Gibraltar Maritime Administration
HM Government of Gibraltar

Watergate House
2/8 Casemates Square
Gibraltar

Tel (+350)200 46862 / 200 47771 /200 50424
Fax (+350) 200 47770
e-mail: maritime.survey@gibraltar.gov.gi
maritime.registry@gibraltar.gov.gi

Shipping Guidance Notice – 161
Artificial Optical Radiation on ships
UK Maritime & Coastguard Agency – Marine Guidance Note MGN 428 (M+F)
(To be read in conjunction with MLN – 017(b) (as amended)

To: MLC Shipowners, Operators, and Masters

1. References

- Maritime & Coastguard Agency – Marine Guidance Note MGN 428 (M+F) (as amended)
- Gibraltar Merchant Shipping (Maritime Labour Convention) Regulations 2013
- Maritime Labour Convention 2006 Regulation 4.3 / Standard A4.3
- Maritime Labour Notice (MLN) – 017(b) - Health and Safety Policies and Programs

2. Summary

The purpose of this Shipping Guidance Notice (SGN) is to bring to the attention of MLC shipowners, operators, and Masters of Gibraltar registered vessels, the United Kingdom Maritime & Coastguard Agency's, Marine Guidance Note MGN 428 (M+F) *(amendment 4 at the time of publication of this SGN).*

Maritime Labour requirements place responsibilities on both member states and MLC shipowners in respect of occupational health protection as part of managing the overall health and safety of the vessel.

MGN 428 (M+F) centres on the potential exposure of workers and seafarers to artificial optical radiation (AOR) from various potential sources related to a variety of work equipment or processes on vessels, and provides guidance to MLC shipowners, on managing the associated risks.

3. Application

The Gibraltar Maritime Administration endorses the use of the guidance contained within MGN 428 (M+F) (as amended) by MLC shipowners as part of risk assessments and the development of any subsidiary mitigating measures in respect of AOR exposures to workers and seafarers on Gibraltar registered vessels.

The exception in respect of MGN 428 (M+F), is that any associated mandatory legislative requirements would be in respect of Gibraltar regulations and requirements as opposed to the references to the United Kingdom's as contained within MGN 428 (M+F).

4. Enclosures

MGN 428 (M+F) Amendment 4 is appended to this SGN, and additionally available via; MGN 428 M+F Amendment 4

Steve Gomez - Chief Surveyor
For & on behalf of the Maritime Administrator

Issue date: 25 September 2025

All notices are available through www.gibraltarship.com

This Shipping Guidance Notice has been issued electronically and does not carry a signature or official stamp. A signed and stamped copy is available upon request.

Maritime & Coastguard Agency

MARINE GUIDANCE NOTE

MGN 428 (M+F) Amendment 4 The Merchant Shipping and Fishing Vessels (Health and Safety at Work) (Artificial Optical Radiation) Regulations 2010

Notice to all ship, yacht and fishing vessel owners, operators and managers and other employers of seafarers; masters, officers and seafarers on merchant ships, hovercraft and yachts; and skippers and crew of fishing vessels, small commercially operated vessels and yachts with paid crew, whether operating at sea or on inland waters.

This notice should be read in conjunction with MGN 636 (M) amendment 4 and MGN 587 (F) amendment 1 ILO work in fishing convention: health and safety responsibilities which give guidance on the merchant shipping and fishing vessels (health and safety at work) regulations 1997 (SI 1997/2962) and replaces MGN 428 (M) amendment 3.

Summary

This marine guidance note provides guidance on the merchant shipping and fishing vessels (health and safety at work) (artificial optical radiation) regulations 2010. Artificial optical radiation originates from a very wide range of sources from normal indoor lighting to flood lights, lights on control panels as well as infra-red and ultraviolet radiation including that resulting from welding. Risks arising from exposure to harmful levels of artificial optical radiation can range from burns to the eyes or skin up to retinal damage and even skin cancer.

1. Introduction/background

1.1 Under the General Duties Regulations, employers are required to carry out an assessment of any risks to workers employed by them and, where any risks have been identified, put in place appropriate measures to either remove those risks completely or,

where that is not possible, reduce them as far as is reasonably practicable. The Optical Radiation Regulations 2010 build on the requirements of the General Duties Regulations by requiring that the risk assessment should include consideration of whether any risks to workers exist or could arise from exposure to artificial optical radiation at work. If any actual or potential risks are identified, appropriate measures must be taken to remove or mitigate those risks in order to protect workers.

