilot commissions vary, most have a divided membership (i.e., no membership category has a plurality) composed of representatives of ship operators, port interests, environmental groups, pilots, government agencies, independent finance experts, and the public. Among other oversight functions, commissions generally administer tests and screening examinations, select/approve individuals for admission to pilot training programs, oversee the apprenticeship process, issue licenses, and review/ratify continuing education requirements necessary for recertification.

b. Selection of Pilot Licensure Candidates

Due to the diversity in local conditions and navigational demands among U.S. waterways, there are understandably variations in how States select candidates for potential licensure. There are, however, some common features. For instance, many States utilize interviews, various types of testing (i.e., aptitude, professional knowledge, etc.) or a standardized exam to screen or narrow candidate pools. Preparing for these exams requires commitment and dedication (some selectees indicate they studied at least 1,000 hours) and not all candidates are appointed on the first attempt – many go through the selection process more than once.

In addition to employing mechanisms to narrow applicant pools, States frequently seek different types of applicants. Some States prefer applicants from segments of the shipping industry that form a significant part of the ports' shipping traffic, while others look for applicants from a wide diversity of shipping types. Some States prefer to select well-seasoned mariners with senior credentials who can become fully-licensed pilots after relatively short apprenticeships, while other States look for less maritime experience in an applicant, but impose much longer apprentice training.

As challenging as the typical State pilot trainee selection process can be, this is just the initial leg of a long voyage with no guarantees of becoming a fully licensed pilot. An arduous and

comprehensive training and apprenticeship program follows.

c. Training and Apprenticeship Programs

All States require a formal apprentice program as the basis to certify candidates for eventual licensure. The length of apprentice programs can vary (i.e., 1-3 years for a mariner with an advanced credential or up to 7 years for an applicant with lesser maritime experience). Future pilots learn their craft under the tutelage of fully-licensed and experienced pilots. Since pilots must be intimately familiar with local waters, navigational peculiarities, and local regulations, as well as know how to handle different types/sizes of ships and be able to conduct themselves on ships with bridge teams coming from all over the world, an intensive “on-the-job” training program is a vital. Time has shown that the skills required of a pilot are best developed, and then mastered, through locality-specific, “hands-on” apprentice training.

Pilot apprenticeship programs include numerous instructional trips through pilotage waters with an experienced pilot. Depending on the level of experience of the pilot trainee, the number of trips can range from hundreds to thousands. The number of trips must be enough to ensure the pilot trainee becomes proficient at all different pilotage runs, on all different types of vessels, and under all types of weather conditions. There is simply no substitute for this experience.

Apprentice programs generally are progressive in nature, with apprentices gradually taking a greater and greater role. Initially, an apprentice will mostly observe, but over time, the apprentice will take on a more substantial role and will eventually conduct the navigation of the vessel under the senior pilot’s guidance. As the apprenticeship program draws to an end, the apprentice – under the watchful eye of the mentoring pilot – is handling the largest vessels that enter the pilotage waters.

In addition to a rigorous apprentice programs, intensive classroom study is also a common feature of State pilot training programs. Classroom topics generally required before an individual is certified to become a fully-licensed State pilot include basic, advanced and emergency shiphandling, radar and electronic navigation, fatigue, and bridge resource management training tailored for marine pilots. This required classroom work is supplemented with state-of-the-art bridge simulator and manned ship model training.

d. Federal Pilot Endorsement

As discussed, the federal pilotage requirements administered by the USCG apply directly only to individuals holding a federal pilot endorsement and serving the relatively small number of U.S.-flag coastwise seagoing vessels operating in the U.S. domestic trade. However, these federal pilotage regulations also have an indirect, but significant, impact on State pilots.

State-licensed pilots in the U.S. also hold a federal pilot endorsement,⁸ so they are therefore subject not only to State licensing regulations, but also federal regulations. State training, certification, and recency standards are far more stringent than any federal requirements, but the federal pilot endorsement does provide some benefit in that it serves as a national *minimum* standard.⁹ In the State pilotage system, the federal pilot endorsement is either an entry level

⁸ This requirement is implemented by State statute, State regulation, pilot commission regulation or local pilot association rule.

