



IALA GUIDELINE

G1080 THE SELECTION AND DISPLAY OF HERITAGE ARTEFACTS

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1. INTRODUCTION

The history of Marine Aids to Navigation (AtoN) is a significant part of the history of a country or a region and has always been a strong part of international technical development. Nowadays the technology of AtoN is undergoing major modernization. Parts of the old equipment are unique artefacts that can testify to the history and tell a story. For the lighthouse authorities it is a good option to ensure that these artefacts are kept and displayed for the public. Thus, the public can learn the background of navigation and traffic technology and at the same time, about the history of the area. For the lighthouse authorities this is a good opportunity to improve their reputation and public relations and to make people understand the background and framework for their current tasks and work. As an example, the lighthouse authorities could explain that the protection of the environment and the carbon footprint of the service are better with the new technologies than with the old ones.

It is difficult to prescribe the making of a good exhibition. However, there are certain aspects that can be taken into consideration in the process of setting up an exhibition to ensure a good result. Many exhibitions are crowded with objects that may be significant or important in their own right, but do not relate to each other or the intended theme of the exhibition.

2. SCOPE

This Guideline aims to provide general guidance on the selection and display of historic artefacts and offers some examples from lighthouse authorities around the world.

3. DEVELOPING AN EXHIBITION

An exhibition is a visual three-dimensional experience. It usually consists of a display of artefacts, objects, models, installations, film, photos, drawings, documents, text, sound etc. Its aim is to provide the audience with not only a pleasant visual experience, but to explain and convey knowledge on a certain topic, and to invite reflection on the part of the audience.

The development of a new exhibition should start with a thorough planning process where both the professional content and theme of the exhibition, as well as the target audience and educational approach are clearly defined taking into account the practical limitations of the proposed location.

The planning process should identify the following main elements:

- Define your project.
- Define your audience.
- Analyse your location.
- Display your artefacts.

3.1. DEFINE YOUR PROJECT

In many ways an exhibition resembles story-telling. You will not be able to convey the whole story so you will need to choose the focus of your theme, taking into consideration the location, your audience and what means you have to convey your message.

For a lighthouse station there will usually be a natural repertoire of stories that will be of interest to most visitors, for example:



- Navigation - the function of the lighthouse for the sea-farer (before, now and in the future)
- Life of lighthouse keepers and their families at the lighthouse station - at a particular period, or changing through the ages
- The lighthouse station itself – its history, development, and as an architectural and cultural monument
- The lighthouse service - historical development and the service as it is today
- Other functions at the lighthouse (military, meteorology, rescue station, pilot service, telecommunications, traffic surveillance (VTS))
- Particulars of the lighthouse and its environment such as local wildlife or geology

In researching and preparing for your exhibition, it is good practice to seek corroboration from professionals to ensure that your stories are true and accurate. The facts provided may have to be reworded and rephrased to suit your target audience.

The theme of your exhibition should dictate which objects or artefacts in your collection that should be displayed, not the other way around.

3.2. DEFINE YOUR AUDIENCE

Once you have developed a theme, your main target groups should be identified e.g., families, children, students, adults, etc. This will define the type of language to use, and also limit the level of technical and historical complexity that is presented. Preferably the displays should show, rather than explain the function of artefacts. Often it is just as effective to present questions, an invitation to reflection, rather than presenting the authoritative “truth”. In general, the more you can involve the audience in practical activities, the better the experience is for the audience.

Children are often difficult to engage in a museum setting. Interactive displays, worksheets and activities based on children’s ages generally work well. For instance younger audiences like to colour in and older children like to build. See annex A for some examples.

Visitors are often interested in the historical perspective of a display or site. The human element is always popular and stories that involve anecdotes and diary entries are often well received.

Damaged and/or sacrificial artefacts that allow visitors to touch them are also very popular. A good example is the reuse of damaged Fresnel glass lens sections. The damaged lens could be cut into small segments to remove any sharp edges then it can be safely handed around to visitors.

The use of props allows for further discussion of the artefact such as its manufacture, use, history and replacement cost.

3.3. ANALYSE YOUR LOCATION

To enhance the exhibition’s theme, it should be tailored to suit the constraints of its proposed location.

The following issues are worth considering:

- 1 How many square metres are available for the display? The volume of objects and artefacts must be able to be safely positioned within the measured space.
- 2 Are there any restrictions due to existing fixed equipment?
- 3 How is the accessibility to and around the location? (For example, for children, those physically less able, those with impaired vision or hearing, the elderly and for safe exit for everyone in case of fire.)
- 4 Is it your intention to make an exhibition where visitors walk around by themselves, be led by a guide, or both?

