

IALA MODEL COURSE

L1.5

MARINE AIDS TO NAVIGATION MANAGEMENT
TRAINING

LEVEL 1 – MODULE 5 - HISTORIC LIGHTHOUSE
PROJECTS

Edition 2

December 2018



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CONTENTS

PART 1 - COURSE OVERVIEW	6
1. Scope	6
2. Objective.....	6
3. Course Outline.....	6
4. Table of Teaching Modules	6
5. Specific Course Related Teaching Aids And Notes	6
6. Pre-Course Reading	7
7. Certification.....	7
8. Acronyms	7
9. References	7
PART 2 - TEACHING MODULES.....	7
10. MODULE 1 – HISTORIC OVERVIEW.....	8
10.1. Scope.....	8
10.2. Learning Objectives	8
10.3. Detailed Teaching Syllabus for Module 1 – Historic Overview.....	8
11. MODULE 2 - NATIONAL CONSERVATION PLANS.....	9
11.1. Scope.....	9
11.2. Learning Objectives	9
11.3. Detailed Teaching Syllabus for Module 2 – National Conservation Plans.....	9
12. MODULE 3 - LEGAL ISSUES	10
12.1. Scope.....	10
12.2. Learning Objectives	10
12.3. Detailed Teaching Syllabus for Module 3 – Legal Issues	10
13. MODULE 4 - COMPLEMENTARY USE OF HISTORIC LIGHTHOUSES.....	11
13.1. Scope.....	11
13.2. Learning Objectives	11
13.3. Detailed Teaching Syllabus for Module 4 – Complementary Use of Historic Lighthouses.....	11
14. MODULE 5 - TECHNICAL ASPECTS OF LIGHTHOUSE PROJECTS.....	13
14.1. Scope.....	13
14.2. Learning Objectives	13
14.3. Detailed Teaching Syllabus for Module 5 – Technical Aspects of Lighthouse Projects	13
15. MODULE 6 - DOCUMENTATION	15
15.1. Scope.....	15
15.2. Learning Objectives	15
15.3. Detailed Teaching Syllabus for Module 6 - Documentation	15
15.4. Evaluation Test.....	15



CONTENTS

List of Tables

<i>Table 1</i>	<i>Table of Teaching Modules.....</i>	<i>6</i>
<i>Table 2</i>	<i>Detailed Teaching Syllabus - Module 1.....</i>	<i>8</i>
<i>Table 3</i>	<i>Detailed Teaching Syllabus - Module 2.....</i>	<i>9</i>
<i>Table 4</i>	<i>Detailed Teaching Syllabus - Module 3.....</i>	<i>10</i>
<i>Table 5</i>	<i>Detailed Teaching Syllabus - Module 4.....</i>	<i>11</i>
<i>Table 6</i>	<i>Detailed Teaching Syllabus - Module 5.....</i>	<i>13</i>
<i>Table 7</i>	<i>Detailed Teaching Syllabus - Module 6.....</i>	<i>15</i>



FOREWORD

The International Association of Marine Aids to Navigation and Lighthouse Authorities (IALA) recognises that training in all aspects of the management of Marine Aids to Navigation (AtoN) service delivery is critical to the consistent provision of that AtoN service.

Taking into account that under the SOLAS Convention, Chapter V, Regulation 13, paragraph 2, Contracting Governments, mindful of their obligations published by the International Maritime Organisation, undertake to consider the international recommendations and guidelines when establishing Marine Aids to Navigation, including recommendations on training and qualification of AtoN managers, IALA has adopted Recommendation R0141 on Standards for Training and Certification of AtoN personnel.

IALA Committees working closely with the IALA World Wide Academy (The Academy) have developed a series of model courses for AtoN personnel having R0141 Level 1 management functions. This model course on historic lighthouse projects should be read in conjunction with IALA Recommendation R0141/1 – Model Course on Level 1 Manager Training, which contains standard guidance for the conduct of all Level 1 model courses. .

This model course is intended to be delivered by either The Academy in conjunction with a national member or an Approved Training Organisation. It contains specific guidance on the training of AtoN managers in historic lighthouse projects. Assistance in implementing this and other model courses may be obtained from the IALA World- Wide Academy at the following address:

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PART 1- COURSE OVERVIEW

1. SCOPE

This course is intended to provide Marine Aids to Navigation managers and other interested parties with the theoretical training necessary to have a satisfactory understanding of the processes involved in projects concerning historic lighthouses.

