

**GUIDELINES FOR SURVEY OF PRODUCTS FOR MARINE
USE**

海事產品檢驗準則

CR CLASSIFICATION SOCIETY

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CHAPTER 1 GENERAL 通則

1.1 General Requirements 一般規定

1.1.1 Inspections of products are part of the ship survey, including inspections of products to be classed, delegated inspections of statutory products and entrusted inspections of other products. These inspections are to confirm that the products are in compliance with the requirements of CR Rules or statutory requirements or the requirements of the entrusting party.

船用產品檢驗為船舶檢驗的一部分，包含用於入級之產品檢驗、公約要求之產品檢驗及其他產品之委託檢驗等。此類檢驗目的為確保產品符合 CR 規範或公約要求或符合委託機構之要求。

1.1.2 The products intended for classed ships are to be inspected in accordance with this Guideline and in addition, with relevant requirements of CR Rules.

用於入級船舶的產品之檢驗除需符合本準則外，亦需符合 CR 規範之相關要求。

1.1.3 For the products required by CR Rules, appropriate standards may be accepted as alternative requirements. In any case, however, the equipment, components and systems are to be subject to design evaluation, inspections during manufacturing, testing and functional tests for confirming that they are not less effective than as required by CR Rules. CR 規範要求之海事產品，可接受以適當標準作為替代要求。然而，在任何情況下，船用設備、組件及系統須經設計評估、製造中檢驗與測試及功能性試驗，以確保其效能不低於 CR 規範之要求。

1.1.4 Where no technical requirements are specified for any products covered by CR Rules, they may be designed, manufactured and tested according to applicable standards at the discretion of the manufacturer. The inspections of such products are in general to include:

涵蓋於 CR 規範中之任何產品若無具體技術要求，其設計、製造及測試可根據製造廠認為適當之標準進行。此類產品檢驗一般包含：

- (a) drawings and information;
圖面及資料；
- (b) conditions for use on board;
船上使用條件；
- (c) requirements for materials and welding; and
材料與銲接規定；及
- (d) inspection and test items.
檢驗及試驗項目。

1.1.5 The manufacturer is to be responsible for compliance with relevant law, regulations, compulsory standards or customers' requirements by the products.

製造廠應為產品需符合之相關法律、規定、強制標準或客戶要求負責。

1.2 Definitions 定義

For the purpose of this Guideline:

本準則之目的：

1.2.1 “Products inspection” means the process of evaluating the compliance of the products with applicable requirements through plan/data approval, examination and testing of the final products and/or during their manufacturing, covering material and equipment inspection, type approval and works approval.

「產品檢驗」意指，從圖面/資料審核、最終產品及/或製造中之檢查與測試，包含材料與設備檢驗、型式認可及工廠認可，以評估產品符合適用規定之過程。

1.2.2 “Material and equipment inspection” means the unit-by-unit or batch-by-batch inspection of products by CR Surveyor for the purpose of issuing a products certificate.

「材料與設備檢驗」意指由驗船師為簽發產品證書為目的對海事產品逐項或批次檢驗。

1.2.3 “Type approval” means the evaluation process whereby the manufacturer’s ability to produce consistent products in compliance with CR Rules or other acceptable standards is confirmed by the Society through design assessment and manufacturing assessment.

「型式認可」意指本中心透過設計評估與製造評估，確認製造廠生產一致性產品的能力，其產品符合 CR 規範或其他可接受之標準。

1.2.4 “Works approval” means the evaluation process whereby the manufacturer’s production conditions and ability are confirmed by the Society through documentation review, approval testing and verification of manufacturing process.

「工廠認可」意指由本中心透過文件審查、認可之試驗及製造過程之驗證，確認製造廠的生產條件與能力之評估過程。

1.2.5 “Type test” means testing of the sample as defined in 1.2.6 below including its materials and components by a specified method for confirming compliance with all requirements of designated standard(s) or technical specifications.

「型式試驗」意指依下述 1.2.6 定義之試樣以指定之方法測試，測試包含其材料與組件，確認符合指定標準或技術規格的所有要求。

1.2.6 “Sample” means a representative product used for test/inspection. The selected sample is to be, in respect to performance, characteristics and manufacturing quality, capable of representing or covering the products or product series to be inspected.

「樣本」意指用於測試/檢驗時之代表性產品。此樣本關於產品性能、特性及製造品質須足以代表或涵蓋需受檢之產品或系列產品。

1.2.7 “Audit” means a systematic and independent examination to determine whether quality activities and related results comply with planned arrangements and whether these arrangements are implemented effectively and are suitable to achieve the stated objectives.

「稽核」係指進行系統性與獨立之檢查，以確定品質作業與相關結果符合計畫之安排，並且這些安排是否有效的實施以及適當達到指定之目標。

1.2.8 “Periodical audit” means an audit for confirming continued compliance with the certificate of type approval, the certificate of works approval or the certificate of alternative certification scheme.

「定期審核」係指確認持續符合型式認可證書、工廠認可證書或替代發證計畫之證書。

1.2.9 “Components” mean parts or members forming a piece of equipment and/or a system.

「組件」係指組成一個設備或系統之部件或構件。

1.3 Requirements for Manufacturers 製造廠之要求

1.2.10 “Manufacturer” means an organization producing and/or assembling final products and fully responsible for such products.

「製造廠」係指一個生產及/或組裝最終產品之組織，並對此產品負完全之責任。

1.2.11 “Document” means a formal document showing compliance of a design, product, service or process with specified requirements.

「文件」係指一正式之文件，顯示其設計、產品、服務或方法符合指定之規定。

1.2.12 “Manufacturer’s document” means statements or certificates issued by the manufacturer as the result of exercising his inspection duty, showing that the products meet relevant requirements.

「製造廠證明」係指由製造廠在履行檢查義務之結果所簽發之聲明書或證書，以顯示產品符合相關規定。

1.3 Requirements for Manufacturers 製造廠之要求

1.3.1 Manufacturers of classed products used for construction or repair of the ships classed or intended to be classed with the Society are to apply for inspection of such products by the Society.

用於入級或欲入級船舶之建造或修理之產品製造廠須向本中心申請船用產品檢驗。

1.3.2 Unless otherwise provided by the Administration of the flag State, manufacturers of statutory products used for construction or repair of the ships, of which the Society is authorized to carry out statutory surveys, are to apply for inspection of such products by the Society.

除非船旗國主管機關另有要求，本中心經船旗國授權執行船舶之公約檢驗者，用於該船舶建造或修理之公約產品製造廠須向本中心申請產品檢驗。

1.3.3 In addition to 1.3.1 and 1.3.2, the Society may carry out inspections of products for compliance with the standards provided by the applicant.

除 1.3.1 及 1.3.2 之規定外，本中心可依照申請者提供之標準執行產品檢驗。

1.3.4 Manufacturers, who apply for approval and survey by the Society, are to meet appropriate conditions for production, testing, resources and quality management system in accordance with the relevant requirements of these Guidelines.

向本中心申請認可或檢驗之製造廠，在生產、測試、資源配置與品質管理系統上均需依本準則之相關要求達到適當標準。

1.4 Basic Requirements for Products Inspections 產品檢驗基本要求

1.4.1 The products required by CR Rules and Appendices 1, 2 and 3 are, prior to their use or installation on ships classed with the Society or during their manufacturing, to be inspected according to relevant requirements to confirm compliance with CR Rules, and an appropriate certificate as specified in 1.5.2 is to be issued.

受 CR 規範及附錄 1、附錄 2 及附錄 3 規定之海事產品，應於使用或安裝前或於其製造期間根據相關要求檢驗，確認其符合 CR 規範要求，並依 1.5.2 核發相應之證書。

1.4.2 The Society implements the following two modes of products approval:

本中心執行以下兩種模式之產品認可：

(a) Type approval 型式認可

(b) Works approval 工廠認可

1.4.3 Where the products have been approved in one or more modes, the specified material and equipment inspection requirements may be replaced with the following:

當海事產品經過一種以上的模式之認可後，其指定材料及設備檢測要求可由下列替換：

- (a) reducing the inspection items requiring attendance of the Surveyor; or
減少需要驗船師在場執行之檢測項目
- (b) verifying by the Surveyor of production and quality control information provided by the manufacturer.
由驗船師驗證製造廠提供之生產與品質控制資訊

1.4.4 The manufacturers who achieve quality assurance by means of batch production in a continuous process or completely based on production technology and process, are to apply for works approval to demonstrate their conditions and ability to produce the products.

製造廠藉由連續批次生產程序或完全以生產技術與程序達到品質保證者，須申請工廠認可以展示其生產產品之能力與狀況。

1.4.5 The manufacturer is to make preparations for survey and provide all necessary conditions for survey so as to ensure that the Surveyor is capable of:

製造廠需為檢驗做充分準備，並提供各種必備狀況以確保驗船師能：

- (a) having access to products for carrying out the specified inspection;
得以取得需執行指定檢驗之產品；
- (b) witnessing specified tests of products on site; and
在現場見證產品之指定測試項目；及
- (c) obtaining documents, records and information necessary for the survey, including information of suppliers of raw materials, components and parts.
取得所有檢驗必須之相關文件與紀錄，包含原料、組件與零件之供應商資訊。

1.4.6 Where required by CR Rules and guidelines, the raw materials, components and parts used for products are also to be certified accordingly and/or their manufacturers are to be approved by the Society.

若於 CR 規範及準則中規定，使用於海事產品之原料、組件與零件亦須經相應之認證、且/或其製造廠須經本中心認可。

1.4.7 The products, for which type approval or works approval is granted, are to be produced at the manufacturer's production facilities stated in the approval certificate, and the Society does not accept any survey of those approved products which are subcontracted.

經型式認可或工廠認可之產品，需於認可證書指定之生產場所生產，本中心不接受分包生產認可產品之任何檢驗。

1.4.8 Where any harmful defect or damage is caused by raw materials or main components and parts to approved products, the manufacturer is to promptly inform the Society of this situation and take one or more of the following measures:

當有任何由原料或主要組件及零件對認可之產品造成缺失或損壞時，生產者必須及時通知本中心此狀況，並採取下列一項或多項措施：

- (a) suspension of the manufacturing of such products, investigation and analysis of the quality and the safety effects of such products installed onboard;
停止製造此類產品，並調查分析對已安裝在船上之產品的品質及安全影響；

- (b) termination of their use for approved products;
中止該認可產品之使用；
- (c) re-evaluation of supplier(s); or
重新評估供應商；或
- (d) disqualification of supplier(s).
取消供應商之資格

Where the measure stated in (a) above is considered necessary by the Society, the approval will be suspended.
當上述之(a)措施經本中心認為必要時，該認可立即中止。

1.5 Certificates and Documents 證書與文件

1.5.1 Approval certificates 認可證書

- (a) An appropriate approval of the product by the Society is to be certified as follows:
本中心將依下述提供適當之產品認可證明：
 - (i) Product Type Approval Certificate (PTAC) issued by the Society, showing that the design complies with CR Rules and that the manufacturer has the ability to continuously produce in batches the products covered by the certificate in compliance with CR Rules and/or recognized standards
由本中心核發之產品型式認可證書(PTAC)，顯示其設計符合 CR 規範，且製造廠具有產品連續批次生產之能力符合如證書所提之 CR 規範與/或認可之標準。
 - (ii) Product Works Approval Certificate (PWAC) issued by the Society, showing that the manufacturer has the ability to produce the products required by CR Rules.
由本中心核發之產品工廠認可證書(PWAC)，顯示該製造廠具有生產符合 CR 規範要求之產品的能力。
 - (iii) Quality Assurance Program Certificate (QAPC) issued by the Society, showing that the manufacturer is given permission to carry out inspection and testing without the presence of the Surveyor of the Society for the specified extent.
由本中心核發品質保證計畫證書(QAPC)，顯示該製造廠取得本中心允許，得於無本中心驗船師到場的情況下執行指定之檢驗或試驗。

1.5.2 Products documents 產品文件

- (a) A material and equipment inspection of classed or statutory products is to be documented as follows, with the approval mode being indicated:
使用於入級或公約產品之材料與設備檢驗需依照指定之認可模式製作文件如下：
 - (i) Marine Products Certificate I
海事產品證書 I
A document issued by the Surveyor to show that
由驗船師簽發之文件說明：
 - (1) the product complies with CR Rules;
該產品符合 CR 規範；
 - (2) required inspection and test have been carried out;
規定之檢驗與測試已執行完成；
 - (3) the sample is taken from the product to be inspected; and
樣本已從需受檢驗之產品中取樣；且

- (4) the product has been tested in the presence of the Surveyor or in a specially agreed condition.
該產品已在驗船師見證下或經特別同意之狀況下檢測。

(ii) **Equivalent document I**
同等效力文件 I

A document issued by the manufacturer or recognized organization to show that:
由製造廠或認可機構簽發之文件說明：

- (1) the product complies with CR Rules, statutory requirements or recognized standards;
該產品符合 CR 規範、公約要求、或認可之標準；
- (2) required inspection and test have been carried out;
規定之檢驗與測試已執行完成；
- (3) the sample is taken from the product to be inspected; and
樣本已從需受檢驗之產品中取樣；且
- (4) the product has been tested in the presence of the Surveyor or in a specially agreed condition.
該產品已在驗船師見證下或經特別同意之狀況下檢測。

(iii) **Manufacturer's document (W)**
製造廠證明 (W)

A document issued by the manufacturer to show that:
由製造廠簽發並證明：

- (1) the product is type approved or works approved by CR;
該產品經 CR 型式認可或工廠認可；
- (2) the product complies with CR Rules, statutory requirements or recognized standards;
該產品符合 CR 規範、公約要求、或認可之標準；
- (3) required inspection and test have been carried out;
規定之檢驗與試驗已執行完成；
- (4) the sample is taken from the product to be inspected; and
樣本已從需受檢驗之產品中取樣；且
- (5) the product has been tested in the presence of the department's representative authorized by the manufacturer.
該產品已在製造廠授權部門代表見證下試驗。

(iv) **Test Report (TR)**
試驗報告 (TR)

A document signed by the manufacturer stating:
由製造廠簽署之文件並描述：

- (1) conformity with requirements
符合的規定
- (2) that the tests and inspections have been carried out on samples from the current production.
對目前生產之試樣已進行之試驗與檢查。

- (b) A material and equipment independent survey of products other than those specified in CR Rules or statutory requirements is to be documented as follows:
在 CR 規範及公約規定外之產品，其材料與設備獨立公證檢驗應核發之文件如下：

(i) **Survey certificate (S)**
檢驗證書

A document issued by the Surveyor to show that:
由驗船師簽發之文件說明：

- (1) the product standards as determined by the applicant have been complied with;
該產品標準符合由申請者所認定之要求

- (2) the survey and test has been witnessed by the Surveyor and/or the test report has been reviewed by him; and
該檢驗與試驗已由驗船師見證、或試驗報告已經由驗船師審查。
- (3) the test sample has been taken from the existing products.
試驗樣本從既有之產品中所取樣

1.5.3 The requirements for certificates of both classed and statutory products are given respectively in Appendices 1, 2 and 3.