1.2 The Merchant Shipping and Fishing Vessels (Health and Safety at Work) (Artificial Optical Radiation) Regulations 2010 (SI 2010/2987) (the “Optical Radiation Regulations 2010") which come into force on 10 January 2011. The Health and Safety Executive (HSE) and Health and Safety Executive (Northern Ireland) (HSE(NI)) regulate this area for land-based workers via the Control of Artificial Optical Radiation at Work Regulations 2010 (SI 2010/1140) and the Control of Artificial Optical Radiation at Work Regulations (Northern Ireland) 2010 (SR 2010/180) respectively.

1.3 The provisions of the Optical Radiation Regulations 2010 do not apply to land based workers temporarily carrying out work aboard any vessel within the UK, as they will be subject to the relevant HSE/HSE(NI) Regulations (see paragraph 1.4 regarding the position of such workers outside the UK). However, where the actions of such workers affect ship-based workers, and vice versa, there may be an overlap of responsibilities between MCA and HSE/HSE(NI) and their respective Regulations. Such overlap is covered by the provisions of the Memorandum of Understanding between the Health and Safety Executive, Maritime and Coastguard Agency and the Marine Accident Investigation Branch.

1.4 Once outside the United Kingdom however the HSE/HSE(NI) Regulations no longer apply and the Optical Radiation Regulations 2010 will apply to all persons on board a UK ship, unless more stringent local regulations apply when in a port outside the UK. It should be noted that the requirements of the Optical Radiation Regulations 2010 are the minimum required by the Optical Radiation Directive and there is nothing to prevent employers applying higher standards should they wish to do so.

2. Artificial optical radiation and relevance to shipping

2.1 “Optical radiation” is another term for light and “artificial optical radiation” means sources of light other than those which occur naturally (such as sunlight). Artificial optical radiation covers a wide variety of light sources that can produce ultraviolet, visible, infrared and laser forms of radiation. Every worker on a ship, fishing vessel, yacht etc is likely to be exposed to artificial optical radiation in some form or other on a daily basis albeit in most cases not normally at a hazardous level. Workers inside a vessel will for example be exposed to lighting in some form or other as well as the possibility of exposure from computer screens or other forms of display equipment. Workers working outside may need to use some form of lighting if undertaking work at times when natural light is poor or non-existent.

2.2 The risks to health resulting from exposure to artificial optical radiation depend on the type and intensity of radiation and the parts of the body exposed - the eyes and skin are most at risk. Damage to the eyes can range from photo-retinal damage (Blue Light Hazard) to burns to the retina and cornea, cataracts or in the worst case blindness. Skin damage can range from burns up to skin cancer. A **“Non-Binding Guide to the Artificial Optical Radiation Directive 2006/25/EC” (the “EC Guide”)** has been produced for the European Commission and should be a useful source of information on the hazards arising from artificial optical radiation as well as those sources of artificial optical radiation which can be regarded as harmless under normal conditions of use.

2.3 In addition to the effects of lighting/computers referred to in paragraph 2.1 above,

exposure to artificial optical radiation can result from a variety of items of work equipment or work processes. Examples on vessels can include:-

- entertainment, where performers may be directly illuminated by spotlights, effect lighting, flashlamps etc. Also workers in an audience area, such as in discos, may be affected by general or effect lighting or even ultra-violet lighting being used for a performance;
- non-destructive testing using ultraviolet radiation to reveal fluorescent dyes;
- medical treatment, where practitioners and patients may be exposed to operating theatre spot lighting and to therapeutic use of optical radiation;
- storage areas, holds etc where large areas are illuminated by powerful area lights;
- medical or Sewage treatment, where ultraviolet sterilisation may be in use;
- metal working involving welding resulting in the production of ultra-violet radiation;
- lighting on vehicles being driven on to ferries or vehicle carriers;
- warning lights/LEDs on electrical panels or control consoles;
- lasers such as those used for laser shows; as pointers for lecturers on cruise ships etc;
- photocopiers;
- electronic (UV) insect killers.
- Flash Photography

This list is solely intended to be illustrative of the numerous different ways in which workers can be exposed to artificial optical radiation. It should not therefore be taken as definitive as it cannot hope to cover every potential source of exposure to artificial optical radiation on any vessel. Equally it should not be taken as suggesting that all the sources listed are harmful although some normally safe equipment can become unsafe if appropriate safety or protective measures are not in place or the equipment is defective or is not used correctly.

