

Seal Training for Maritime Technique Training in Compliance with an International Convention (STCW Convention)

1. Introduction

Sealing engineering is a core technology of VALQUA which has been developing solutions for the issues faced by customers amid the changing times. Recently, we aim to provide customers with essential sealing engineering services. To achieve this goal, we have been actively developing and providing our original services.

We have been expanding seal training as a skill training service, which we aim to introduce in various industries and areas, and completed the development of a maritime technique training in October 2017, as described in this article.

This training has now obtained Certification of Maritime Education & Training (Figure1) from Nippon Kaiji Kyokai (hereafter called "ClassNK"). This training complies with the STCW Convention, an international convention. Currently, two training bases are certified, one in Machida, Tokyo and the other in Gojyo, Nara.

This article explains ClassNK, from which we

obtained certification, and the background which led to the enactment of an international convention on seamen's skills. Based on these, as well as the efficacy of Certification of Maritime Education & Training, we explain the seal training.

2. Nippon Kaiji Kyokai

The Japanese classification society Nippon Kaiji Kyokai is internationally known as ClassNK. ClassNK aims to secure safety regarding human life and property in the marine environment and to prevent marine pollution. With these missions, ClassNK's business includes the following: 1) Registration and inspection of ships' classification, for which classification societies are responsible, 2) Certification of management systems based on international standards including ISO, and 3) Certification of Maritime Education & Training in compliance with international conventions. ClassNK has a history of more than 110 years, has the largest number of ship classifications (approximately 20% of overall ship classifications among more than 50 classification societies worldwide by March 2018), and an international reputation.

3. The STCW Convention, an international convention

To prevent maritime accidents resulting from seamen's lack of skills regarding ship operation, an international convention called the STCW Convention (The International Convention on Standards of Training, Certification and Watchkeeping for Seafarers, 1978), which sets standards for skills and knowledge, was



Figure1 ClassNK's Certification of Maritime Education & Training

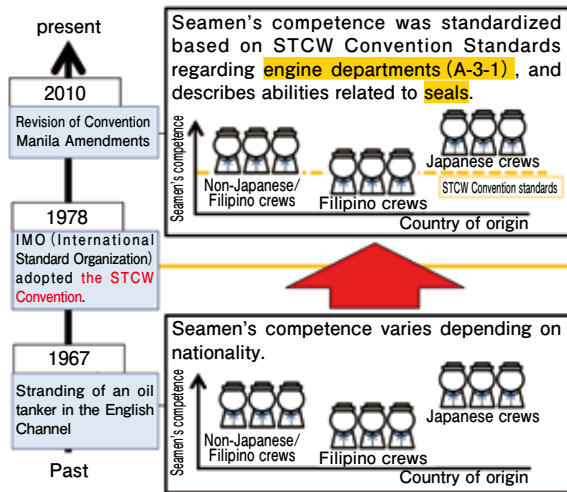


Figure2 Background resulting in establishment of the STCW Convention

adopted, thus standardizing seamen's skills. In the past, qualification systems regarding seamen's skills and competence varied among countries, and so seamen's abilities also varied. However, after an accident in 1967, seamen's technical standards were revised mainly by the International Maritime Organization (IMO). Then, in July 1978, the STCW Convention was adopted and international standards regarding seamen's training and qualifications were set¹⁾ (Figure2).

The STCW Convention's Code A shows seamen's obligation and abilities. A-3-1 of Code A describes skills and knowledge regarding sealing.²⁾ In addition, based on this convention, the IMO started the IMO Model Course as a basic training program to encourage effective training, which includes more detailed training methods. Sealing skills are indispensable for the safe operation of ships.³⁾

4. Seal training for maritime technique training

To become a seaman, a seaman's competency certificate is needed, for which special education at institutions including universities is needed. Such institutions issue the certificate. However, the knowledge and skills required differ depending on the type of seaman, and so the time allocated to sealing is limited.