入級與公約規定之海事產品發證規定，分別陳述於附錄 1、附錄 2 與附錄 3。

1.5.4 If deemed necessary, the Surveyor may require to attend the test of the products which may hold a manufacturer's document (W), or examine the control of their manufacturing quality.

如有必要，即使該產品持有製造廠證明(W)，驗船師可要求參與產品之測試，或可檢查其製造品質之管控。

1.6 Conditions for Use of Survey Marks 檢驗註記使用情況

1.6.1 General 通則

- (a) For equipment and material samples, only stamp with “xx”. (xx represents location stamping).
設備與材料之樣本只需以”xx”註記(xx 代表地點標記)。
- (b) For un-finished equipment and material or un-finished inspection items, only stamp with “Ⓡ”.
未完成檢測之設備與材料或未完成檢驗之項目，僅需以”Ⓡ”註記。
- (c) For finished product, or equipment and material with all finished inspection items, stamp with “Ⓡ xx”. (xx represents location stamping).
已完成所有檢測項目之產品或設備與材料以”Ⓡ xx”註記。(xx 代表地點標記)。

1.6.2 If the equipment or material leaves the factory with Mill sheet instead of certificate, it will be given only “Ⓡ” stamping, such as milled steel: steel plate, section steel, steel bar, steel pipe, etc.

若設備與材料出廠時僅具鋼料出廠證書而非正式證書時，僅以”Ⓡ”註記，此類軟鋼如鋼板、型鋼、鋼條及鋼管等等。

1.6.3 In cases the equipment and material leave the factory and the certificate should be issued to:

若設備與材料已出廠，證書簽發對象為：

- (a) The one with stamping “Ⓡ XXX-XX-XXX” (without xx location stamping):
具有”Ⓡ XXX-XX-XXX”註記者(無 xx 地點標記)
 - (i) Material: forging and casting left the factory in condition as “As forged/cast” and were issued the material certificate.
材料：鍛件與鑄件之出廠狀態為「鍛造/鑄造」且已核發材料證書者。
 - (ii) Semi-finished product: forging and casting left the factory in condition as “Rough machined” and were issued material certificate (un-finished product or product with unfinished inspection items).
半成品：鍛件與鑄件之出廠狀態為「粗加工」且已核發材料證書者。
 - (iii) Finished product: it's necessary to move it to other factory to carry out follow-up inspections.
成品：必須移至其他工廠執行後續檢驗。

- (b) The one with stamping “Ⓢ xx XXX-XX-XXX”:

具有“Ⓢ xx XXX-XX-XXX”標記者：

Finished product: already finished and all inspection items are finished as well.

成品：已完成製作且所有檢驗項目皆已完成。

1.6.4 Intermediate survey before leaving the factory:

出廠前之中間檢驗：

For some complex-structured equipment and material, their assembly won't leave the factory after the shop trials. Since the assembly will not be sent out of the factory, then it's not necessary to issue the certificates for them. For this case the surveyor will only provide stamping as approval: “xx”. After the inspection for whole equipment/material is finished, surveyor shall then stamp the identification mark on the name plate or other proper position of the equipment/material in accordance with 1.6.3(b).

有些結構複雜之設備與材料，其裝配在廠試後不會被送出工廠，由於裝配未出廠，因此沒有必要對其核發證書。在此情況下，驗船師僅會提供“xx”之認可註記。當整套設備或材料之檢驗完成後，驗船師應依據 1.6.3 之規定於銘牌或其他適當位置作識別標誌註記。

1.7 Invalidation, Suspension and Cancellation of Approval Certificate

認可證書之失效、中止與取消

1.7.1 The approval certificate will be automatically invalidated in one of the following conditions:

認可證書在下列其中一種情況下將會自動失效：

- (a) any unauthorized alteration has been made to the certificate by its holder;
證書持有者於證書上做出任何未經授權之變更；
- (b) any convention, law, rule or standard applicable to the existing approved products has been abolished;
適用現有認可產品之任何公約、法律、規範或標準被廢止；
- (c) any major change has been made to the design or documentation of products without approval by the Society;
未經本中心認可即對產品之設計或文件做出重大修改；
- (d) any change has been made to the mode of production without approval by the Society; or
未經本中心認可即對生產模式進行任何變更；
- (e) an intermediate audit by the Society has not been accepted as required, if applicable.
如適用中期稽核，稽核結果未被本中心接受者。

1.7.2 The Society will suspend the certificate within the period of its validity when the Society identifies that one of the following conditions exists at the manufacturer:

當本中心察覺製造廠有以下一種狀況時，將會於證書有效期間內中止證書效力：

- (a) an intermediate audit by the Society has not been accepted as required, if applicable;
如適用中期稽核，稽核結果未被本中心接受者；
- (b) any serious non-conformity of the approved products is found during an intermediate audit;
於中期稽核發現認可產品之重大不符合事項；

CHAPTER 1 GENERAL 通則

1.7 Invalidation, Suspension and Cancellation of Approval Certificate

認可證書之失效、中止與取消

- (c) any non-conformity found during an intermediate audit has not been rectified as required;
於中期稽核發現認可產品之重大不符合事項未依規定修正；
- (d) any major change has been made to the quality management system of the manufacturer without notification to the Society;
製造廠之品質管理系統做出任何重大變更而未知會本中心；
- (e) quality problems of products are caused by non-efficient operation of the quality management system of the manufacturer;
因製造廠品質管理系統無效操作造成產品之品質問題；
- (f) any change has been made to approved main raw materials, component and parts without approval by the Society;
未經本中心認可即對認可之主要原物料、組件及零件進行任何變更；
- (g) no remedial action has been promptly taken to quality problems of products or no assistance given to investigation by the Society;
未對產品之品質問題提出及時補救措施，或於本中心調查時未提供協助；
- (h) relevant fees have not been paid on time; or
未於期限內支付相關費用；或
- (i) any other condition identified by the Society for which suspension of the certificate is necessary.
其他本中心認定必須中止證書效力之狀況。

1.7.3 The Society will cancel the certificate within the period of its validity when the Society identifies that one of the following conditions exists at the manufacturer:

當本中心察覺製造廠有以下一種狀況時，將會於證書有效期間內取消證書效力：

- (a) the condition leading to suspension of the certificate has not been rectified within the specified period, or suspension of the certificate has continued for 6 months;
致使證書中止效力的狀況未於指定期間內改正，或證書中止期間持續 6 個月；
- (b) the products installed or used on board a ship classed with the Society have been produced at the facilities not stated in the certificate (including the approved products being subcontracted or the approved products being produced by another manufacturer under the same brand) without approval by the Society;
使用於入級本中心船舶之海事產品，未由證書上登載之工廠生產(包含認可產品被分包生產，或由同品牌之其他製造廠生產)；
- (c) the approval certificate and/or the marine products certificate is used not according to CR requirements, and the ordering party has been intentionally misled to install or use products, which have actually not been inspected by the Society as required, on board a ship classed with the Society;
未經 CR 規定使用認可證書或海事產品證書，且蓄意錯誤引導訂購方於入級本中心之船舶上使用或安裝未依照本中心規定檢驗之產品；
- (d) The Society survey marks are not used according to CR requirements;
未依照 CR 規定使用本中心檢驗標記；

- (e) any CR marine products certificate or survey mark has been counterfeited;
偽造 CR 海事產品證書或任何檢驗標記；
- (f) there was any fraud, falsification, intentional concealing of facts or any other illegal conduct on the part of the manufacturer in seeking approval by the Society;
製造廠為尋求本中心認可行任何欺騙、偽造、曲解、蓄意隱瞞或其他任何不法之行為；
- (g) any serious non-conformity of the approved products is found during an intermediate audit; or
於中期稽核發現認可產品之重大不符合事項；或
- (h) any other condition identified by the Society for which cancellation of the certificate is necessary.
其他本中心認定必須取消證書效力之狀況。

1.8 Alternative Certification Scheme (ACS) 替代發證計畫

1.8.1 Definitions 定義

- (a) ACS is a certification scheme involving a manufacturer (and associated sub-suppliers, if needed) in the inspection, testing and certification of the manufacturer's products.
ACS 係為一發證計畫，其涉及製造廠(以及相關子供應商，如需要時)在其產品之檢驗、試驗及發證。
- (b) An ACS shall clarify:
ACS 須闡明：
 - (i) The extent of the required inspection and testing.
要求檢驗及試驗之範圍。
 - (ii) To which extent and under which conditions the manufacturer may perform all or parts of the required inspection and testing without the presence of the Surveyor from the Society when a Marine Product Certificate issued by the Society is required.
當要求本中心簽發產品證書時，在無本中心驗船師在場的情況下，製造廠可在何種程度和條件下執行所有或部分規定之檢查和試驗。
- (c) The extent to which the manufacturer is given permission to carry out inspections and testing without the presence of the Surveyor is to be agreed on a case by case basis, e.g. for a specific product production line or for specific parts.
在無驗船師在場的情況下，准許製造廠進行檢查和試驗之範圍應根據個別情況而定，例如：用於特定產品生產線或特定部件。

1.8.2 Scope 範圍

- (a) An ACS may be arranged with product manufacturers and/or sub-suppliers.
ACS 得包括產品製造廠及/或子供應商。
- (b) An ACS with a manufacturer must define the handling of subcontracted parts (those that require the Society or work certificates or in any other way are addressed in CR Rules). The sub-supplier may be included in the ACS of the manufacturer or have his own ACS or deliver parts that are inspected and certified by the Society. 具有製造廠之 ACS 必須定義分包部件之處理(其需要本中心、工廠證書或 CR 規範提及之任何其他方式)。子供應商得包含於製造廠之 ACS 中、或擁有個別的 ACS、或送交之部件經本中心檢驗及發證。

- (c) An ACS that permits the manufacturer to carry out all or parts of required inspection and testing without the presence of the Surveyor may be arranged in two versions with regard to traceability:
ACS 允許製造廠在無驗船師在場的情況下，進行所有或部份規定之檢驗及試驗，得在可追溯性方面安排兩種形式：
- (i) The ACS describes inspection, testing and certification additional to the manufacturer's standard quality control in order to meet CR Rules. The components are to be stamped with a special stamp supplied by the Society or identified as required by the Society.
ACS 敘述在製造廠標準品質控制之外的檢查、試驗及發證，以符合 CR 規範。此部件應加蓋本中心提供之特殊印章，或如本中心要求識別的特殊印章。
- (ii) The manufacturer has a standard quality control that covers all required inspection, testing and certification in compliance with CR Rules. Traceability and the required type of product document for components or products will be defined in the ACS.
製造廠具有標準品質管理，其涵蓋符合 CR 規範所要求之所有檢驗、試驗與發證。追溯性與要求之產品文件形式將定義於 ACS 中。
- (d) The manufacturer is to submit manufacturer's document (W) or test report (TR) to the Society for review after the granted inspection and testing have been carried out. After reviewing, the Society will issue the Marine Product Certificate.
於製造廠完成授權之檢驗與試驗後，應提交製造廠證明(W)或試驗報告(TR)予本中心審查。經審查後本中心將簽發海事產品證書。

1.8.3 Conditions 條件

- (a) The conditions for the manufacturer to be granted the permission to carry out inspection and testing without the presence of the Surveyor are that:
在無驗船師在場的情況下，製造廠獲准進行檢驗與試驗的條件如下：
- (i) The manufacturer has an implemented Quality System according to a national or international standard approved by an accredited certification body or recognised by the Society.
製造廠所施行之品質系統，係根據國家或國際標準經由認證單位之認可，或由本中心認可。
- (ii) The manufacturer has a quality control system, current drawings, and Rules and standards that cover the product to be certified.
製造廠具有品質管理系統、現行圖說與規範及標準，其涵蓋將發證之產品。
- (iii) The inspection and testing required by CR Rules are either standard procedures in the Quality System and recognized by the Society or specified in detail in the ACS.
由 CR 規範要求之檢驗與試驗係為品質系統之標準程序，並由本中心認可或於 ACS 中指明。
- (iv) The Society initially ascertains the manufacturer's compliance with the requirements of ACS by verifying the required product and process approvals and performing an initial audit. Follow-up and renewal audits are conducted by the Society on a regular basis to verify that conditions of the ACS are continuously maintained by the manufacturer.
本中心初步確認製造廠符合 ACS 之要求，藉由驗證規定之產品、過程認可、以及執行初步稽核。後續稽核及換證稽核應以定期之方式由本中心執行，以驗證 ACS 之條件係由製造廠持續維持。
- (v) If manufacturer's documents (W) or test reports (TR) are found not to fulfil the standards agreed with the Society, the component may not be accepted.
若製造廠證明(W)或試驗報告(TR)經發現未能符合本中心同意之標準，則該組件得不予接受。
- (vi) The agreed ACS may be suspended or cancelled if found justified by the Society.
若本中心具有正當理由，同意之 ACS 得予撤回或註銷。
- (vii) The Society may carry out unscheduled inspections at the manufacturer and/or subcontractor at its own discretion.
本中心得自行決定對製造廠及/或子分包商執行非例行檢驗。