Additional Guidance and Advice

2.4 Whilst this MGN endeavours to provide general advice relating to artificial optical radiation, it cannot hope to cover every possible situation that might arise on every ship as circumstances and lighting/other equipment can vary from ship to ship. The EC Guide, referred to in paragraph 2.2 above, contains more detailed guidance. It also provides guidance on which forms of artificial optical radiation can be considered as being harmless and those which are not.

2.5 In addition to the above, Annex 1 provides examples of AOR sources which:-

- are only likely to produce insignificant exposures, which can be considered “safe”;
- are not likely to present a health risk under specific circumstances; or,
- may present a health risk under specific circumstances

Here again the examples are for illustrative purposes only and should not be regarded as covering every item of equipment which may emit artificial optical radiation. They may however assist with determining what does and what does not present a risk.

2.6 HSE’s “Guidance for Employers on (their) Control of Artificial Optical Radiation at Work Regulations (AOR) 2010”, although aimed primarily at land-based workers, contains much useful information that is equally applicable to workers on Merchant Ships, Hovercraft, Fishing Vessels, Code Vessels etc such as information on safe and hazardous light sources

as well as on light sources which, if used inappropriately, have the potential to cause harm to workers but which are perfectly safe under normal conditions of use. Information on sensible control measures is also included as well as examples of work activities where hazardous sources of Artificial Optical Radiation are commonplace; the industries/work processes where they are used; and the control measures considered appropriate. A copy of the HSE guidance can be found on the HSE website at https://www.hse.gov.uk/radiation/

2.7 In certain circumstances, as outlined in paragraph 6.2 of this MGN, the HSE's Artificial Optical Radiation Regulations will also be applicable to ships and the seafarers on them.

3. Interpretation (Regulation 2)

3.1 In the Optical Radiation Regulations 2010, and this MGN, the following definitions apply:-

"CEN" means the European Committee for Standardisation;

"CIE" means the International Commission on Illumination;

"IEC" means the International Electrotechnical Commission;

"exposure limit values" mean—
(a) for non-coherent radiation those values set out in Annex 1 to the Directive; and

(b) for laser radiation those values set out in Annex II to the Directive;

"infrared radiation" means optical radiation of wavelength range exceeding 780 nm and not exceeding 1 mm, divided into IRA (exceeding 780 and not exceeding 1 400 nm), IRB (exceeding 1 400 and not exceeding 3 000 nm) and IRC (exceeding 3 000 nm and not exceeding 1 mm);

"irradiance" means the radiant power incident per unit area upon a surface expressed in watts per square metre (W m-2);

"laser" (light amplification by stimulated emission of radiation) means any device which can be made to produce or amplify electromagnetic radiation in the optical radiation wavelength range primarily by the process of controlled stimulated emission;

"laser radiation" means optical radiation from a laser;

"level of exposure" means the combination of irradiance, radiant exposure and radiance to which a worker is exposed.

"non-coherent radiation" means any optical radiation other than laser radiation;

"optical radiation" means any electromagnetic radiation in the wavelength range exceeding 100 nm and not exceeding 1 mm, across the spectrum of optical radiation from ultraviolet radiation through visible radiation to infrared radiation;

"radiance" means the radiant flux or power output per unit solid angle per unit area, expressed in watts per square metre per steradian ($W\ m^{-2}\ sr^{-1}$);

"radiant exposure" means the time integral of the irradiance, expressed in joules per square metre ($J\ m^{-2}$);

"ultraviolet radiation" is optical radiation of wavelength range exceeding 100 nm and not exceeding 400 nm, divided into UVA (exceeding 315 and not exceeding 400 nm), UVB (exceeding 280 and not exceeding 315 nm) and UVC (exceeding 100 and not exceeding 280 nm);

"visible radiation" means optical radiation of wavelength range exceeding 380 nm and not exceeding 780 nm.

4. Meaning of “Worker” (Regulation 3)

4.1 The Optical Radiation Regulations 2010, like the General Duties Regulations and other Health and Safety Regulations currently in force, apply to all persons employed on board any vessel, including employed trainees or apprentices, irrespective of whether or not the vessel goes to sea or only operates on lakes, rivers or other inland waters. They are disapplied to persons who are receiving training onboard sailing vessels, operating under an MCA Code of Practice and who are not employed by the operator of the vessel. The reasoning behind this is that the Optical Radiation Regulations 2010 are intended to cover the activities of workers on board ships and persons undergoing training on sail training vessels are clearly not workers for the purposes of the Optical Radiation Regulations 2010 as they are not employed; will only spend a short time on the vessel and do not receive a wage for being on it. There nevertheless remains a general obligation on employers, under regulation 5(1) of the General Duties Regulations, to ensure the health and safety of all persons on board, so far as is reasonably practicable, irrespective of whether or not they are workers.