Therefore, after hiring seamen, each marine transportation company provides its own education on the handling and knowledge of seals as on-the-job training during voyages. Inexperienced seamen, including new employees, depend on the information on sealing skills and knowledge handed down by older workers.

Over many decades, VALQUA has accumulated much knowledge on sealing materials at VALQUA and customers' sites, which it uses to provide sealing engineering. Seal training was developed based on sealing engineering, and is intended to ensure that participants acquire optimal techniques for selecting and constructing sealing materials. The training is practical: participants learn knowledge and acquire techniques through practice. Also, unique characteristics of the training not found in other types of training include visualizing individual skills through an original system, and hands-on construction education in which various on-site techniques are simulated. This training has received positive feedback as being effective for seamen (navigation officers, engineers, and crews) from marine transportation companies as off-the-job training, and is superior to on-the-job training.

As mentioned above, this training targets seamen mainly related to the STCW Convention (navigation officers, engineers, and crews). However, ClassNK recognized the need to ensure security and safety for not only marine transportation companies but also for all those involved in ships and vessels. Therefore, the training is also provided for those engaged in ship-related works (shipbuilding, ship maintenance, public organizations including maritime training institutions), and those handling ship devices and equipment.

The curriculum of the two-day course covers both classroom education and practical training on gaskets, rotary seals including gland packing, and mechanical seals. After participants complete this training, their understanding is then tested, and each successful participant is issued a ClassNK-certified certificate of completion (Figure3).

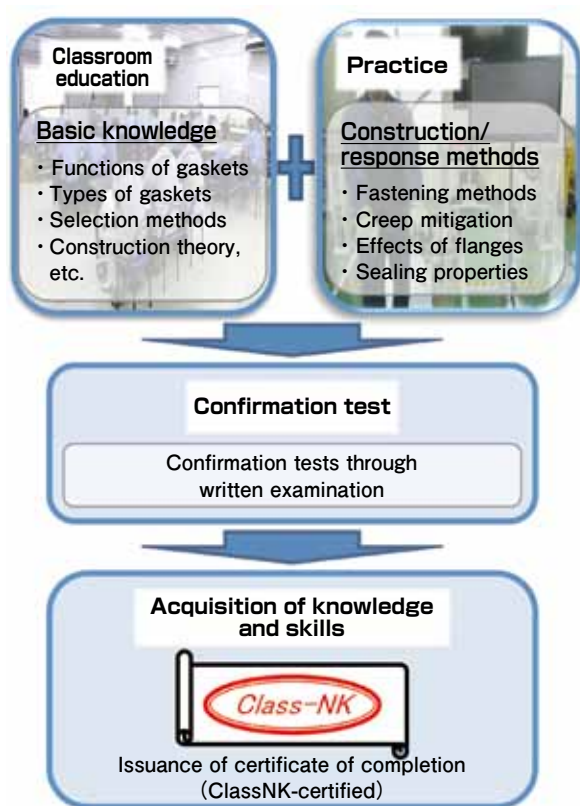


Figure3 Curriculum summary

5. Conclusion

Currently, VALQUA has two training bases, one in Machida, Tokyo and the other in Gojyo, Nara, which

offer ClassNK-certified training. We encourage Japanese marine transportation companies to participate in the training. We also have similar training bases in China, Taiwan, Vietnam, Thailand, and South Korea, where we will arrange a training system to offer certified training.

We also offer sealing engineering services including seal training as a skill training service. Based on these services, we will contribute to the development of world marine transportation markets and to the security and safety of the industry.

6. References

- 1) Seamen's qualification based on STCW Convention, etc., Ministry of Land, Infrastructure, Transport and Tourism, <http://www.mlit.go.jp/sogoseisaku/kotsu/bunya/kaiji/stcw.html>
- 2) 2010 STCW Convention (Manila Amendments) in English and Japanese (official translation), supervised by the Maritime Bureau, Ministry of Land, Infrastructure, Transport and Tourism, published by Seizando-Shoten Publishing Co., Ltd.
- 3) (Model course 7.04) Officer in charge of an Engineering Watch, 2014 Edition



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