- (viii) The manufacturers (and designers, if producing under license) commit themselves to involve the Society when changes to the design, manufacturing process or testing are made as well as when any major production problems or any major product delivery problems have occurred.
製造廠(與設計者，如在許可下生產)承諾於發生設計、製造過程或測試的變更，以及任何重大生產問題或任何重大的產品交付問題時，同意本中心介入。
- (ix) The validity of an ACS is to be 3 years. The ACS may be renewed subject to an renewal audit. The scope of the renewal audit shall:
ACS 之有效期為 3 年。ACS 經換證稽核得予證換。
 - verify the conditions of the ACS are still met
驗證 ACS 之條件仍然符合。
 - verify that the current products and processes are appropriately controlled
驗證現行產品及方法仍有適當地控制。

1.8.4 Information to be submitted 應提交之資訊

- (a) For admission to an alternative certification scheme (ACS) for a product, the manufacturer is to submit an application enclosing the following documentation:
對於產品取得替代發證計畫(ACS)之許可，製造廠應提交申請書包含下述文件：
 - (i) Product details. 產品細目。
 - (ii) Existing class approvals of the manufacturer's products as far as required.
製造廠產品現有之船級認可，儘可能。
 - (iii) The procedures relevant to the manufacturing process.
與製造流程有關之程序。
 - (iv) A list of material suppliers with an indication of their class approval (as far as required by CR Rules) and the type of material certification in each case.
材料供應商清單，並於每種情況下指明具有之船級認可(儘可能如 CR 規範所要求)與產品發證之型式。
 - (v) Quality control plans relevant to the products and relevant components to be certified through the alternative certification scheme. Said plans are to detail the inspections and tests required by the CR Rules with an indication of which inspections and tests are delegated to the manufacturer and which are to be done in the presence of the Surveyor of the Society.
與經由替代發證計畫所發證之產品及相關組件的品質控制計畫。所述計畫應詳細說明 CR 規範所要求之檢驗與試驗，並指明委託製造廠之檢驗與試驗，以及應於本中心驗船師在場下完成之檢驗與試驗。
 - (vi) The procedures relevant to the quality control and inspections, their methods, frequency and certification.
與品質控制及檢驗、方法、頻率與發證有關之程序。
 - (vii) The list of suppliers of materials and main components of the product, including certificates.
產品材料及主要組件之供應商清單，包含證書。
 - (viii) The quality system details.
品質系統細節。
 - (ix) List of nominated personnel for:
指定人員名單：
 - Marking/stamping of products
產品標記/蓋鋼印
 - Tests and Inspection (responsible)
試驗與檢驗 (負責人員)
 - Provision of data and information (e.g. declaration of conformity, test reports etc.)
提供數據與資訊 (例如：符合性宣告、試驗報告等)

- (x) Any other additional documents that the Society may require in order to evaluate the manufacturing processes and product quality control.
任何其他額外文件，其為本中心評估製造過程與產品品質控制所需者。

1.8.5 Audit procedure 稽核程序

- (a) Upon satisfactory examination of the complete documentation for application an initial audit shall be carried out at the manufacturer's works. This audit is to verify that the manufacture of the product and the relevant controls are performed in accordance with the documents submitted and are in compliance with the requirements laid down in the ACS documentation and CR Rules.
在仔細檢查完整的申請文件後，應於製造廠場所執行初次稽核。此稽核應驗證產品之製造與相關控制之執行係依據提交之文件，並且符合 CR 規範及 ACS 文件所載明之要求。
- (b) Upon satisfactory outcome of the audits, the extent, duration and conditions of the ACS are documented.
當稽核結果令人滿意，ACS 之範圍、效期及條件應記錄之。
- (c) Periodical audits or occasional audits may be required at the discretion of the Society during the period of validity of the ACS.
於 ACS 之有效期間內，本中心得視情況要求定期稽核或臨時稽核。

1.8.6 The admission to an alternative certification scheme (ACS) for any product should be subject to special consideration of the Society.

任何產品的替代發證計畫(ACS)之許可應經本中心特別考量。

CHAPTER 2 WORKS APPROVAL 工廠認可

2.1 General Requirements 一般規定

2.1.1 The works approval applies to the products of which the quality assurance is achieved by means of batch production in a continuous process or completely based on production technology and process. The products for which the works approval is required by the Society are indicated in Appendices 1, 2 and 3.

工廠認可適用於藉由批次連續生產或完全根據生產技術與流程來確保產品品質之產品。依本中心規定必須取得工廠認可之產品，詳述於附錄 1、附錄 2 及附錄 3。

2.1.2 The works approval will be granted and a Product Works Approval Certificate will be issued by the Society if it is satisfied, at an audit carried out by it, that the following requirements are complied with:

若符合下列規定，且稽核結果本中心認為滿意，將授予工廠認可且由本中心簽發產品工廠認可證書：

- (a) the technical documents submitted by the manufacturer for approval of production and inspection of his products comply with the Society Rules and are appropriate for meeting the specified level of product quality;
由製造廠為申請產品認可所提交之技術文件，其產品經檢驗符合 CR 規範，並且產品品質適切達到指定的水準；
- (b) the production technologies or manufacturing processes which affect the required quality of products are confirmed, with the results being in compliance with CR Rules; and
生產技術或製造流程會影響產品規定之品質者，須經確認其結果符合 CR 規範；及
- (c) the manufacturer is to establish and implement a specialized quality management system for marine products, which complies with CR requirements or an equivalent quality management standard.
製造廠必須為海事產品建立與執行專門之品質管理系統，並且需符合 CR 規範或同等之品質管理標準。

2.1.3 The procedure of works approval consists of the following three parts:

工廠認可程序包含下述三個部分：

- (a) document review;
文件審查；
- (b) on-site audit; and
現場稽核；與
- (c) approval test.
認可試驗。

2.2 Document Review 文件審查

2.2.1 The applicant is to submit a signed application for works approval, stating the products and production locations covered by the works approval, together with the following documents and information for examination:

申請者必須簽署工廠認可申請書，並說明工廠認可涵蓋之產品及生產地點，且連同需審核之下列文件及資訊一併繳交：

2.3 On-site Audit 現場稽核

- (a) works business registration certificate;
工廠營業登記證書；
- (b) works organization;
工廠組織圖；
- (c) main production equipment;
主要生產設備；
- (d) production processes;
生產流程；
- (e) test and inspection of equipment and devices;
設備與裝置之測試與檢驗；
- (f) quality assurance system;
品保系統；
- (g) material specification: mechanical properties, chemical composition, heat treatment and welding;
材料規格：機械特性、化學組成、熱處理及銲接；
- (h) production processes monitoring record; and
生產流程監控紀錄；及
- (i) other requirements concerned.
其他相關規定。

2.3 On-site Audit 現場稽核

2.3.1 After document review and with the approval test programme being agreed, the Surveyor is to carry out an audit of the quality management system at the manufacturer's production locations, as planned, to:

當完成文件審查且認可測試計畫獲得同意後，驗船師依據計畫於產品製造位置執行品質管理系統稽核，以確保下列事項：

- (a) confirm that the manufacturing and relevant control of products are in compliance with the submitted documents and the applicable CR Rules;
確認產品之製造及其相應之控制符合所提交之文件與適用之 CR 規範；
- (b) check the organizational units within the approval scope of the applicant and their interrelations, and human resources;
確認在申請之認可範圍內的組織單位及其相互關係，與人力資源；
- (c) confirm adequacy of main production equipment used in manufacturing the products to be approved;
確認認可產品之製造使用適當之主要生產設備；

- (d) confirm compliance, sufficiency and effectiveness of the specialized quality management system, e.g., ISO 9001 or equivalent quality management standards or quality management systems acceptable to the Society; 確認專門之品質管理系統之符合性、充分性與有效性，例如符合 ISO 9001 或同等之品質管理標準，或為本中心可接受之品質管理系統；
- (e) witness compliance of the manufacturer's inspection and test of his products; and 見證製造廠之產品檢驗與測試符合規定；及
- (f) confirm the establishment and implementation of procedures and systems for control of purchase and of selecting and evaluating suppliers. 確認建立及實施之程序、採購控制系統與供應商之選擇及評估控制系統。

2.3.2 For purchased materials and components, the Society may, depending on their importance level, require: 本中心可依照製造廠由購買所得之材料及組件的重要性提出下列要求：

- (a) an survey at workshops of the suppliers; and 在供應商之工廠執行檢驗；及
- (b) appropriate tests. 適當的試驗。

2.3.3 Any non-conformity found during the audit is to be notified to the person in charge from the manufacturer for remedial actions. Any remedial action for any non-conformity is to be followed up for verification. 於稽核中發現的任何不符合事項，應通知製造廠之權責人員以期採取補救措施。針對不符合事項之任何補救措施均需經過後續驗證。

2.3.4 In case where on-site audit is not practicable, special consideration will be taken by the Society on a case-by-case base. 若現場稽核無法實行，本中心可依個案狀況做特別考量。

2.4 Approval Test 認可試驗

2.4.1 An approval test is to be carried out according to the agreed test programme. The samples for the approval test are to be determined, taken, identified, sealed up and tested and the test report prepared according to 4.4. 型式試驗需依據認可試驗計畫執行。用於型式試驗之樣本應依規定決定、採樣、鑑定、封裝及測試，且試驗報告依 4.4 製作。

2.5 Product Works Approval Certificate 產品工廠認可證書

2.5.1 Where a manufacturer is, upon completion of the review, audit and test stated in 2.2 to 2.4, found to comply with the conditions for works approval, a Product Works Approval Certificate valid for not more than 5 years will be issued by the Society. 若製造廠完成 2.2~2.4 所述之審查、稽核及試驗，並符合工廠認可之條件，即由本中心簽發產品工廠認可證書，其有效期限不超過 5 年。

2.5.2 The manufacturers having works approval and their products covered by the approval will be entered into CR Lists of Approved Marine Products. 取得工廠認可之製造廠及其受認可之產品將會被列入 CR 認可海事產品清單。

2.6 Intermediate Audit 中期稽核

2.6.1 The intermediate audit is to be carried out within 3 months before or after the second anniversary date or within 3 months before or after the third anniversary date of the certificate. The intermediate audit will include, but not limited to, confirmation of operation of the manufacturer's quality system, compliance of production technologies with the technical documents accepted at the time of type approval, purchase control of raw materials, components and parts, use of survey marks and approved product logos, languages required to be used in nameplates and operation instructions, product quality feedback.

中期稽核執行時間為證書之第二周年日的前後 3 個月內，或證書第三周年日的前後 3 個月內。中期稽核包含但不受限於：確認製造廠之品質系統營運狀況，生產技術符合型式認可時為本中心所接受之技術文件，原物料、組件及零件之採購管理，檢驗標誌及認可產品標記之使用狀況，銘牌及操作指南使用規定之語言，產品品質回饋。

2.6.2 Where upon works approval, all inspections and tests required by CR Rules, guidelines and applicable standards are carried out in the presence of CR Surveyor to the products installed and/or used on board ships classed with the Society, all or a part of product tests may be dispensed with for the intermediate verification.

於工廠認可時，使用於或安裝於入級本中心船舶之海事產品，由 CR 規範、準則及適用標準要求之所有檢驗及試驗須在 CR 驗船師出席見證下執行，於中期稽核時可豁免全部或部分之產品試驗。

2.6.3 In case where the intermediate audit items in 2.6.1 are not practical, considerations will be given by the Society on a case-by-case basis.

若 2.6.1 規定之中期稽核項目因故無法實行，本中心將採個案考量。

2.6.4 Where the work is found to comply with the conditions for maintaining the certificate at the intermediate audit, a confirmation letter for the intermediate audit will be issued by the Society.

於中期稽核時確認該工廠符合維持證書之狀況，本中心將簽發中期稽核證明書。

2.6.5 Where the audit is not completed before the date 3 months after the third anniversary date of the certificate, the Product Works Approval Certificate will be invalidated and the CR Lists of Approved Marine Products will be revised accordingly.

若稽核未於證書第三周年日後之 3 個月內執行完畢，該產品工廠認可證書將失效，且 CR 認可海事產品清單也將隨之修改。

2.7 Renewal Audit 換證稽核

2.7.1 Where renewal of the Product Works Approval Certificate is necessary at its expiry, the manufacturer is to send a written application to the Society and inform the Society of any change to the product design and the quality management system within 3 months before the expiry date of the certificate.

當產品工廠認可證書期滿時必須換證，製造廠需於證書到期日前 3 個月內向本中心提交申請書，並告知本中心關於產品設計及品質管理系統之任何變更。

2.7.2 The document review, on-site audit, approval test and issue of the Product Works Approval Certificate are to be in accordance with 2.2, 2.3, 2.4 and 2.5.

文件審核、現場稽核、認可試驗及產品工廠認可證書簽發需依 2.2 至 2.5 之規定辦理。

2.7.3 In case where the renewal audit items in 2.2, 2.3 and 2.4 are not practical, considerations will be given by the Society on a case-by-case basis.