5. Application (Regulation 4)

5.1 As with the General Duties Regulations, the Optical Radiation Regulations 2010 apply to all activities of workers on all UK registered vessels including Government vessels wherever they are in the world and certain provisions also apply to non-UK vessels when in UK waters. The only exceptions to this are Royal Navy vessels which come under HSE legislation. The Optical Radiation Regulations 2010 also apply to all types of private or commercially operated vessels, including hovercraft, yachts, fishing vessels, work boats and vessels operating only on lakes, rivers and other inland waters, where there are workers employed on those vessels.

5.2 As with previous Health and Safety Regulations applicable to the maritime sector, a limited derogation from the requirements of the Optical Radiation Regulations 2010 is provided in respect of vessels undertaking public service or civil protection activities where because of characteristics peculiar to the activity being undertaken, full compliance with the requirement of the Optical Radiation Regulations 2010 is not possible. This derogation is aimed at activities such as rescue or enforcement but is only applicable to the specific provision(s) of the Optical Radiation Regulations 2010 with which compliance is not possible because of the activity then being undertaken. The derogation only applies for the length of time compliance is not possible and even then, the health and safety of all those on board must be safeguarded as far as is reasonably practicable. All remaining provisions of the Optical Radiation Regulations 2010, with which compliance remains possible, will continue to apply in full and compliance with all the requirements of the Regulations must be re-established as soon as the activity concerned is no longer being undertaken. In this context “activity” is considered to refer to specific occasions on which an activity is undertaken and not to an ongoing period during which such activities might periodically occur.

5.3 For the purposes of the derogation referred to in paragraph 5.2 above, “Public service activities” covers the activities of the armed forces, HM Coastguard, HM Revenue and Customs, immigration officers, police, prison officers, the security and intelligence services and similar organisations where the specific activities undertaken by them may on occasion render them unable to comply fully with the requirements of the Optical Radiation Regulations 2010. **NOTE - The reference to “Public service activities” is only intended to apply to vessels carrying out the functions referred to above and will not apply to ferries, whether operated by a public body or not, or other vessels operated by public bodies which are not carrying out those functions.** “Civil protection services” covers the fire and rescue; ambulance; and search and rescue services such as those provided by the RNLI, independent lifeboats etc. This derogation also applies to any other vessel engaged in search and rescue activities when answering a distress call or when requested to assist by

HM Coastguard or the appropriate authority of another state.

6. Application of related legislation (Regulation 5)

6.1 The provisions of the General Duties Regulations remain fully in force and apply to all work involving potential exposure to artificial optical radiation except that where the Optical Radiation Regulations 2010 have introduced more stringent requirements, it will be the more stringent requirements which will apply.

6.2 In so far as ships, fishing vessels and other marine craft are concerned, it should be noted that HSE's Control of Artificial Optical Radiation at Work Regulations 2010 and the related HSE (Northern Ireland) Regulations are only disapplied to the master or crew of a ship or to the employer of such persons in respect of the normal shipboard activities of a ship's crew which:-

(a) are carried out solely under the direction of the master; and

(b) are not liable to expose persons other than the master and crew to a risk to their health and safety.

In the light of this there is potential for ships and their crew to fall under the HSE/HSE(NI) Regulations when in UK ports and undertaking activities not normally undertaken by the crew of a ship.

7. Assessment of health risks (Regulation 6)

7.1 The General Duties Regulations require employers to undertake a general assessment of the risks to their workers as a result of the work they are undertaking. The Optical Radiation Regulations 2010 build on this general requirement by introducing more specific requirements in respect of exposure to artificial optical radiation by requiring that employers' risk assessments establish whether risks could arise as a result of exposure of workers to artificial optical radiation and, if so, who is at risk and from what form of optical radiation.

7.2 In carrying out the risk assessment referred to in paragraph 7.1 above the employer should first determine whether any work is undertaken, or any equipment is used, on board, that could foreseeably create a risk of adverse health effects to the eyes or skin of any worker. Where no such risk exists because:-

(a) no equipment emitting optical radiation in any form is present on the ship; or

(b) any equipment that is present emits only non-hazardous levels of optical radiation (see Annex 1 to this MGN and the "EC Guide" referred to in paragraph 2.2); or

(c) any risks have been identified previously and measures have already been put in place to either eliminate those risks or, where that is not reasonably practicable, reduce such risks to as low a level as reasonably practicable and below the relevant exposure limit value, having regard also to the provisions of the General Duties Regulations;

No further action will be required other than to record this in the risk assessment record.