⁹ The U.S. Coast Guard’s view of the role the federal pilot endorsement is intended to play was perhaps best summed up in comments by Rear Admiral Henry Bell, then Chief of the Coast Guard’s Office of Merchant Marine Safety, at a 1979 conference. “This is precisely the philosophy behind the federal license. It is not intended to

requirement for selection to a State pilot apprentice program or obtaining it is one of the many steps in such a program.

Unlike the comprehensive certification, training/apprenticeship and licensing regimes of the States, the federal regulations on pilotage are limited. Federal statutes and regulations¹⁰ do set out rudimentary requirements for a federal pilot endorsement (i.e., minimum age of 21, annual physical examination, proficiency with electronic navigation, experience aboard a vessel in some capacity, small number of trips of the pilotage area, one-time written examination, sketch of the pilotage area, etc.), but a federal pilot endorsement may be issued to an individual who has had no prior training as a pilot and who has not demonstrated *any* piloting or even basic conning skills.

The regulatory requirement for federally-licensed pilots to maintain proficiency and a current working knowledge of the waters and routes to which the federal license applies is also extremely limited. There are no continuing education or training requirements for those holding a federal license, and there is only one re-familiarization standard (the holder of a federal pilot license is required to transit the particular pilotage route just once every 5 years).¹¹

e. Licensing of Marine Pilots

Similar to apprenticeship programs, the license-issuing process for State pilots frequently proceeds in stages. After completing an initial apprenticeship, a pilot commission may issue an individual a “deputy pilot” license or a “class” of license that authorizes the person to pilot vessels only up to a certain draft, length, or tonnage. A commission may authorize numerous “classes” of pilot licenses with the lowest level being for the smallest vessels calling at a particular port and the highest level (i.e., a full pilot license) being for the largest ships. It can take several years (in addition to the years spent in an apprenticeship program) to attain a full pilot license. Requiring individuals to progress through professional milestones is a common feature of State pilot certification and licensing schemes.

f. Physical Examination / Fitness Determination

In addition to professional requirements, due to the critical role State-licensed pilots play in maintaining navigation safety and environmental protection in America’s waterways, pilots are also subject to medical review and fitness standards. Medical fitness requirements are imposed at both the federal and State level. In the U.S., federal law requires holders of federal pilotage endorsements (or those otherwise authorized to “serve as” a pilot) to undergo an annual physical examination so that the USCG can make a determination as to whether the individual is medically fit.¹² Since State pilots also possess federal pilot endorsements, the federal medical fitness standards apply.

guarantee, in any way, that the holder can walk aboard, and perform like a first class pilot. It does not guarantee that he is capable of doing anything at all....[a]ll the license does is get a man in the door. It allows him to say, “Yes, I have met the minimum standards.” Admiral Bell went on to say, “To date, it has never been the government’s intention to try to make the license reflect competence....The federal licensing program is not intended to achieve the ends that many of the state pilots’ associations are designed to achieve for their own people in their own area.” See pages 113-114 of the *Proceedings: Symposium on Piloting and VTS Systems*, September 12, 1979, The National Research Council, Marine Transportation Research Board.

¹⁰ Specifically, Title 46, Chapter 71 of the U.S. Code (USC) and Title 46, Part 11 of the Code of Federal Regulations (CFR).

¹¹ 46 C.F.R. § 11.713 (2009).

¹² 46 U.S.C. § 7101(e)(3) and 46 CFR § 11.709.

The States have taken varied approaches to the medical fitness issue. Since State-licensed pilots, as holders of federal pilotage endorsements, must participate in the USCG's medical fitness determination program, some States accept this medical fitness certification for State licensing purposes. Other States accept the USCG's medical fitness determination, but impose their own requirements in addition to federal standards. There are also States that, while acknowledging the federal medical standards, have State medical standards that are wholly separate from any federal requirements.