若 2.2、2.3 及 2.4 所述之換證稽核項目無法實行時，本中心將採個案考量。

2.7.4 Where the above audit is not completed before the expiry date of the certificate, the Product Works Approval Certificate will be invalidated and the CR Lists of Approved Marine Products will be revised accordingly.
若上述之稽核未於證書到期日前完成，該產品工廠認可證書將失效，且 CR 認可海事產品清單也將隨之修改。

2.8 Changes to Approved Products 認可產品之修改

2.8.1 The manufacturer is to supervise any change to the products or their manufacturing process, inform the Society of any major change and receive the Society assessment thereof.
製造廠必須監督產品或製造流程的任何變更，並通知本中心任何重大修改事項，並接受本中心評鑑。

2.8.2 After the works approval, the manufacturer is to inform the Society of any significant change to product drawings, technical documents, technological specifications or quality management system. In case of any change affecting product design, main manufacturing materials, key technologies or characteristics and features of products, the associated drawings and technical documents which have been previously approved are to be submitted to the Society for re-approval and if necessary, the items involved in the scope of the changes are to be inspected and tested in the presence of the Surveyor.

工廠認可完成後，製造廠須通知本中心關於產品圖面、技術文件、技術規格或品質管理系統之任何重大修改。若任何變更會影響產品設計、主要製造原料、關鍵技術或產品特性，原先已認可之相關圖面及技術文件應提交本中心重新認可，且若必要時，修改範圍所牽連之項目應在驗船師見證下進行檢驗與試驗。

CHAPTER 3 TYPE APPROVAL 型式認可

3.1 General Requirements 一般規定

3.1.1 This Chapter specifies general principles and procedures for type approval of products in confirming the manufacturer's ability to produce consistent products in compliance with CR Rules.

本章具體說明產品型式認可之一般原則及流程，以確保製造廠生產符合 CR 規範之一致性產品的能力。

3.1.2 Upon application by the manufacturer, the products not required by CR Rules may be approved according to the standards/technical requirements agreed between the Society and the manufacturer.

製造廠申請認可之產品並非 CR 規範所規定，產品可依照本中心與製造廠所同意之標準/技術要求進行認可。

3.1.3 The type approval of products consists of the following processes:

產品型式認可由以下程序組成：

(a) Design assessment, including:

設計評估，包含：

(i) drawing examination; and

圖面審查；及

(ii) type test and/or check.

型式試驗或檢查。

(b) Manufacturing assessment.

製造評估

3.1.4 The manufacturing assessment consists of the following processes:

製造評估包含下列流程：

(a) Audit of the quality management system: the quality assurance and control system of the manufacturing facilities is to be assessed to evaluate and verify their capabilities to meet the specified level of product quality and CR Rules consistently. The manufacturer's quality assurance and control system is to be a quality management system certified by a State-approved certification body, at least complying with ISO 9001 or equivalent quality management standards, and having an additional CR-approved procedure, if necessary, for ensuring that surveys and tests will be in accordance with CR Rules and guidelines and conventions.

品質管理系統稽核：應評估製造廠之品保及品管系統，以衡量及驗證廠家之產品品質達到指定水準且一致符合 CR 規範的能力。製造廠之品保及品管系統須由國家認可之認證機構認證，至少需符合 ISO 9001 或同等之品質管理標準，且若必要時，需具有 CR 額外認可程序，確保檢驗及測試符合 CR 規範、準則及公約規定。

(b) Audit of the manufacturing process: The specific manufacturing process of the manufacturer is to be assessed to confirm and verify that production technologies and surveys are specified for the purpose of reaching the quality control level required by the manufacturer and complying with CR Rules.

製造流程審核：需評估製造廠之特定製造流程以確認及驗證指定之生產技術及生產檢驗達到製造廠要求之品質控制水準，且符合 CR 規範。

3.2 Design Assessment 設計評估

3.2.1 The following drawings and technical documents, but not limited to, are to be submitted for examination:
應提交下述圖面及技術文件以茲檢閱，但不僅限於此：

- (a) Detailed structural drawings;
詳細之結構圖
- (b) Documents stating specifications;
規格說明文件
- (c) Performance information;
性能資訊
- (d) Applicable standards; and
適用標準；及
- (e) Other necessary engineering calculation and analysis reports.
其他必須之工程計算及分析報告

3.2.2 The type test is to be in accordance with 4.4. However, the Society may waive the test if the product already owns a certificate issued by other classification society acceptable to the Society.
型式試驗需依 4.4 規定辦理。然而，若該產品已具有其他由本中心可接受之船級協會簽發之證書，則本中心得不執行該型式檢測。

3.3 Assessment of Manufacturing 製造評估

3.3.1 Audit and/or assessment of the quality management system 品質管理系統之稽核與評估

- (a) The specialized quality system for marine products established by the manufacturer is to be audited, verifying that the system is appropriate for the products to be approved and that the implemented system is capable of ensuring compliance of such products with CR Rules, guidelines and/or other acceptable standards. If the manufacturer has a quality management system certified by a State-approved certification body and at least complying with ISO 9001 or equivalent quality management standards, the system is to be assessed by the Society for verifying compliance with CR requirements for specialized quality management systems for marine products.
由製造廠為海事產品建構之特定品質系統須經審核，以驗證該系統適用於認可之產品，且該系統之執行確實能確保該產品符合 CR 規範、準則或其他可接受之標準。若該生產者之品質管理系統具有經國家認可之認證機構認證，且至少符合 ISO 9001 或同等之品質管理標準，該系統須經本中心評估，以確保海事產品之特定品質管理系統符合 CR 之要求。
- (b) The manufacturer is in particular to appropriately and sufficiently demonstrate the following aspects so as to confirm the capability of the equipment used in production, inspection and test and the ability of the personnel having influence on product quality to meet the specified level of product quality consistently:
製造廠需特別適切及充分展示說明以下各方面，以確認用於生產、檢驗及測試設備的性能，以及員工產品品質一致性上具有充分影響使其達到指定水準之能力：
 - (i) capability and test conditions of survey, test and measurement equipment;
檢驗、測試及量測設備之性能及狀況檢測；

- (ii) survey and test personnel;
檢驗與測試人員；
 - (iii) technologies and operators of essential processes;
必要流程之技術及操作；
 - (iv) duties and qualifications of personnel performing quality survey and control;
執行品質檢驗與管制之員工的職責及資格；
 - (v) documented purchase control procedure (if applicable), preparation and maintenance of lists of suppliers of raw materials, main components and parts, submission to the Society for information;
and
採購控制流程之紀錄(若適用)，原物料、主要組件及零件之供應商清單的準備及維護，相關資料需遞交本中心以茲參考；
 - (vi) quality control methods, including control of subcontractors (if applicable).
品質控制方法，包含下包商控制(若適用)。
- (c) The manufacturer is to maintain a quality manual in accordance with quality standards. If the quality system certified by an appropriate certification body is found upon assessment to comply with CR requirements for specialized quality systems, the quality manual approved by such body is to be submitted to the Society for information.
製造廠需依品質標準維持品質手冊，若品質系統由適當之認證機構認證，特定品質系統經評估符合 CR 之規定，受該機構認證之品質手冊須遞交本中心以茲參考。

3.3.2 Audit of the manufacturing process 製造流程稽核

- (a) A quality control plan for the products within the approval scope is to be established by the manufacturer and submitted to the Society for approval. This quality control plan is to describe the quality assurance and control methods used in the manufacturing process according to the technical requirements or standards of the products, reflecting in particular the survey and test requirements of CR Rules, guidelines and/or conventions.
製造廠需對認可範圍內之產品制訂品質控制計畫，並提交本中心認可。該品質控制計畫須描述依據產品技術規範或產品標準制訂之品保與品管方法，尤其需反映出 CR 規範、準則或公約之檢驗與測試要求。
- (b) Samples or representative pieces of the products within the approval scope are to be provided by the manufacturer to the Surveyor for verifying that they are manufactured according to the design documents.
於認可範圍內之海事產品的樣本或代表元件需由製造廠提供給驗船師，以驗證其根據設計文件所製造。

3.4 Issue and Validity of Product Type Approval Certificate 產品型式認可證書之簽發與效力

3.4.1 The Society will issue a Product Type Approval Certificate valid for not more than 5 years to a manufacturer for whom the design assessment and the assessment of manufacturing have been completed according to 3.2 and 3.3 respectively.

對於設計評估與製造評估均依 3.2 及 3.3 規定完成者，本中心將會對製造廠簽發有效期限不超過 5 年之產品型式認可證書。

3.4.2 The products having a Product Type Approval Certificate and their manufacturers will be entered into CR Lists of Approved Marine Products.

具有產品型式認可證書之產品及其製造廠將會列入 CR 認可海事產品清單。

3.5 Intermediate Audit 中期稽核

3.5.1 The intermediate audit is to be carried out within 3 months before or after the second anniversary date or within 3 months before or after the third anniversary date of the certificate. The intermediate audit will include, but not limited to, confirmation of operation of the manufacturer's quality system, compliance of production technologies with the technical documents accepted at the time of type approval, purchase control of raw materials, components and parts, use of survey marks and approved product logos, languages required to be used in nameplates and operation instructions, product quality feedback. The audit is also to include surveys and tests of the approved products in the presence of the Surveyor, if deemed necessary by the Society. The samples for surveys and tests are to be selected in the presence of the Surveyor, with the number of samples being determined by the Surveyor depending on the complexity, production scale and type of the products.

中期稽核執行時間為證書第二週年日前後 3 個月內，或證書第三週年日的前後 3 個月內。中期稽核包含但不受限於：確認製造廠之品質系統營運狀況，其製造技術符合於型式認可申請時為本中心所接受之技術文件內容，原物料、組件及零件之採購管理，檢驗標誌及認可產品標記之使用，名牌及操作手冊使用規定之語言，產品品質回饋。若本中心認為必要，該稽核亦包含在驗船師見證下之檢驗與測試。而檢驗與測試之樣本也應在驗船師在場時挑選，且依據該產品複雜度、生產規模與產品型式挑選指定數量之樣本。

3.5.2 In the case of non-continuous production, no intermediate audit is needed for the period of no production. However, at least one audit is to be carried out when the production is re-started.

若非連續生產之狀況，於無生產的期間不需執行中期稽核，然而，當產品重新啟動生產時，至少必須執行一次稽核。

3.5.3 In case where the intermediate audit items in 3.5.1 are not practical, considerations will be given by the Society on a case-by-case basis.

若 3.5.1 規定之中期稽核無法實行，本中心得依個案採取適當考量。

3.5.4 Where the manufacturer is found to comply with the conditions for maintaining the certificate at the intermediate audit, a confirmation letter for the intermediate audit will be issued by the Society.

於中期稽核時確認該製造廠符合維持證書狀況時，本中心將簽發中期稽核證明書。

3.5.5 Where the audit is not completed before the date 3 months after the third anniversary date of the certificate, the Product Type Approval Certificate will be invalidated and the CR Lists of Approved Marine Products will be revised accordingly.

若稽核未於證書第三周年日後 3 個月內執行完畢，該產品型式認可證書將失效，且 CR 認可海事產品清單也將隨之修改。

3.6 Renewal Audit 換證稽核

3.6.1 The renewal audit for the Product Type Approval Certificate is to be carried out within 3 months before the expiry date of the certificate. The manufacture is to send a written application to the Society and inform the Society of any change to the product design. The Society is to:

產品型式認可證書需於證書到期日前 3 個月執行換證稽核，製造廠需向本中心提交申請書，並告知本中心於產品設計所做之任何變更，本中心將：

- (a) re-examine the drawings to check any change to CR Rules or standards applicable to the design or specifications of the products;
重新檢閱圖面以確認任何變更符合 CR 規範，或依適用標準審核產品設計與產品規格；
- (b) re-approve the test program in case of any change; and
若有任何變更，需重新認可測試計畫及；

- (c) assess the manufacturing according to 3.3.
依據 3.3 之規定重新評估製造

3.6.2 Where there is no change to the design, the type approval test may in general be dispensed with and if necessary, the Society may require a retest.

若設計上無任何修改，一般而言型式認可測試可不執行，但若必要時本中心可要求重新測試。

3.6.3 Where the manufacturer is found to remain in compliance with the conditions for type approval upon check, a new Product Type Approval Certificate will be issued.

若製造廠經確認發現符合型式認可所應維持之狀況，本中心即簽發新的產品型式認可證書。

3.6.4 In case where the renewal audit items in 3.6.1 are not practical, considerations will be given by the Society on a case-by-case basis.

若 3.6.1 規定之換證評估項目無法實行，本中心得依個案採取適當考量。

3.6.5 Where the above audit and assessment is not completed before the expiry date of the certificate, the Product Type Approval Certificate will be invalidated and the CR Lists of Approved Marine Products will be revised accordingly.

若上述之稽核與評估未於證書到期日前執行完畢，該產品型式認可證書將失效，且 CR 認可海事產品清單也將隨之修改。

3.7 Change of Approved Products 認可產品修改

3.7.1 The manufacturer is to supervise any change to the products or their manufacturing process, inform the Society of any major change and receive CR assessment thereof.

製造廠必須監督產品的任何變更或其製造流程，通知本中心任何重大修改事項，並接受本中心評估。

3.7.2 Where any change is made to the design of the approved products and their components and parts, materials used or manufacturing method and this affects the main characteristics and features of the products or leads to any change of any performance criterion of the products, a new type approval is to be carried out.

當認可產品與其組件及零件、使用原料或製造方法之任何變更，並會對其主要產品特性產生影響，或將會改變產品之性能準則，則需執行新的型式認可。

CHAPTER 4 MATERIAL AND EQUIPMENT INSPECTION

材料與設備檢驗

4.1 Application 適用狀況

4.1.1 Unless provided otherwise, the material and equipment inspection procedure of this section applies to the products to be certified by the Society.