2. OBJECTIVE

Upon successful completion of this course, participants will have acquired sufficient knowledge to project manage or oversee projects concerning historic lighthouses.

3. COURSE OUTLINE

This course is intended to cover the knowledge required for an Marine Aids to Navigation manager to understand historic lighthouse projects within their organisations. The complete course comprises 6 teaching modules.

4. TABLE OF TEACHING MODULES

Table 1 *Table of Teaching Modules*

Module Title	Time in hours	Overview
Historic Overview	2	This module describes the historic development of lighthouses and their components and the reasons why they should be preserved as national monuments
National Conservation Plans	2	This module describes the requirement for the production of a national conservation plan and the factors to be considered
Legal Issues	2	This module describes the legal issues to be considered for the complementary use of an historic lighthouse
Complementary use of historic lighthouses	2	This module describes the process of deciding which lighthouses to open to the public or other complementary use
Technical aspects of lighthouse projects	2	This module describes how to manage the consequences of the technical changes required when reconfiguring an historic lighthouse
Documentation	1	This module describes the records and other documentation required to be generated when managing an historic lighthouse project
Evaluation	1	Case study evaluation test
Total Hours:	12	Two day course

5. SPECIFIC COURSE RELATED TEACHING AIDS AND NOTES

This course will be classroom based with presentations delivered using MS PowerPoint®. Although the course is limited to 24 participants, the classroom should be big enough to permit the participants to sit at desks large



enough to operate a laptop computer with room for printed material to hand. Each desk should be provided with a power socket.

The classroom should be equipped with overhead projectors and screens to enable presentation of the subject matter.

To enable all participants to receive clear guidance from instructors and to raise questions that can be heard throughout the classroom, lapel or fixed lectern microphones should be provided together with a roving microphone for use by participants.

6. PRE-COURSE READING

Students should be encouraged to study the IALA Lighthouse Conservation Manual [1].

7. CERTIFICATION

Participants who pass successfully the test of competency can be presented with an AtoN Level 1 Manager certificate which states that they have completed successfully the Complementary Module on the projects concerning historic lighthouses.

8. ACRONYMS

AtoN	Marine Aid(s) to Navigation
IALA	International Association of Marine Aids to Navigation and Lighthouse Authorities - AISM
L	Level
SOLAS	International Convention for the Safety of Life at Sea, 1974 (as amended)
WWA	World Wide Academy

9. REFERENCES

In addition to any specific references required by the Competent Authority, the following material is relevant to this course:

- [1] IALA Lighthouse Conservation Manual.
- [2] IALA Guideline 1093 on management of surplus property.
- [3] IALA Guideline 1074 on branding and marketing of historic lighthouses.
- [4] IALA Guideline 1075 on a business plan for the complementary use of an historic lighthouse.
- [5] IALA Guideline 1080 on the selection and display of heritage artifacts.

PART 2 - TEACHING MODULES

The following six teaching modules cover all aspects of historic lighthouses.



10. MODULE 1 – HISTORIC OVERVIEW

10.1. SCOPE

This module describes the historic development of lighthouses and their components and the reasons why they should be preserved as national monuments.

10.2. LEARNING OBJECTIVES

To gain a **basic** (Level 1) understanding of the history of lighthouses and a **satisfactory** (Level 2) understanding of their components and the reasons why historic lighthouses should be preserved as national monuments.

10.3. DETAILED TEACHING SYLLABUS FOR MODULE 1 – HISTORIC OVERVIEW

Table 2 Detailed Teaching Syllabus - Module 1

Module	Element	Sub-element	Subject	Level of Competence	Recommended training aids; exercises and external visits	References Rec = Recommendation GL = Guideline	Lecture No.
1			HISTORIC OVERVIEW				
	1.1		History of lighthouses				
		1.1.1	Why early lighthouses were constructed	1			1
		1.1.2	Examples of ancient lighthouse				
		1.1.3	Definition of an historic lighthouse				
		1.1.4	Developments from the 18 th century				
		1.1.5	Examples of 19 th and 20 th century historic lighthouses				
	1.2		Components of historic lighthouses				
		1.2.1	Development of light sources	2		GL 1080	2
		1.2.2	Development of sound signals				
		1.2.3	Development of power source				
	1.3		Preservation as National Monuments				
		1.3.1	Iconic status of historic lighthouses as world maritime heritage sites	2		GL 1074	2
		1.3.2	Public interest in lighthouses				
		1.3.3	Impact on local businesses				



11. MODULE 2 - NATIONAL CONSERVATION PLANS

11.1. SCOPE

This module describes the requirement for the production of a national conservation plan and the factors to be considered.