- 5 The use of a specialist company to design layout of space, depending upon the size or complexity of the proposed exhibition.

In general, it is better to show objects and installations in their natural environment and in their original and operational use. Don't forget that the whole lighthouse station itself (location, buildings, tower and equipment) can be an important part of the exhibition. The more it is presented in its original form, the stronger the experience. In fact, the entire lighthouse visit should be seen as a whole: from the signs in the parking lot, to the design and assortment of objects in the tourist shop.

3.4. DISPLAY YOUR ARTEFACTS

Every display requires careful planning to make efficient use of your resources. There are two aspects to planning; concept and display design.

These two aspects should interact at every stage, but no display can succeed unless the concept planning is done well. The stages of concept planning include determining the aims of your display. This involves some initial broad decisions - will the whole display be devoted to a single theme, broken down into smaller sections that explain the history and story, or will each showcase be devoted to a separate concept or object type?

It is also useful if your collection is large enough to offer choices from a visitor's point of view. For example, it is important to include objects which vary in size and quality as having a large number of objects that are the same size or all similar in appearance may detract from the visitors experience.

An example would be the display of a series of Fresnel lens from 1st Order to 5th Order creating a dramatic display. In addition, if rotating lens can be displayed in their operational state this will enhance the visitor's experience. Good displays include an interactive component to capture the visitors' attention, e.g., the visitor can push a button to activate the light.

Careful thought should be given to design and lighting in the exhibition space. The correct lighting can make otherwise dull objects "live" and the physical design of the exhibition itself can be an important means of making an illusionary and enchanting environment that strengthens the experience.

With your theme, try to make it obvious in each display panel or showcase where the visitor should begin, and the sequence to follow. This can be done in a number of ways such as the size of typeface, with areas of colour, connecting design features and by the lay-out of the material.

In a crowded showcase, it is often better to make "storytelling" labels a different typeface from the labels for artefacts, so that it is easy to distinguish the two. Artefact labels need to be easy to follow to ensure that the information is associated with the correct object; close proximity or a numbering system will help assist visitors. Consider grouping labels if there are a large number of objects as this reduces visual clutter in a showcase and makes it easier for the viewer to focus on the objects that they are particularly interested in.

Translation of key information into different languages should be considered to suit the likely audience.

3.4.1. DESIGNING EACH THEME OR TOPIC

After a theme has been researched and written, and the objects and photographs selected, it is useful to make a scale plan for each display. Sketch in headings, photo sizes and objects to scale. The plan will help you see what sizes to order the photographs, how much space the headings will take, how the whole display will be balanced, and what it will look like when completed.

Artefacts by themselves can rarely give the visitor all the information required. Some interpretation is generally necessary. The design problem is to present the story you want to tell, using the objects, graphics, text and photographs available, so that you meet the needs of the various types of visitors.

3.4.2. LABELLING OF DISPLAYED ARTEFACTS

Very few visitors are prepared to read every label.

Divide the story into levels of detail:

- The title, with perhaps a few words as an overview, much like the introductory paragraph of an article.
- The important statements, the main aspects of the story could become subheadings.
- The less essential details provide a more detailed explanation.

3.4.2.1. Title

Because casual browsers will not read everything, put the title in very large text, and supplement it with a short paragraph, also in large text, which provides an overview of the story.

For example: LIGHTHOUSE AT THE EDGE OF THE WORLD.

As visitors will not necessarily read the full labels, they will make some effort to view the text. Ensure texts are printed in medium sized type (at least 5 mm high) with slightly larger sub-headings. The sub-headings themselves should draw attention to the theme of the exhibition.

For example: Macquarie lighthouse was built in 1818 only 30 years after the first colony was founded. In its early years the light was tended by transported English convicts.

3.4.2.2. Size and presentation of text

Texts in exhibitions should not be long and tedious for the reader. Only few people seek detailed information from exhibitions, so a journalistic approach when writing texts for exhibitions is often more appealing.

Size differences should be obvious, otherwise the printing may look confusing. Each size change should be at least 50%. Actual sizes of typeface can be determined by the distance from the reader.

3.4.2.3. Material compatibility

Some components of materials may migrate onto the artefact once direct contact is made. The migration of products is particularly common with plastics containing high percentages of plasticizers such as flexible poly (vinyl chloride). Galvanic corrosion (migration of ions) may occur if two different metals are in contact.

3.4.3. MOUNTING ARTEFACTS

Most historic artefacts have been removed from operational lighthouses and may need purpose built mountings to allow them to be safely displayed.