除非另有規定，此章節之材料及設備檢驗程序規定適用於需經本中心認證之產品。

4.1.2 Appendix 1 is the List of Certification Requirements for Classed Marine Products, as required for the ships classed with the Society.

附錄 1 為使用於入級本中心船舶之船級海事產品發證規範清單。

4.1.3 Appendix 2 is the List of Certification Requirements for Statutory Marine Products, as required for the statutory services delegated to the Society.

附錄 2 為使用於本中心授權檢驗之公約服務之公約海事產品發證規範清單。

4.1.4 Appendix 3 is the List of Certification Requirements for Lifting Appliances, as required for the ships classed with the Society.

附錄 3 為使用於入級本中心船舶之起重設備之發證規範清單。

4.1.5 The plan approval staff and surveyor of the Society may adjust the product items, documents and approval modes on a case-by-case basis.

本中心驗船師及審圖人員得依個案調整認可之產品項目、資料文件與認可模式。

4.2 General Requirements 一般規定

4.2.1 Unless specially considered by the Society, the statutory products, classed materials, and essential machinery and electrical equipment as specified in Appendices 1, 2 and 3 are to be inspected after approval of such products. For the products of which the approval is not required in these Appendices, the Society will make an appropriate assessment of the production capability and conditions of the manufacturer, when receiving his initial application for material and equipment inspection, to determine whether or not to accept the application.

除非本中心有特別考量，附錄 1 與附錄 2 指明之公約檢驗產品、入級材料、必要之機器與電子設備在經產品認可後須經過檢驗。至於附錄中未要求認可之產品，當收到材料及設備之檢驗申請時，本中心將對其生產能力與製造廠狀況作適當評估，以決定是否接受該檢驗申請。

4.2.2 In general, the procedure of material and equipment inspection consists of the following process:

一般而言，材料與設備檢驗程序包含下列流程：

- (a) examination of drawings and technical documents or keeping them for information (hereinafter referred to as “plan approval”), or type test or measurement, for confirming compliance with CR Rules or other recognized standards;
為確認其符合 CR 規範或其他認可之標準，檢閱圖面及技術文件或持有相關文件以供參考(此後以「圖面認可」稱之)，或型式試驗或測量。

4.3 Plan Approval 圖面認可

- (b) inspection and test during manufacturing and/or of final products for confirming compliance with CR Rules and/or approved design drawings; and
製造中或成品之檢驗與試驗以確保其符合 CR 規範或符合認可之設計圖面。
- (c) the Marine Products Certificate or an equivalent document is issued to the products complying with relevant requirements.
海事產品證書或同等文件僅簽發予符合相關規定之產品。

4.2.3 For one or more products which have been approved by the Society, the requirements of 4.2.2(a) and (b) may be simplified with respect to the material and equipment inspection items requiring attendance by the Surveyor, and this may be dealt with according to the approved survey scheme.

經本中心認可之一項或多項產品，在 4.2.2(a)與(b)中所述需由驗船師出席之材料與設備檢驗項目得以簡化，並可依照認可之檢驗計畫處理。

4.2.4 Where type approval or equivalent information is available for the products to be inspected, the Society will assess the relevant information provided by the applicant to determine whether a partial or full type test is needed.

若對於須檢驗之產品，其型式認可或同等之資訊可以取得，本中心將評估由申請者提供之相關資訊，以決定是否必須執行部分或全部之型式試驗。

4.3 Plan Approval 圖面認可

4.3.1 For each application for material and equipment inspection, the applicant is to prepare design drawings and/or technical documents and submit them to the Society for examination or information according to the relevant requirements of CR Rules. The design drawings and technical documents are to clearly state the requirements for the design, material, manufacturing, performance and use of the products to be inspected.

對於每個申請材料與設備之檢驗，申請者須準備設計圖面或技術文件並提交本中心審核或參考。設計圖面與技術文件需清楚陳述該產品之設計要求、使用原料、製造流程、性能及使用狀況。

4.3.2 The applicant is to submit the following documents related to compliance evaluation of the products (if applicable):

申請者需提交下述用於評估產品符合性之相關文件(若適用)：

- (a) Applicable technical standards;
適用技術標準；
- (b) General description of the products;
產品概要描述；
- (c) Design drawings and/or manufacturing drawings, including drawings, lists of components, parts and materials, etc.;
設計圖面及/或製造圖面，包含圖面，組件、零件與材料清單；
- (d) Design calculation results;
設計計算結果；
- (e) Type test reports (if any);
型式試驗報告(若有)；

- (f) Survey and test schemes and/or test program and acceptance criteria;
檢驗方案、試驗計畫與驗收標準；
- (g) Main technological documents; and
主要技術之文件；
- (h) Other documents required by the Society.
其他本中心要求之文件；

4.3.3 Where the technical documents are found to comply with the relevant requirements of CR Rules upon examination, the Society will issue a notification on approval of drawings to the manufacturer, identify the approved status on the submitted technical documents and return the approved drawings.

技術文件經檢閱後發現符合 CR 規範之相關要求，本中心即簽發圖面認可通知予製造廠，且於提交之技術文件上確立認可狀態，並將認可圖面退還廠家。

4.4 Type Test 型式試驗

4.4.1 The products, of which type test is required by CR Rules and/or Appendices 1, 2 and 3, are subject to type test when material and equipment inspection of such products is requested.

若於 CR 規範或附錄 1、附錄 2 及附錄 3 規定必須執行型式試驗之產品，當對該產品之材料與設備要求檢驗時，該產品須接受型式試驗。

4.4.2 The type test is to be carried out according to a test programme approved by the Society.

型式試驗需依本中心認可之試驗計畫執行。

4.4.3 The type test sample is to be the prototype or a product of the same specification and manufacture taken at random from the production line. In the latter case, the sample is to be taken and specifically identified and if necessary, sealed up in the presence of the Surveyor. Where preparation of samples is necessary, they are to be prepared, identified and their marks transferred in the presence of the Surveyor. The way samples are taken, the technology of preparation and the number of samples are to comply with CR Rules. Prior to the test, the Surveyor is to check the compliance of the test with and verify the identification of the samples.

型式試驗樣本需為產品原型，或製造廠由生產線上隨機選取的具有相同規格之產品。若為後者之狀況，選取之樣本需特別標註，若必要時，需在驗船師見證下密封。若需準備樣本時，樣本須於驗船師見證下準備、確認並轉換標誌註記。樣本之選取方式、準備技術與樣本數量均須符合 CR 規範。於試驗執行前，驗船師須檢查該檢測符合規範並確認樣本。

4.4.4 The items related to product performance, environment, etc., as specified in CR Rules, the standards applied by or the technical requirements of the manufacturer, are in general to be tested in the presence of the Surveyor. The manufacturer may arrange required tests at a laboratory accredited by Taiwan Accreditation Foundation (TAF) or another foreign laboratory acceptable to the Society. If the laboratory is found by the Society, upon an assessment, to comply with the requirements for testing of marine products, consideration may be given to accepting the results of such tests and, if necessary, the Society may require a retest.

CR 規範、適用標準或製造廠之技術要求指明之產品性能、環境等相關項目，一般而言需於驗船師見證下執行試驗。製造廠得於 TAF 認可之實驗室或本中心可接受之其他國外實驗室安排所要求之試驗。若該實驗室經本中心評估後，符合海事產品測試相關規定，本中心得考量接受該檢測結果，若必要時，本中心得要求重新測試。

4.4.5 Some or all of type test items may be tested under test conditions provided by the manufacturer. However, the appropriate test ability under such test conditions are to be confirmed by the Society.

部分或全部型式試驗項目可在製造廠提供之試驗狀況下執行。然而，在此試驗條件下本中心應確認其具備適當測試能力。

4.4.6 After completion of the type test, the test organization is to prepare a test report, covering at least the following:
完成型式試驗後，該試驗機構需準備試驗報告，至少須包含以下資訊：

- (a) type, specification and identification of the product;
產品之型式、規格與識別；
- (b) identification of technical requirements for the test;
確認試驗之技術要求；
- (c) specifications of test equipment and measuring instruments (including identification number and date of last calibration);
試驗設備之規格以及測量儀器(包含識別號碼與最後校正日期)
- (d) environmental conditions of each test item;
個別試驗項目之環境狀況
- (e) date and place of test; and
試驗日期與地點
- (f) test results.
試驗結果

4.4.7 The test report is to be signed by person(s) in charge from the test organization and the Surveyor. Where the Surveyor is not present at the test, he is to confirm the test report.

試驗報告須由試驗機構負責人員與驗船師一同簽署。若驗船師於試驗時不在現場，須由試驗機構負責人員確認試驗報告。

4.5 Material Test 材料試驗

4.5.1 Materials are to be tested according to CR Rules. In general, the Surveyor is to confirm the document of material test and where required by CR Rules, the Surveyor is to be present at the test.

材料須依 CR 規範做試驗。一般而言，驗船師須確認材料試驗之文件，且當 CR 規範要求時，試驗執行需有驗船師到場。

4.5.2 The test and measurement equipment is to be properly calibrated and maintained in a good condition. The calibration records are to be kept and made available to the Surveyor when he needs them.

試驗與量測設備須經適當校正並維持在良好狀態。須保有校正紀錄，且驗船師需要時得以取得。

4.5.3 The chemical composition of materials is to be determined and this composition is to be proved by the material supplier through the specified ladle analysis. The laboratory undertaking the analysis is to be provided with adequate test equipment and instrumentation, and the analysis is to be performed by qualified personnel.

材料之化學成分須經測定，且該成分組成需由供應商透過特定澆斗分析證明。執行分析之實驗室需提供充分試驗設備與儀器，並且該分析需由合格人員執行。

4.5.4 The chemical analysis by the manufacturer is in general acceptable. However, the Surveyor may require a random check.

一般而言，製造廠之化學分析結果是可接受的。然而，驗船師可要求執行隨機檢查。

4.6 Survey 檢驗

4.6.1 During manufacturing, the manufacturer is to assist the Surveyor in getting access to all locations related to the survey for confirming:

於製造過程中，製造廠需支援驗船師到達檢驗相關之所有地點並確認下列各項：

- (a) effective implementation of the production technology;
生產技術有效執行；
- (b) compliance of manufacturing with the approved drawings and technical requirements;
製造符合認可圖面與技術要求；
- (c) correct application of materials and welding consumables; and
正確使用材料與銲接材料；及
- (d) correct sampling and testing.
正確取樣與測試。

4.6.2 The final survey and test of the products are to be carried out in the presence of the CR Surveyor and according to the approved design documents actually used and the applicable requirements specified in CR Rules. The Society is responsible only for those survey and test items requiring attendance by its Surveyors.

產品最終檢驗與試驗須依據實際使用之認可設計文件與 CR 規範載明之適用要求於驗船師見證下執行。本中心僅對必須有驗船師到場之檢驗與試驗項目負責。

4.7 Issue of Marine Product Certificate 海事產品證書簽發

4.7.1 The certification requirements for various products are given in Appendices 1, 2 and 3, except as required by the applicant otherwise. An appropriate certificate is to be issued after completion of the material and equipment inspection.

各類產品之發證規定詳見附錄 1、附錄 2 與附錄 3，除非申請者有額外要求。完成材料與設備檢驗後將簽發適當之證書。

4.7.2 Where the type approved or works approved products are intended to be used on ships classed with the Society, such products are to comply with all relevant requirements of CR Rules. Where required by CR Rules, the products certificate is also to be issued as follows:

經型式認可及工廠認可之產品，欲使用於入級本中心之船舶，須符合所有 CR 規範之相關規定。根據 CR 規範要求，產品證書之簽發亦適用於下列情況：

- (a) Only where CR Rules require that the Surveyor attend the survey including test of the products covered by the Product Type Approval Certificate and the Product Works Approval Certificate at an appropriate stage of their manufacturing, the Surveyor is to issue the marine products certificate after completion of the required survey and test, unless specially provided otherwise.
僅於 CR 規範規定驗船師需於適當之製造階段到場執行檢驗，其包含於產品型式認可證書及工廠認可證書，除特別情況之外，在完成規定之檢驗與試驗後，驗船師簽發海事產品證書。

- (b) Where CR Rules specify that the products covered by type approval and works approval may be used on ships classed with the Society provided they have the products certificate, the Society will inspect such products and issue the certificate to them. The manufacturer is to inform the Society of the products to be delivered, and provide all documents necessary for issuing the Marine Products Certificate. In this case, the manufacturer is responsible for compliance of the products with the specified requirements.

CR 規範指定用於入級船舶之產品其具有型式認可及工廠認可者，假若該產品具有產品證書，本中心將對該產品執行檢驗並且簽發證書。該製造廠需告知本中心出貨之產品資訊，並提供海事產品證書所需之所有文件。在此情況下，製造廠需負責確認該產品符合指定要求。

4.7.3 Unless specified otherwise, a separate products certificate may not be required for the equipment and outfits manufactured by the shipyard and covered by the ship survey.