11.2. LEARNING OBJECTIVES

To gain a **satisfactory** understanding of the production of a national conservation plan.

11.3. DETAILED TEACHING SYLLABUS FOR MODULE 2 – NATIONAL CONSERVATION PLANS

Table 3 Detailed Teaching Syllabus - Module 2

Module	Element	Sub-element	Subject	Level of Competence	Recommended training aids; exercises and external visits	References Rec = Recommendation GL = Guideline	Lecture No
2			NATIONAL CONSERVATION PLANS				
	2.1		Development of a national conservation plan a				
		2.1.1	Planning process	2	Identification of stakeholders exercise	IALA Lighthouse Conservation Manual Chapter 1	3
		2.1.2	Involvement of stakeholders				
		2.1.3	Production of a conservation plan				
		2.1.4	Production of a management plan				
		2.1.5	Project management plans				
	2.2		Implementation of a management plan				
		2.2.1	Identification of potential and limitations	2		IALA Lighthouse Conservation Manual Chapter 1	4
		2.2.2	Risk assessment considerations				
		2.2.3	Public relations considerations				
		2.2.4	Benchmarks to measure success				



12. MODULE 3 - LEGAL ISSUES

12.1. SCOPE

This module describes the legal issues to be considered for the complementary use of an historic lighthouse.

12.2. LEARNING OBJECTIVES

To gain a basic understanding of the legal issues appertaining to the complementary use of an historic lighthouse and a satisfactory understanding of joint risk assessments appertaining to the complementary use of historic lighthouses.

12.3. DETAILED TEACHING SYLLABUS FOR MODULE 3 – LEGAL ISSUES

Table 4 Detailed Teaching Syllabus - Module 3

Module	Element	Sub-element	Subject	Level of Competence	Recommended training aids; exercises and external visits	References Rec = Recommendation GL = Guideline	Lecture No.
3			LEGAL ISSUES				
	3.1		Ownership rights and legal restrictions				
		3.1.1	Overview of national legislation and planning laws	1		IALA Lighthouse Conservation Manual Chapter 2	5
		3.1.2	Site ownership and rights of access				
		3.1.3	Possible legal restrictions				
		3.1.4	Legal agreements				
	3.2		Joint Risk Assessment				
		3.2.1	Assessment of risks	2	Legal checklist and risk control exercise	IALA Lighthouse Conservation Manual Chapter 2	6
		3.2.2	Risk management to limit legal liability				
		3.2.3	Monitoring and review procedures				



13. MODULE 4 - COMPLEMENTARY USE OF HISTORIC LIGHTHOUSES

13.1. SCOPE

This module describes the process of deciding which lighthouses to open to the public or other complementary use.

13.2. LEARNING OBJECTIVES

To gain a satisfactory understanding of the how to select which lighthouses to open to the public or other complementary use.

13.3. DETAILED TEACHING SYLLABUS FOR MODULE 4 – COMPLEMENTARY USE OF HISTORIC LIGHTHOUSES

Table 5 Detailed Teaching Syllabus - Module 4

Module	Element	Sub-element	Subject	Level of Competence	Recommended training aids; exercises and external visits	References Rec = Recommendation GL = Guideline	Lecture No.
4			COMPLEMENTARY USE OF HISTORIC LIGHTHOUSES				
	4.1		Potential sites for Complementary Use				
		4.1.1	Risk-based reasons to re-categorise a lighthouse	2		IALA Lighthouse Conservation Manual Chapter 3	7
		4.1.2	Retention of Marine Aids to Navigation				
		4.1.3	Stakeholder feedback				
		4.1.4	General suitability for complementary use				
	4.2		Selection of Lighthouses to Open				
		4.2.1	Location factors	2		IALA Lighthouse Conservation Manual Chapters 3 - 5 GL 1074 and 1075	7
		4.2.2	Vehicular, vessel and pedestrian access				
		4.2.3	Potential visitor numbers				
		4.2.4	Health and Safety considerations				
		4.2.5	Accommodation possibilities on site				