A wide variety of mounting systems can be used depending on the size and weight of the artefact to be displayed. It is also important to consider the type of protective covers that may be required to protect the artefact while being displayed.

3.4.3.1. Lanterns and lens

The display of lanterns and lens is often dictated by their size and weight. Third order lens and smaller can be easily mounted on a solid timber base. These can be constructed with top and bottom plates of solid timber machined into thick round discs to suit the diameter of the lens.

Between the two plates solid timber can be turned (on a lathe) to the correct radius. The centre of the bases is hollow with access holes in the side to allow access to hold down bolts.

It is important to isolate the timber from certain floor types, use 5mm rubber matting. Otherwise moisture may damage the timber (the timber may act as a wick for any water).

The type and colour of timber should be carefully selected to ensure consistency in your display. Some examples of lantern displays are contained at annex A.

3.4.3.2. Artwork framing materials

When framing artworks on paper in order to hang and display them, it is important to use quality materials and conservation framing techniques in order to protect and preserve the works.

Conservation framing requires a strong frame, appropriate glazing, mount or spacer and a sealed backing board.

Choosing a style of frame is a matter of personal taste, but some frames will offer more protection than others. Try to choose a frame that is at least 2cm in depth (from the front, where the glazing is, to where the frame rests on the wall). The larger your work the more important it is that the frame has this depth and, as a result, greater strength.

Choosing appropriate glazing is extremely important. Perspex designed to offer a high level of UV protection is usually the best choice, as it offers good protection from light and is unlikely to shatter if the work is accidentally dropped. Some works, however, such as pencil drawings and pastels are not suitable for glazing with Perspex because of the risk of static damage. Glass should be used for these works and extreme care taken with transport.

One disadvantage found with displays in lighthouses, is the abundance of natural light inside the structure. In this case it may be better to use non reflective UV glass to allow easier viewing. This will allow the framed work to be viewed from any angle with minimal glare.

When a frame is assembled it should have a strong support board that will protect the back of the artwork e.g., fluted plastic board such as Corex®, card or foam laminate such as Foamcore®. This board should be secured with non-rusting pins or points. Seal the gap between the support board and frame with gummed tape as this will prevent any insects, dust or other debris entering the frame and damaging the artwork.

3.4.3.3. Artwork mounting

Artworks should never touch the glazing in a frame. A mount (card surround) made of good quality mount board will ensure that this does not happen. If a mount is not desirable because of the style of work, a spacer that sits between the work and the glazing will suffice. Works on paper need to be mounted clearly away from the glass to allow for air circulation and movement.

Mounting protects artworks from physical damage and allows easier handling. Poor quality boards, which look the same as high quality boards when new, will degrade and cause damage after sustained contact. Use boards manufactured from 100 per cent rag or a high alpha cellulose content. For works on paper the board may be buffered or pH neutral. Alkaline buffered boards should be avoided for mounting photographs as they can damage the photograph. Original photographs are seldom displayed and it is better practice display high resolution scans of the original instead.

When an artwork is placed in a mount it is critical that it be allowed to move with changes in temperature and humidity. Do not affix the entire back of the artwork to the backing board. Ask for the work to be attached to the backing board with paper hinges only on the top edge. These hinges allow the work to hang freely. Never hinge an artwork to the front window, as the work may be damaged when the mount is opened.

The use of non-archival materials will result in damage to your artwork. If you want your artwork to last a long time never use dry mounting or heat set tissue. These are not preservation mounting techniques. Never use pressure-sensitive tape, rubber cement, white synthetic glues like PVA, or spray adhesive, as these can leave ugly residues and stains and in time become difficult or impossible to remove. Even after a short period of time they can only be safely removed by a trained paper conservator and will often leave permanent stains.

3.4.3.4. Artwork hanging

When hanging an artwork, it is preferable to use two hooks on the wall, one at each side of the frame. This distributes the weight of the frame over two points instead of relying on the strength of one hook. Avoid hanging artworks with staples or bent tacks. If you do hang from one point use the appropriate strength framing wire, not fishing line or string. Screw-eyes, hanging plates or rings should be attached to the frame itself and must be of sufficient strength to carry the weight of the artwork.

Avoid displaying artworks where they are at risk of exposure to direct sunlight, damp, heat or dirt. If possible, rotate irreplaceable items from storage to display, to reduce any long-term damage. Avoid hanging irreplaceable artworks on the inside of exterior walls. Monitor the condition of artworks; if you notice any change, it may be a result of the location they are displayed in.



Some examples of artwork displays and hanging systems are contained in annex A.