除非另有要求，對於造船廠製造之設備及艙品，其包含於船舶檢驗之中，得不要求個別之產品證書。

Appendix 1 附錄 1

List of Certification Requirements for Classed Marine Products 入級海事產品之認證要求清單

No.	Product name 產品名稱	Document 文件		Approval mode 認可模式		PA 審圖	Remark 註記
		C/E	W	PTA	PWA		
1	Marine metal material 海事金屬材料						
1.1	Plate 板材	X	—	—	X	—	
1.2	Section 型材	X	—	—	X	—	
1.3	Casting 鑄件	X	—	—	X	—	
1.4	Forging 鍛件	X	—	—	X	—	
2	Anchoring and mooring equipment 錨泊及繫泊設備						
2.1	Anchor chains and fitting 錨鏈與附屬裝置	X	—	—	X	O	Plan approval is only required for unmarked anchor chain fitting 僅無標記的錨鏈附件須審圖
2.2	Anchors and accessory 錨與附加元件	X	—	—	X	X	
2.3	Chain stopper 錨鏈扣	X	—	—	—	X	
2.4	Windlass 錨機	X	—	—	—	X	
2.5	Winch and capstan 絞車及絞盤	X	—	—	—	X	
2.6	Towing and mooring ropes (fiber rope and steel wire) 拖纜與繫纜繩(纖維繩與鋼索)	X	—	—	X	—	
2.7	Emergency towing arrangement 緊急拖曳裝置	X	—	X	—	X	For tankers dwt ≥ 20,000 tonnes 適用載重噸 ≥ 20,000 液貨船
2.8	Single point mooring arrangement 單點繫泊裝置	X	—	O	—	X	
3	Equipment and outfit 設備與纈品						
3.1	Hatch cover 艙口蓋	X	—	—	—	X	
3.2	Hydraulic device (e.g. Hydraulic cylinder, hydraulic power unit, hydraulic motor) 液壓設備 (例如：液壓缸、液壓動力單元、液壓馬達)	X	—	—	—	X	
3.3	Side scuttle and window 舷窗與窗戶	X	—	O	—	X	
3.4	Window glass 窗玻璃	O	X	—	X	X	
3.5	Towing hook 拖纜鉤	X	—	—	—	X	
3.6	Towing winch 拖纜絞車	X	—	—	—	X	
3.7	Bow, stern and side shell doors 艏門、艉門及舷門	X	—	—	—	X	
3.8a	Watertight door 水密門	X	—	—	—	X	
3.8b	Watertight door(sliding) 水密門(滑動)	X	—	O	—	X	
3.9	Weather-tight door 風雨密門	—	—	O	—	—	
4	Rudder and steering gear 舵與操舵裝置						
4.1	Rudder blade 舵葉	X	—	—	—	X	
4.2	Rudder stock and pintle 舵桿與舵針	X	—	—	X	X	
4.3	Rudder bearing 舵軸承	X	—	—	X	X	
4.4	Rudder tiller 舵柄	X	—	—	X	X	

Appendix 1 附錄 1

List of Certification Requirements for Classed Marine Products

入級海事產品之認證要求清單

No.	Product name 產品名稱	Document 文件		Approval mode 認可模式		PA 審圖	Remark 註記
		C/E	W	PTA	PWA		
4.5	Tiller connecting bolt 舵柄連接螺栓	X	—	—	X	X	
4.6	Steering gear 操舵裝置	X	—	O	—	X	
4.7	Rudder angle indicator 舵角指示器	O	X	O	—	X	
4.8	Auto-pilot 自動操舵裝置	X	—	X	—	X	
4.9	Electrical control and alarm device of steering gear 操舵裝置之電子控制與警報裝置	X	—	O	—	X	
5	Pumps and piping 泵浦與管路						
5.1a	Valves of nominal bore exceed 100 mm for piping of Group I and II, and fittings 用於第 I 與第 II 類管路之公稱孔徑大於 100mm 之閥與裝備	X	—	O	X	X	
5.1b	Valves of nominal bore exceed 100 mm connecting to the ship's shell and collision bulkhead below the freeboard deck, and connections 連接於船殼與乾舷甲板下之防碰艙壁之公稱孔徑大於 100mm 之閥，及連接裝置	X	—	O	X	X	
5.2	Piping of Group I and II 第 I 類管與第 II 類管	X	—	—	X	—	
5.3a	Piping of Group III 第 III 類管	O	X	—	O	—	
5.3b	Valves and fittings other than those under 5.1 5.1 規定之外的閥與附件	O	X	—	—	—	
5.4	Pump 泵浦	X	—	O	—	X	
5.5	Mechanical pipe joint 機械式管接頭	X	—	X	—	X	
5.6	Air pipe closing appliance 空氣管關閉裝置	X	—	—	—	X	
5.7	Hydraulic fluid cylinder, hydraulic motor, hydraulic pump 液壓缸、液壓馬達、液壓泵浦	X	—	—	—	X	
6	Boiler and pressure vessel 鍋爐與壓力容器						
6.1	Boilers (including thermal oil boilers) 鍋爐(包含熱油鍋爐)	X	—	—	X	X	
6.2	Boiler burner 鍋爐燃燒器	X	—	X	—	X	
6.3	Economizer 節熱器	X	—	X	—	X	
6.4	Steam heated steam generator (over 0.35 Mpa) 蒸汽加熱之蒸汽發電機(超過 0.35 Mpa)	X	—	X	—	X	
6.5	Thermal oil and thermal water units (for service of propulsion machinery) 熱油與熱水單位(用於推進機械者)	X	—	X	—	X	
6.6	Automatic and safety devices (pressure control, temperature control, water level control and safety valve) separately supplied to ship 分別對船提供自動化與安全裝置(壓力控制、溫度控制、水位控制與安全閥)	X	—	—	—	X	
6.7	Safety membrane 安全薄膜	—	X	—	X	—	
6.8	Safety valve 安全閥	X	—	X	—	X	
6.9	Pressure vessels of Group I and II 第 I 與第 II 類管之壓力容器	X	—	—	X	X	
6.10	Pressure vessels of Group III 第 III 類管之壓力容器	X	—	—	O	X	
7	Machinery 機械						
7.1	Gas turbine 燃氣渦輪機	X	—	X	—	X	
7.2	Steam turbine 蒸汽渦輪機	X	—	X	—	X	

Appendix 1 附錄 1

List of Certification Requirements for Classed Marine Products
入級海事產品之認證要求清單

No.	Product name 產品名稱	Document 文件		Approval mode 認可模式		PA 審圖	Remark 註記
		C/E	W	PTA	PWA		
7.3a	Diesel engine (mass produced) 柴油機(量化生產)	X	—	X	—	X	Cylinder bore dia. Of engines not exceeding 300 mm 柴油機之缸徑不超過 300 mm
.1	Engine body 機體	X	—	—	X	X	
.2	Crankshaft 曲軸	X	—	—	X	X	
.3	Cylinder case 圓柱殼	X	—	—	X	X	
.4	Heat exchanger 熱交換器	X	—	O	—	X	
.5	Connecting rod 連桿	X	—	—	X	X	
.6	Fuel injection pipe 燃油噴射管	O	X	X	—	X	Welding structure subject to NDT, PTAC to be provided for W W 提供之銲接結構僅限於 NDT, PTAC
.7	Supercharger 增壓機	X	—	O	—	X	
.8	Speed governor 調速器	—	X	X	—	X	Applicable to electronic speed governor 適用於電子式調速器
.9	Control and alarm box of diesel engine 柴油機之控制及警報箱	X	—	X	—	X	Including safety alarm system 包含安全警報系統
7.3b	Diesel engine (single unit) 柴油機(單一生產)	X	—	X	—	X	Cylinder bore dia. (D) of engines over 300 mm 柴油機之缸徑超過 300 mm
.1	Welded bedplate 銲接機座	X	—	—	X	X	Applicable to all engines 適用於所有柴油機
.2	Bearing transverse girder (cast steel) 軸承座(鑄鋼)	X	—	—	X	X	Applicable to all engines 適用於所有柴油機
.3	Welded frame box 銲接機架罩	X	—	—	X	X	Applicable to all engines 適用於所有柴油機
.4	Cylinder block (gray cast iron) 汽缸體(灰鑄鐵)	—	X	—	X	X	Applicable to crosshead engines 適用於十字頭式柴油機
.5	Cylinder block (spheroidal graphite cast iron) 汽缸體(球墨鑄鐵)	—	X	—	X	X	Applicable to crosshead engines 適用於十字頭式柴油機
.6	Welded cylinder frames 銲接汽缸體	X	—	—	X	X	Applicable to crosshead engines 適用於十字頭式柴油機
.7	Engine block (grey cast iron) 機體(灰鑄鐵)	—	X	—	X	X	Applicable to engine power > 400 kW/cyl 適用於柴油機出力 >400 kW/cyl

Appendix 1 附錄 1

List of Certification Requirements for Classed Marine Products

入級海事產品之認證要求清單

No.	Product name 產品名稱	Document 文件		Approval mode 認可模式		PA 審圖	Remark 註記
		C/E	W	PTA	PWA		
.8	Engine block (spheroidal graphite cast iron) 機體(球墨鑄鐵)	—	X	—	X	X	Applicable to engine power > 400 kW/cyl
.9	Cylinder liner 汽缸套	—	X	—	X	X	D > 300 mm
.10	Cylinder head (grey cast iron) 汽缸蓋(灰鑄鐵)	—	X	—	X	X	D > 300 mm
.11	Cylinder head (spheroidal graphite cast iron) 汽缸蓋(球墨鑄鐵)	—	X	—	X	X	D > 300 mm
.12	Cylinder head (cast steel) 汽缸蓋(鑄鋼)	X	—	—	X	X	D > 300 mm
.13	Forged cylinder head 鍛造汽缸蓋	X	—	—	X	X	D > 300 mm
.14	Piston crown (cast steel) 活塞冠(鑄鋼)	X	—	—	X	X	D > 400 mm
.15	Forged piston crown 鍛造活塞冠	X	—	—	X	X	D > 400 mm
.16	Crankshaft: made in one piece 整體鍛造曲軸	X	—	—	X	X	Applicable to all engines 適用於所有柴油機
.17	Semi-built crankshaft 半組合曲軸	X	—	—	X	X	Applicable to all engines 適用於所有柴油機
.18	Crank throw 曲柄推程	X	—	—	X	X	Applicable to all engines 適用於所有柴油機
.19	Forged main journal and journals with flange 鍛造主軸頸和帶法蘭之軸頸	X	—	—	X	X	Applicable to all engines 適用於所有柴油機
.20	Exhaust gas valve cage 排氣閥殼	—	X	—	X	X	Applicable to crosshead engines 適用於十字頭式柴油 機
.21	Piston rod, if applicable 活塞桿(如適用)	X	—	—	X	X	D > 400 mm
.22	Cross head 十字頭	X	—	—	X	X	Applicable to crosshead engines 適用於十字頭式柴油 機
.23	Connecting rod with cap 連桿含軸承蓋	X	—	—	X	X	Applicable to all engines 適用於所有柴油機
.24	Coupling bolts for crankshaft 曲軸連接螺栓	X	—	—	X	X	Applicable to all engines 適用於所有柴油機
.25	Bolts and studs for main bearings 主軸承螺栓和螺柱	—	X	—	X	X	D > 300 mm
.26	Bolts and studs for cylinder heads 汽缸蓋螺栓和螺柱	—	X	—	X	X	D > 300 mm
.27	Bolts and studs for connecting rods 連桿螺栓和螺柱	—	X	—	X	X	D > 300 mm
.28	Tie rod 繫桿	X	—	—	X	X	Applicable to crosshead engines 適用於十字頭式柴油 機

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No.	Product name 產品名稱	Document 文件		Approval mode 認可模式		PA 審圖	Remark 註記
		C/E	W	PTA	PWA		
.29	High pressure fuel injection pump body 高壓燃油噴油泵體	X	—	—	X	X	D > 300 mm
.30	High pressure fuel injection valves (only for those not autofretted) 高壓燃油噴射閥(僅針對未經高壓強化處理者)	—	X	—	X	X	D > 300 mm
.31	High pressure fuel injection pipes including common fuel rail 高壓燃油噴射管含燃油共軌	X	—	—	X	X	D > 300 mm
.32	High pressure common servo oil system 高壓伺服油共軌系統	X	—	—	X	X	D > 300 mm
.33	Cooler, both sides 冷卻器，兩側	—	X	—	X	X	D > 300 mm
.34	Accumulator of common rail fuel or servo oil system 燃油或伺服油系統之蓄壓器	X	—	—	X	X	Applicable to engines with accumulators with a capacity of > 0.5 liters
.35	Piping, pumps, actuators, etc. for hydraulic drive of valves, if applicable 用於液壓驅動的管路、泵、致動器等(如適用)	X	—	—	X	X	Applicable to engine power > 800 kW/cyl 適用於柴油機出力> 800 kW/cyl
.36	Engine driven pumps (oil, water, fuel, bilge) 機帶泵(油、水、燃油、艙水)	X	—	X	—	X	Applicable to engine power > 800 kW/cyl 適用於柴油機出力> 800 kW/cyl
.37	Bearings for main, crosshead, and crankpin 主軸頸、十字頭及曲柄銷之軸瓦	—	X	—	X	X	Applicable to engine power > 800 kW/cyl 適用於柴油機出力> 800 kW/cyl
.38	Main starting valves 主起動閥	X	—	—	—	X	
.39	Starting air pipe 起動空氣管	X	—	—	X	X	
.40	Crankcase explosion relief valves 曲柄軸箱之爆炸洩壓閥	O	X	X	—	X	Refer to
.41	Foundation bolts of main engines 主機地腳螺栓	X	—	—	X	X	
.42	Air cooler 空氣冷卻器	X	—	O	—	X	
.43	Oil mist detector 油霧偵測器	O	X	X	—	X	
.44	Speed governor 調速器	O	X	X	—	X	
7.4a	Gearbox (100 kW and over) 變速箱(100 kW 及以上)	X	—	X	—	X	
7.4b	Gearbox (below 100 kW) 變速箱(低於 100kW)	X	—	—	—	X	
7.5	Heat exchanger 熱交換器	X	—	O	O	X	
7.6	Blower 鼓風機	X	—	—	—	X	
7.7	Air compressor 空氣壓縮機	X	—	O	—	X	
7.8	Oil separator 油水分離器	X	—	X	—	X	
7.9	Stern tube seal 艙軸管密封	O	X	X	—	X	
7.10	Refrigerating plant (for refrigerated cargo carriers) 冷凍設備(冷凍貨船所使用)	X	—	—	—	X	
7.11	Oil fuel supply unit 燃油供應單元	X	—	—	—	X	
7.12	Fans serving hazardous spaces 用於危險區域之風機	X	—	O	—	X	
7.13	Purifier 淨油機	X	—	O	—	X	