The combination of USCG and State medical fitness requirements ensure that State-licensed pilots are subject to the most stringent physical and medical "fit for duty" standards in the U.S. maritime industry.

g. Recertification

Periodically, fully licensed pilots are required to take special training and refresher courses at maritime training centers around the U.S. and, when appropriate, at training facilities internationally. A typical State continuing education/training standard for pilots requires that a specified number of hours of commission-approved training be completed every 3-5 years. The required recurring training generally includes electronic navigation topics (i.e., ECDIS), bridge resource management for pilots, fatigue matters, and emergency shiphandling. Continuing education and training requirements are achieved with classroom, manned model, and bridge simulators. Simulator and manned model experiences are useful training tools (both for initial and recurring training), but simulation – whether through models or electronic imagery – can never replicate actual conditions and are not used by any State to assess an individual's performance or to gauge piloting skills.

These continuing education and training requirements give pilot commissions assurance that pilots are working to improve their skills and are keeping current on the latest trends and state-of-the-art navigation technology. If required continuing education and training recertification requirements (like medical certifications) are not completed, a pilot's State license will not be renewed.

III. Role of the International Maritime Organization.

While pilotage in the U.S. is regulated at the local level, there is important international guidance that impacts the certification and licensing of State-licensed pilots. The only established forum that has the jurisdiction, authority and expertise to discuss pilotage regulation at the international level is the International Maritime Organization (IMO). In 1968, early in its history, IMO formally recognized the importance of utilizing the services of qualified pilots in areas where specialized local knowledge is required. This recognition was in the form of IMO Assembly Resolution A.159(ES.IV), *Recommendation on Pilotage*. The resolution recommends Governments organize pilotage services where they would be most effective and to define the ships for which pilotage is mandatory.

In 1981, IMO adopted another resolution, A.485(XII), which provided recommendations on *Training, Certification, and Operational Procedures for Maritime Pilots*. In 1998, at its 69th Session, the IMO's Maritime Safety Committee (MSC 69) instructed two of its subcommittees – the subcommittee on Standards of Training and Watchkeeping, and the subcommittee on Safety of Navigation – to revise A.485(XII). That effort took nearly six years of debate, negotiation, and compromise among a broad cross-section of IMO's membership. The end result of this work was

Assembly Resolution A.960(23), *Recommendations on training and certification and operational procedures for maritime pilots other than deep-sea pilots*. Resolution A.960, formally adopted in 2003, restates and reaffirms the IMO decision contained in its predecessor, A.485(XII):

NOTING that, since each pilotage area needs highly specialized experience and local knowledge on the part of the pilot, IMO does not intend to become involved with either the certification or licensing of pilots or the systems of pilotage practised in various States.

Similar to the legislative determination made by the U.S. Congress in 1789, IMO, after an informed debate, has taken the affirmative position that due to the localized nature of pilotage, individual countries must have the freedom to regulate pilotage and certify/license pilots in a manner best suited for their particular needs. Although A.960(23) is recommendatory, it contains valuable guidance and has been an important resource for the various State pilot commissions in carrying out their certification and licensing obligations.

In addition to A.960(23), another IMO instrument that has at least an indirect impact on the certification and licensing of State pilots in the U.S. is the International Convention on Standards of Training, Certification and Watchkeeping (STCW) for Seafarers, 1978, as amended, and its Code. While pilots are not included in the term “seafarer” under the STCW Code,¹³ many State-licensed pilots in the U.S. have earned an underlying master or mate credential and have elected to maintain an STCW endorsement (which requires compliance with the Code’s training and certification requirements). Also, State-licensed pilots work closely with vessel masters, bridge teams, and crews from all over the world and these mariners are subject to the requirements of the STCW. Therefore, even for pilots who do not hold an STCW endorsement, it is important to have an understanding of the STCW requirements.

Finally, the medical fitness standards used by the USCG – to which State pilots are also subject by virtue of holding federal pilot endorsements – draw upon international standards, including the medical guidelines contained in the STCW Code and the Maritime Labor Convention (2006).

IV. Conclusion.

State-licensed pilots provide a vital safety service to the shipping industry and to the American public. They have one of the most challenging jobs in the maritime world and the process they must go through to be selected to enter this profession, be fully trained, certified, licensed, and periodically recertified is equally and appropriately as challenging.

¹³ While there were a small number of delegations arguing that certification and licensing of pilots should be included in the STCW Code, the IMO rejected this proposal, and the decision by MSC 69 to instead undertake a revision of A.485(XII), which ultimately became A.960(23), represents a clear policy decision that inclusion of pilotage in the STCW Code is not appropriate.