4. DEFINITIONS

The definitions of terms used in this Guideline can be found in the *International Dictionary of Marine Aids to Navigation* (IALA Dictionary) at <http://www.iala-aism.org/wiki/dictionary> and were checked as correct at the time of going to print. Where conflict arises, the IALA Dictionary should be considered as the authoritative source of definitions used in IALA documents.

5. ABBREVIATIONS

cm	centimetre
mm	millimetre
pH	a numeric scale used to specify the acidity or basicity (alkalinity) of an aqueous solution
PVA	Polyvinyl acetate
US	United States (of America)
UV	Ultraviolet
VTS	Vessel traffic services
W	watt

ANNEX A HISTORIC ARTEFACT MOUNTING SYSTEMS AND DISPLAY OPTIONS



Figure 1 Fresnel glass lens section and 1000W lamp in protective container prepared as props for visitors to handle and inspect.



Figure 2 Cabinet display of ships silverware with photographs of the ship and crew to help tell a story.



Figure 3 Wooden support bases manufactured to suit specific rotating flashing lenses



Figure 4 Photograph hanging using single hook

Notes

- 1 Frames are glazed in non-reflective glass.
- 2 Used as general display in office or specific exhibition location

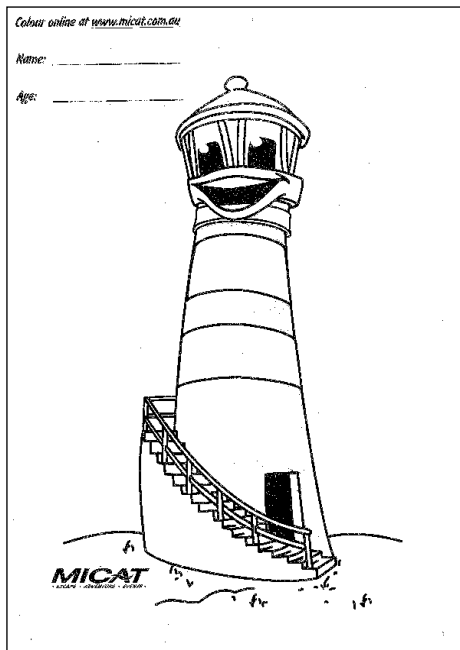


Figure 5 Colouring sheet for young children and cardboard models for older children to make

ANNEX B EXAMPLES OF ARTEFACT DISPLAYS BY OTHER AUTHORITIES

B.1. AUSTRALIAN MARITIME SAFETY AUTHORITY



Figure 6 AGA 375 lantern prepared for office display. Original painted condition may be retained by the museum



Figure 7 Argand multi wick burner in cabinet display

B.2. SPAIN

B.2.1. BALEARES EXHIBITION



Figure 8 Lower level floor with a mercury bath, rotating machine and revolving optic

Figure 8 manufactured by Chance Brothers, England, it was installed in Llebeigt Lighthouse from 1910 to 1973. It was transferred from Dragonera Island to Porto Pi Lighthouse Museum by a US helicopter as an underslung load.



Figure 9 AGA optic 375 mm. Acetylene gas lantern with helical uprights and curved glass. Polished glass drum optic

B.2.2. EXPO FERROL EXHIBITION



Figure 10 Various types of electric lamps for lighthouses.

Figure 10 Selection of some models used in Spanish lighthouses which, because of the characteristics and shape of their filaments, had to be specially made.



Figure 11 Radioaids.

Figure 11 from left to right: 1.- Radar beacon model Sea Watch (Marconi). 2.- User's receiver for the Decca System (Setenil-Cadiz). 3.- Decca Station signal generator (Boal-Asturias). 4.- User's receiver for Decca System (San Juan de Río-Orense) used to check the broadcasts of its three slave stations. 5.- Radio beacon amplification electronic valve (Marconi).

B.2.3. SEVILLA EXHIBITION



Figure 12 *Dalen system acetylene gas apparatus with revolving optic.*

Figure 12 - Dioptric catadioptric optic with 300 mm focal distance lenses and a characteristic group of 2+1 flashes. Tras-130 gas mixers. Manufactured by AGA (Sweden)

Figure 13 - From left to right: 1. - Electric lamp with a Goliat bayonet-type lamp holder with a flashing changer model AGA and lamp acetylene gas reserve. 2. - Flashing bare acetylene gas flame lamp with multiple burners. 3. - Incandescent acetylene gas mantle burner with automatic changer. 4. - Chance 85 mm lamp for a petroleum gas pressure incandescent mantle light installation.



Figure 13 *Various historical lamps*