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		C/E	W	PTA	PWA		
7.14	Turbocharger in Category A A 類之渦輪增壓機	X	—	X	—	X	Refer to 3.13 of Part IV of the Rules of Steel Ships. 參照至鋼船規範第 IV 篇 3.13。
7.15	Turbocharger in Category B & C B 類與 C 類之渦輪增壓機	X	—	X	—	X	Refer to 3.13 of Part IV of the Rules of Steel Ships. 參照至鋼船規範第 IV 篇 3.13。
8	Electrical equipment and automation 電力設備與自動化						
8.1	Generating sets 發電機組	X	—	X	—	X	
8.2	Generators 發電機	X	—	X ⁽¹⁾	—	X	
8.3	Emergency generating sets 應急發電機組	X	—	X	—	X	
8.4	Emergency switchboard 應急配電板	X	—	O	—	X	
8.5	Main switchboard 主配電盤	X	—	O	—	X	
8.6	Engine room central operating console 機艙中央操作控制臺	X	—	—	—	X	
8.7	Bridge central operating console 駕駛室中央操作控制臺	X	—	—	—	X	
8.8a	Single phase transformers (1kVA and above) 單相變壓器 (1kVA 及以上)	X	—	O	—	X	
8.8b	3-phase transformers (5kVA and above) 3 相變壓器 (5kVA 及以上)	X	—	O	—	X	
8.9a	Explosion-proof switch and joint box 防爆開關與接線盒	O	—	X	—	X	
8.9b	Explosion-proof light 防爆燈	O	—	X	—	X	
8.10	Power, control and communication cables and wires 電力、控制與通信電纜及電線	X	—	X	—	X	
8.11a	Motors 75 kW and above 電動機 75 kW 及以上	X	—	O	—	X	
8.11b	Motors under 75 kW 電動機 未滿 75 kW	O	X	O	—	—	
8.12	Explosion-proof motor 防爆電動機	X	—	X	—	X	
8.13	Electrical control box (associated with essential equipment) 電控箱(與必要設備有關者)	X	—	—	—	X	
8.14a	Control and alarm box/tank of boilers 鍋爐控制與警報箱/櫃	X	—	—	—	X	Items 8.14a to 8.14e for examples only, not including all control boxes for associated essential equipment 8.14a~8.14e 項僅為範例，不包含所有相關必要設備之控制箱
8.14b	Control and alarm box/tank of windlasses 錨機控制與警報箱/櫃	X	—	—	—	X	
8.14c	Control and alarm box/tank of main/auxiliary engines 主機/輔機控制與警報箱/櫃	X	—	—	—	X	
8.14d	Control and alarm box/tank of oil separators 油水分離器控制與警報箱/櫃	X	—	—	—	X	
8.14e	Control and alarm box/tank of comminuting and disinfecting system 消毒與粉碎系統控制與警報箱/櫃	X	—	—	—	X	
8.15	Charging and discharging boards 充放電盤	X	—	O	—	X	
8.16	Main engine remote control system (including	X	—	X	—	X	

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No.	Product name 產品名稱	Document 文件		Approval mode 認可模式		PA 審圖	Remark 註記
		C/E	W	PTA	PWA		
	sensors) 主機遙控系統(包含感測器)						
8.17	Alarm and monitoring system (AMS) 警報及監視系統	X	—	X	—	X	Automation symbol require PTA 自動化符 號要求 PTA，反則不 用
8.18	Engine telegraph 傳鐘	O	X	O	—	X	
8.19	Level measuring system (including sensors) 水位測量系統(包含感測器)	O	X	X	—	X	
8.20	Temperature monitoring system (including sensors) 溫度監測系統(包含感測器)	O	X	X	—	X	
8.21	Circuit breaker (for main switches) 斷路器(用於主配電盤)	O	X	—	—	X	
8.22	Uninterrupted Power Supply (UPS) 不斷電供應系統	X	—	O	—	X	UPS for essential & emergency source is to be comply with CR Rules Part VII, Ch. 18 用於重要和應急電源 之 UPS 應符合鋼船 規範第 VII 篇第 18 章之規定
8.23	Contactor 接觸器	O	X	—	—	X	
8.24	Insulation monitor 絕緣監測器	O	X	—	—	X	
8.25	Engineer's call system 輪機員呼叫系統	O	X	—	—	X	
8.26	Soft actuation system 緩衝啟動系統	O	X	—	—	X	
8.27	Propeller speed indicator 螺槳轉速指示器	O	X	—	—	X	
8.28	Fuse 保險絲	O	X	—	—	X	
8.29	Combined visual and audible alarm panel (box) 視聽結合警報盤(箱)	O	X	—	—	X	
8.30	Low location lighting 低位照明	O	X	X	—	X	For passenger ship only 僅客船要求
8.31	Relay and accessories 繼電器與附加元件	O	X	O	—	X	
8.32	Fixed flammable gas detection and alarm system 固定式可燃氣體偵測及警報系統	X	—	X	—	X	
8.33	Power conversion devices (charger, etc.) 電源轉換裝置(充電器等)	X	—	X	—	X	Automation symbol require PTA 自動化符號要求 PTA
8.34	Group starter panel 群啟動盤	X	—	—	—	X	
8.35	Temperature transmitter 溫度傳送器	—	—	X	—	X	Applicable to cargo tank
8.36	Pressure transmitter 壓力傳送器	—	—	X	—	X	適用於液貨艙
8.37	Liquid level transmitter 水位傳送器	—	—	X	—	X	
8.38	Dynamic positioning system 動態定位系統	X	—	X	—	X	
8.39	Distribution panel for high voltage shore power connection 用於高壓岸電連接之配電盤	X	—	—	—	X	
9	Shafting and thruster 軸系與推力器						
9.1	Thrust shaft 推力軸	X	—	—	X	X	
9.2	Intermediate shaft and bearing 中間軸與軸承	X	—	—	X	X	

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		C/E	W	PTA	PWA		
9.3	Tube shaft, propeller shaft 艮軸、螺槳軸	X	—	—	X	X	
9.4	Stern tube 艮軸管	X	—	—	X	X	
9.5	Stern tube bearing 艮軸管軸承	X	—	—	X	X	
9.6	Propeller 螺槳	X	—	—	X	X	
9.7a	Z propulsion system Z 推進系統	X	—	O	—	X	
9.7b	Waterjet propulsion system 噴水推進系統	X	—	O	—	X	
9.7c	Voith-Schneider propeller (VSP) 垂直翼螺槳(VSP)	X	—	O	—	X	
9.8a	Non-elastic coupling 非彈性聯軸器	X	—	O	—	X	
9.8b	Elastic coupling 彈性聯軸器	X	—	O	—	X	
9.9	Shafting connecting bolt 軸系連接螺栓	X	—	—	X	X	
9.10	Other thrusters 其他推力器	X	—	O	—	X	
9.11	Controllable pitch propeller 可控螺距螺槳	X	—	O	—	X	
9.12	Side thruster 側推力器	X	—	O	—	X	
10	Welding consumables 鐸材						
10.1	Electrode 電鐸條	Refer to Part XII of the Rules for Steel Ships. PWA is required and to be subject to annual audit. 依據鋼船規範第 XII 篇，PWA 必須執行年度稽核					
10.2	Wire 鐸線						
10.3	Flux 助鐸劑						
11	Corrosion resistant means 防腐蝕方法						
11.1	PSPC paint PSPC 塗料	O	X	X	—	—	
11.2	Antifouling paint 防生物附著塗料	O	X	X	—	—	
11.3	Sacrificial anode 犧牲陽極	X	—	—	—	—	
11.4	Shop primer 防銹底漆	—	X	—	—	—	
12	Nonmetallic materials 非金屬材料						
12.1	Resin and fiber for fiber-reinforced plastics 用於纖維強化塑膠之樹脂與纖維	O	X	—	X	—	
12.2	Plastic pipe 塑膠管	O	X	—	O	—	
12.3	Resin 樹脂	O	X	—	X	—	
12.4	Rubber 橡膠	O	X	—	X	—	
12.5	Synthetic (bearing) material 合成材料	O	X	—	X	—	
13	Miscellaneous 雜項類別						
13.1	Securing arrangements of container ships 貨櫃船繫固裝置	X	—	X	—	X	Refer to Ch. 7 of CR Guidelines for certification of container securing systems 參照至 CR 貨櫃繫固系統認可準則第 7 章
13.2	Loading computer 裝載電腦						Refer to Appendix I-1 of Part I of the Rules for Steel Ships 根據鋼船規範附錄 I-1 規定
13.3	Spark arrester 火花防止器	X	—	—	—	X	
13.4	Flexible hose assembly specified in Part XI Chapter 16 CR Rules for Steel Ships CR 鋼船規範第 XI 篇第 16 章所指明之軟管組件	X	—	X	—	X	
13.5	Resilient mounting 減振器	X	—	X	—	X	
13.6	Fuel cell power system 燃料電池電源系統	X	—	X	O	X	
.1	FC fuel pipe 燃料電池燃油管	X	—	—	X	—	

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		C/E	W	PTA	PWA		
.2	Valves used for working temperature below -55°C 用於工作溫度低於-55°C之閥	X	—	X	O	X	
.3	Expansion bellow 伸縮囊節	X	—	X	O	X	
13.7	Management system of Planned Machinery Maintenance Scheme (PMS) 機器計劃性維護方案(PMS)管理系統	O	—	X	—	X	

Symbols:

符號：

- C – Marine Products Certificate(海事產品證書);
E – Equivalent document(同等效力文件);
W – Manufacturer’s document(製造廠證明);
X – Applicable(適用);
O – Optional(選用).
- PTA – Product type approval(產品型式認可);
PWA – Product works approval(產品工廠認可);
PA – Plan approval (圖面認可).

Appendix 2 附錄 2

List of Certification Requirements for Statutory Marine Products 公約海事產品之認證要求清單

No.	Product name 產品名稱	Document 文件		Approval mode 認可模式		PA 審圖	Remark 註記
		C/E	W	PTA	PWA		
1	Fire-resisting material and equipment 耐火材料及設備						
1.1	Fireproof material 防火材料	X	—	X	O	—	
1.2	Fire door or window 防火門或防火窗	X	—	X	—	X	
1.3	Fire damper or strip 防火檔板或隔板	X	—	X	—	X	
1.4	Deck covering 甲板被覆	O	X	—	X	—	
1.5	Penetration on deck or bulkhead 甲板或艙壁貫穿件	O	X	X	—	X	
1.6	Low flame spread material 低度火焰蔓延材料	O	X	O	X	—	
1.7	Cable stuffing 電纜填料	—	—	X	—	—	
1.8	Class A deck division A 級甲板分隔	O	X	X	—	X	
1.9	Class A bulkhead division A 級艙壁分隔	O	X	X	—	X	
1.10	Class B bulkhead division B 級艙壁分隔	O	X	X	—	X	
1.11	Class B deck division B 級甲板分隔	O	X	X	—	X	
1.12	Non-combustible material 不燃材	—	X	—	X	—	
2	Fire-extinguishing system and equipment 滅火系統與設備						
2.1	Fixed fire-extinguishing system 固定式滅火系統	X	—	X	—	X	
2.2	Fire-extinguishing medium (foam)滅火劑(泡沫)	O	X	—	X	—	
2.3	Fire extinguishers (using foam, dry powder, gas or other media) 滅火器(使用泡沫、乾粉、氣體或其他媒介)	X	—	X	—	X	
2.4	Fire hoses 消防水帶	O	X	X	—	—	
2.5	Nozzle and monitor 噴嘴及噴射器	X	—	X	—	X	
2.5a	Foam applicator and monitor 泡沫噴霧器及噴射器	X	—	X	—	X	
2.5b	dry powder applicator and monitor 乾粉噴霧器及噴射器	X	—	X	—	X	
2.6	Fireman's outfit (see following items) 消防員裝具(詳見下述各項)						
.1	Breathing apparatus (including self-contained compressed air breathing apparatus) 呼吸設備 (包括自攜式壓縮空氣呼吸器)	O	X	X	—	X	
.2	Protective clothing 防護衣	O	X	X	—	X	
.3	Fireproof lifeline 防火救生索	O	X	X	—	X	
.4	Two-way radiotelephone apparatus of explosion-proof type or intrinsically safe 雙向無線電話設備防爆或安全型	O	—	X	—	X	