Module	Element	Sub-element	Subject	Level of Competence	Recommended training aids; exercises and external visits	References Rec = Recommendation GL = Guideline	Lecture No.
	4.3		Financial Aspects				
		4.3.1	Cost of alternative use and/or conversion	2		IALA Lighthouse Conservation Manual Chapter 6 GL 1074 and 1075	8
		4.3.2	Operating costs				
		4.3.3	Staff requirements				
		4.3.4	Potential sponsorship				
		4.3.5	Potential revenue from visitors				



14. MODULE 5 - TECHNICAL ASPECTS OF LIGHTHOUSE PROJECTS

14.1. SCOPE

This module describes how to manage the consequences of the technical changes required when reconfiguring an historic lighthouse.

14.2. LEARNING OBJECTIVES

To gain a satisfactory understanding of how to manage the consequences of necessary technical changes when reconfiguring an historic lighthouse complementary use.

14.3. DETAILED TEACHING SYLLABUS FOR MODULE 5 – TECHNICAL ASPECTS OF LIGHTHOUSE PROJECTS

Table 6 Detailed Teaching Syllabus - Module 5

Module	Element	Sub-element	Subject	Level of Competence	Recommended training aids; exercises and external visits	References Rec = Recommendation GL = Guideline	Lecture No.
5			TECHNICAL ASPECTS OF LIGHTHOUSE PROJECTS				
	5.1		Production of an inventory				
		5.1.1	Optic systems and lanterns	2	Inventory production exercise	IALA Lighthouse Conservation Manual Chapter 7 & its Annex B	9
		5.1.2	Lantern house, balcony and weather vanes				
		5.1.3	Tower and internal stairways				
		5.1.4	Watch rooms, dwellings and outhouses				
		5.1.5	Power sources and systems				
		5.1.6	Other AtoN systems (radionavaids and sound signals)				
	5.2		Re-engineering				
		5.2.1	Replacement options	2		Rec E-200	10
		5.2.2	Re-evaluation of existing optics and power system				



Module	Element	Sub-element	Subject	Level of Competence	Recommended training aids; exercises and external visits	References Rec = Recommendation GL = Guideline	Lecture No.
		5.2.3	Sympathetic design of replacement options				
	5.3		Artefacts				
		5.3.1	Review of historically important maritime artefacts	2		GL 1080	11
		5.3.2	The degree of value of obsolete items				
		5.3.3	Schedule of significance for items to retain and/or exhibit				
		5.3.4	The conservation and display of artefacts				



15. MODULE 6 - DOCUMENTATION

15.1. SCOPE

This module describes the records and other documentation required to be generated when managing an historic lighthouse project

15.2. LEARNING OBJECTIVES

To gain a satisfactory understanding of the records and associated documentation to be generated when reconfiguring an historic lighthouse complementary use.

15.3. DETAILED TEACHING SYLLABUS FOR MODULE 6 - DOCUMENTATION

Table 7 Detailed Teaching Syllabus - Module 6

Module	Element	Sub-element	Subject	Level of Competence	Recommended training aids; exercises and external visits	References Rec = Recommendation GL = Guideline	Lecture No.
6			DOCUMENTATION				
	6.1		Documentation - General				
		6.1.1	Reasons for keeping records	2		IALA Lighthouse Conservation Manual Chapter 8	12
		6.1.2	Management of historic record				
		6.1.3	Digital and hard copy records				
		6.1.4	Access to documentation				
	6.2		Documentation for Reconfiguration				
		6.2.1	Photographic record of reconfiguration	2		IALA Lighthouse Conservation Manual Chapter 8	12
		6.2.2	Inventory of old and new equipment				
		6.2.3	Plans and drawings				

15.4. EVALUATION TEST

Participants will be supplied with a simplified case study of an historic lighthouse and will be tasked with the completion of a template based on Chapter 9 of the IALA Lighthouse Conservation Manual.