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		C/E	W	PTA	PWA		
2.7	Emergency escape breathing device 緊急逃脫呼吸設備	X	—	X	—	X	
2.8	Spraying nozzles (including open and closed types) 噴嘴(包含打開與關閉型式)	O	X	X	—	X	
2.9	Fixed local water-based fire-extinguishing arrangement 固定式局部噴水滅火系統裝置	X	—	X	—	X	
2.10	Portable foam applicator 可攜式泡沫噴霧器	X	—	X	—	X	
2.11	Fire pump, emergency fire pump 消防泵, 應急消防泵	X	—	X	—	X	
2.12	Inert gas system 惰氣系統	X	—	X	—	X	
2.1	Inert gas generator 惰氣產生器	X	—	X	—	X	
2.2	Blower 鼓風機	X	—	O	—	X	
2.13	Pressure vacuum valve (including high speed venting valve and breathing valve) 真空閥(包括高速通氣閥及呼吸閥)	X	—	X		X	
2.14	Flame arrester 滅焰器	X	—	X	—	X	
2.15	Bulkhead sealing device (penetration) 艙壁密封裝置(貫穿式)	X	—	—	—	X	
2.16	Helicopter platform foam fire-extinguishing arrangement 直升機平臺泡沫滅火裝置	X	—	X	—	X	
2.17	Trolley type fire extinguisher 推車式滅火器	X	—	X	—	X	
2.18	Fire-extinguishing arrangement for Deep-fat cooking equipment 深油烹飪設備的滅火裝置	X	—	X	—	X	
2.19	Fixed fire-extinguishing arrangement for galley discharge duct 廚房排風管道固定式滅火裝置	X	—	X	—	X	Only apply for passenger ships carrying more than 36 passengers 僅適用於載客 36 人以上的客船
3	Fire detector and alarm system⁽¹⁾ 火災偵測與警報系統⁽¹⁾						
3.1	Fire detection and alarm device 火災偵測警報裝置	X	—	X	—	X	
3.2	Light signal of escape route 逃生路線燈號	O	X	X	—	X	
3.3	Reflecting sign 反光標識	—	X	X	—	X	
3.4	Alarm system for release of extinguishing media 滅火媒介釋放警報系統	X	—	—	—	X	
3.5	Sample extraction smoke detection system 取樣探煙系統	X	—	X	—	X	
3.6	Fixed Oxygen analysis and gas detection equipment 固定氧氣分析及氣體偵測設備	X	—	X	—	X	
4	Life-saving appliances and arrangements 救生設備與裝置						
4.1	Lifeboats 救生艇	X	—	X	—	X	
4.2	Rescue boats (including fast rescue boats) 救難艇(包含高速救難艇)	X	—	X	—	X	
4.3	Life rafts (including rigid and inflatable ones) 救生筏(包含剛硬式與充氣式)	X	—	X	—	X	
4.4	Launching arrangements (including launching rack, winch, pulley, release gear and fall) 下水裝置(包含發射架、絞車、滑車、釋放裝置與垂降)	X	—	X	—	X	

No.	Product name 產品名稱	Document 文件		Approval mode 認可模式		PA 審圖	Remark 註記
		C/E	W	PTA	PWA		
4.5	Float-free arrangement 自由浮離裝置	X	—	X	—	X	
4.6	Immersion suit, anti-exposure suit 浸水衣、保暖救生衣	X	—	X	—	X	
4.7	Lifejacket 救生衣	X	—	X	—	X	
4.8	Lifebuoy 救生圈	X	—	X	—	X	
4.9	Self-igniting light (including lifebuoy and lifejacket) 自燃燈(包含救生圈與救生衣)	X	—	X	—	X	
4.10	Thermal protective aid 保溫輔助用具	X	—	X	—	X	
4.11	Distress flare 遇險照明彈	X	—	X	—	X	
4.12	Line-throwing appliance 拋繩器	X	—	X	—	X	
4.13	Marine evacuation system 海上撤離系統	X	—	X	—	X	
4.14	Embarkation ladder 登艇梯	X	—	O	—	X	
4.15	Low location lighting system 低位照明系統	—	X	X	—	X	
5	Environmental protection equipment and material 環境保護設備與材料						
5.1	15 ppm bilge oily water separator 15ppm 艙水油水分離器	X	—	X	—	X	
5.2	15 ppm bilge alarm 15ppm 艙水警報	X	—	X	—	X	
5.3	Oil/water interface detector 油水界面偵測器	X	—	X	—	X	
5.4	Oil discharge monitoring and control system, including oil content meter 排油監測與控制系統，包含油含量計	X	—	X	—	X	For oil tanker 用於油輪
5.5	Crude oil washing machine 原油洗艙機器	X	—	X	—	X	
5.6	Sewage treatment plant 污水處理設備	X	—	X	—	X	
5.7	Comminuting and disinfecting system 粉碎與消毒系統	X	—	X	—	X	
5.8	Incinerator 焚化爐	X	—	X	—	X	
5.9	Devices for processing and recording after discharge 排放處理與紀錄設備	X	—	X	—	X	
5.10	NOx emission of diesel engines of over 130 kW 130 kW 以上柴油機氮氧化物排放	X	—	X	—	X	EIAPP certificate EIAPP 證書
5.11	Ballast water management system 壓艙水處理系統	X	—	X	—	X	
5.12	Equipment limiting SOx emission 限制硫氧化物排放設備	X	—	X	—	X	
5.13	Equipment limiting NOx emission 限制氮氧化物排放設備	X	—	X	—	X	
6	Communication, navigation and signaling equipment 通訊、航海與信號設備						
6.1	Two-way VHF radiotelephone apparatus 雙向特高頻無線電話設備	O	—	X	—	X	
6.2	Search and rescue locating devices 搜索與救援定位裝置	O	X	X	—	X	
6.3	Public address system 廣播系統	O	X	X	—	X	
6.4	NAVTEX receiver 航行警告電傳接收機	O	—	X	—	X	
6.5	Recognized mobile satellite service ship earth station ship earth station 認可移動衛星服務船舶(地球)電台	O	—	X	—	X	

List of Certification Requirements for Statutory Marine Products 公約海事產品之認證要求清單

No.	Product name 產品名稱	Document 文件		Approval mode 認可模式		PA 審圖	Remark 註記
		C/E	W	PTA	PWA		
6.6	Emergency position-indicating radio beacon (EPIRB) 應急指位無線電示標	O	—	X	—	X	
6.7	MF/HF radio installation 中/高頻無線電裝置	O	—	X	—	X	
6.8	GPS 全球衛星定位系統	O	—	X	—	X	
6.9	Navigation and signaling lights (Not-under-command light, anchor light and restricted operation light) 航行燈與信號燈(故障燈、錨泊燈與營運受限燈)	O	—	X	—	X	
6.9a	Control panel of navigational lights 航行燈控制板	O	—	X	—	X	
6.10	Whistle 汽笛	O	—	X	—	X	
6.10a	Control panel of whistles 汽笛控制板	O	—	X	—	X	
6.11	VHF radio installation 特高頻無線電裝置	O	—	X	—	X	
6.12	Magnetic compass (including azimuth finder) 磁羅經(包含方位瞄準裝置)	O	—	X	—	X	
6.13	Gyrocompass (including azimuth finder and compass repeater) 電羅經(包含方位瞄準裝置與羅經複示器)	O	—	X	—	X	
6.14	Radar (including automatic plotting and tracking) 雷達(包含自動測繪與追蹤)	O	—	X	—	X	
6.15	Speed and distance measuring devices 速度與距離衡量裝置	O	—	X	—	X	
6.16	Sound reception system 聲波接收系統	O	—	X	—	X	
6.17	Daylight signaling lamp 日間信號燈	O	—	X	—	X	
6.18	Echo-sounding device 回聲測深設備	O	—	X	—	X	
6.19	Automatic Identification System (AIS) 自動辨識系統	O	—	X	—	X	
6.20	Side thrust, pitch and operational mode indicator 側推力器、螺距及工作模式指示器	O	X	X	—	X	
6.21	Sound-powered telephone 聲力電話	O	X	O	—	X	
6.22	Electronic chart display and information system (ECDIS) 電子海圖顯示與資訊系統	O	—	X	—	X	
6.23	Rate-of-turn indicator 迴轉速率指示計	O	—	X	—	X	
6.24	Voyage data recorder (VDR) 航行資料紀錄器	O	—	X	—	X	
6.25	Integrated bridge system (IBS) 綜合船橋系統	O	—	X	—	X	
6.26	Integrated navigation system (INS) 整合航行系統	O	—	X	—	X	
6.27	Ship security alert system 船舶保全示警系統	O	—	X	—	X	
6.28	General emergency alarm system 一般應急警報系統	O	—	X	—	X	
6.29	Heading control system 航向控制系統	O	—	X	—	X	
6.30	Special-purpose VHF (ship communicating with aircraft) 特殊目的特高頻(船舶與飛行器通訊用)	O	—	X	—	X	
6.31	Long-range identification and tracking system 長程識別與追蹤系統	O	—	X	—	X	
6.32	Pilot ladder and pilot's accommodation ladder 領港梯及引水人舷梯	X	—	O	—	X	

No.	Product name 產品名稱	Document 文件		Approval mode 認可模式		PA 審圖	Remark 註記
		C/E	W	PTA	PWA		
6.33	Bridge navigational watch alarm system (BNWAS) 駕駛台航行值班警報系統	O	—	X	—	X	
6.34	Night-vision unit for high speed craft 高速船用夜視裝置	O	—	X	—	X	
7	Miscellaneous 雜項類別						
7.1	Cargo hose 輸油軟管	O	X	X	—	X	
7.2	Water ingress detection alarm system 進水偵測警報系統	X	—	X	—	X	

Symbols:

符號：

- C – Marine Products Certificate(海事產品證書);
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 X – Applicable(適用)
 O – Optional(選用).
- PTA – Product type approval(產品型式認可);
 PWA – Product works approval(產品工廠認可).
 PA – Plan approval(圖面認可).

Note:

附註：

- The product is also categorized as the Classed Marine Products.
此產品亦被分類為入級海事產品檢驗

Appendix 3 附錄 3

List of Certification Requirements for Lifting Appliances 起重設備之認證要求清單							
No.	Product name 產品名稱	Document 文件		Approval mode 認可模式		PA 審圖	Remark 註記
		C/E	W	PTA	PWA		
1	Derrick System (including derrick type crane) 吊桿系統(包含吊桿型吊車)	X	—	O	O	X	
1.1	Winch 絞車	X	—	—	—	X	
1.2	Moving parts 活動件	X	—	—	X	X	
1.3	Rigging 索具	X	—	—	X	X	
1.4	Wire rope 鋼纜	X	—	—	X	—	
1.5	Motor 75 kW and above 電動機 75 kW 及以上	X	—	O	—	X	
1.6	Motor under 75 kW 電動機未滿 75 kW	O	X	O	—	X	
1.7	Electrical control box 電控箱	X	—	—	—	X	
2	Crane 吊車	X	—	—	—	X	
2.1	Steel plate 鋼板	X	—	—	X	—	
2.2	Steel pipe 鋼管	X	—	—	X	X	Applicable to main structure 適用於主結構
2.3	Casting / forging 鑄件/鍛件	X	—	—	X	X	
2.4	Winch 絞車	X	—	—	—	X	
2.5	Moving parts 活動件	X	—	—	X	X	
2.6	Rigging 索具	X	—	—	X	X	
2.7	Wire rope 鋼纜	X	—	—	X	—	
2.8	Motor 75 kW and above 電動機 75 kW 及以上	X	—	O	—	X	
2.9	Motor under 75 kW 電動機未滿 75 kW	O	X	O	—	X	
2.10	Electrical control box 電控箱	X	—	—	—	X	
2.11	Luffing cylinder 吊桿式氣缸	X	—	—	—	X	
2.12	Hydraulic power unit 液壓動力單元	X	—	—	—	X	
2.13	Hydraulic motor 液壓馬達	X	—	—	—	X	
2.14	Rotating support 旋轉支撐件	X	—	X	—	X	C/E to be provided for forging material 對於鍛件應提供 C/E 文件
3	Engine room crane 機艙吊車	X	—	—	—	X	
4	Lift 升降機	X	—	—	—	X	
4.1	Lift for passenger or crew 乘客或船員用升降機	X	—	—	—	X	
.1	Safety clamp 安全鉗	—	X	X	—	X	
.2	Speed-limiting device 限速裝置	—	X	X	—	X	
.3	Wire rope and rigging 鋼纜與索具	—	X	—	—	X	
.4	Buffer 緩衝器	—	X	O	—	X	
.5	Electrical control system 電控箱系統	X	—	—	—	X	The first product is to be subject to type test. 首件產品應做型式試驗。

Appendix 3 附錄 3

List of Certification Requirements for Lifting Appliances

起重設備之認證要求清單

No.	Product name 產品名稱	Document 文件		Approval mode 認可模式		PA 審圖	Remark 註記
		C/E	W	PTA	PWA		
.6	Actuating device 驅動裝置	—	X	—	—	X	Including winch and brake. 包含絞車與煞俥
.7	Door lock 門鎖	—	X	O	—	X	
.8	Motor 75 kW and above 電動機 75 kW 及以上	X	—	O	—	X	
.9	Motor under 75 kW 電動機未滿 75 kW	O	X	O	—	X	
4.2	Cargo and vehicle lift and vehicle ramp 貨物及車輛升降機與車輛跳板	X	—	—	—	X	
.1	Electrical control box 電控箱	X	—	—	—	X	
.2	Hydraulic cylinder 液壓缸	X	—	—	—	X	
.3	Hydraulic power unit 液壓動力單元	X	—	—	—	X	For certification requirements for motors, refer to Appendix 1 電動機發證要求請參照附錄 1
5	Offshore Gangway System 離岸步橋系統						
5.1	Slewing rings 迴轉環	X	—	—	—	X	Refer to CR Guidelines for Offshore Access "Walk To Work" Gangway 參照 CR 工作步橋準則
5.2	Critical hydraulic cylinders 重要液壓缸	X	—	—	—	X	
5.3	Winches 絞車	X	—	—	—	X	
5.4	Sheaves 滑輪	X	—	—	—	X	
5.5	Wire ropes 鋼纜	X	—	—	X	—	
5.6	Transmission gears and brakes 傳動齒輪及制動器	—	X	—	—	X	
5.7	Slewing gear 迴轉齒輪	—	X	—	—	X	
5.8	Motion Compensating Systems 運動補償系統	X	—	—	—	X	

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