7.3 Where however any potential risk is identified that is not covered by paragraph 7.2 above, it will be necessary, as part of the risk assessment, for the employer to assess and if necessary, measure or calculate the levels of exposure to which workers are likely to be exposed. In carrying out such assessment, measurement or calculation the employer must follow the following standards or recommendations—

(a) for laser radiation, the standards of the IEC; or

(b) for non-coherent radiation, the standards of the IEC and the recommendations of the CIE and the CEN."

IEC, CIE and CEN standards and recommendations are obtainable from the addresses given in Annex 2.

7.4 Where there is a risk of exposure which is not covered by the standards and recommendations referred to in paragraph 7.3 above, and relevant EU standards or recommendations are not available, the assessment, measurement and calculations should be carried out using any available national or international science-based guidelines. In addition, it should be noted that any risk assessment may also take into account any data provided by the manufacturers of any equipment which emits or could emit optical radiation.

7.5 In undertaking the assessment, measurement and calculations referred to in paragraphs 7.3 and 7.4 above the employer must ensure that they —

(a) are planned and carried out at suitable intervals and by competent persons, appointed in accordance with regulation 14 (protective and preventive services) of the General Duties Regulations, subject to consultation with workers in accordance with regulation 19 (consultation with workers) of those Regulations;

(b) are updated whenever there have been significant changes which may affect workers' exposure to artificial optical radiation or where the results of health surveillance show this to be necessary; and

(c) give particular attention to—

(i) the level, wavelength range and duration of exposure to artificial sources of optical radiation;

(ii) the exposure limit values referred to in paragraph 3.1 above;

(iii) any effects concerning the health and safety of workers belonging to particularly sensitive risk groups;

(iv) any possible effects on workers' health and safety resulting from workplace interactions between optical radiation and photosensitising chemical substances;

(v) any indirect effects such as temporary blinding, explosion or fire;

(vi) the existence of replacement equipment designed to reduce the levels of exposure to artificial optical radiation;

(vii) appropriate information obtained from health surveillance, including published information, as far as possible;

(viii) multiple sources of exposure to artificial optical radiation;

(ix) a classification applied to a laser as defined in accordance with the relevant IEC standard and, in relation to any artificial source likely to cause damage similar to that of a laser of class 3B or 4, any similar classification;

(x) information provided by the manufacturers of optical radiation sources and associated work equipment in accordance with relevant Community Directives.

(NOTE - In sub-paragraph (a) above, "competent person" means a person who has sufficient training and experience or knowledge and other qualities, to enable him properly to undertake such assessments. Where due to the complexity involved a "competent person" is not available "in house" and the initial risk assessment has indicated that a risk, or potential risk, of exposure to hazardous optical radiation exists it may be necessary to obtain the services of external consultants. The decision on whether or not a particular individual is competent for the purpose of these Regulations rests with the employer.)

7.6 The result of the risk assessment is to be recorded in writing. However, as mentioned in paragraph 7.2 above an initial risk assessment indicates that the nature and extent of the risks related to optical radiation make a further, more detailed, risk assessment unnecessary, the employer need only record this fact. Where a more detailed risk

assessment is required the record of such assessment should include identification of the measures which are to be undertaken to meet the requirements of regulation 7.

8. General principles for the prevention of risks (Regulation 7)

8.1 Where the risk assessment indicates a possibility that the exposure limit values, referred to in sub-paragraph 3.1 above may be exceeded for any worker, the employer should produce and implement an action plan, comprising technical and/or organisational measures, which will prevent exposure exceeding the limit values. In devising such an action plan, the employer should in particular take into account the following:-

(a) the introduction of different working methods that remove or reduce the risk from optical radiation;

(b) choosing equipment that emits less optical radiation, having regard to the type of work to be undertaken;

(c) the introduction of technical measures to reduce the emission of optical radiation including, where necessary, the use of interlocks, shielding or similar health protection mechanisms;

(d) the introduction of maintenance programmes for work equipment, workplaces and workstation systems;

(e) the design and layout of workplaces and workstations;

(f) limiting the duration and level of exposure to optical radiation;

(g) the provision and use of personal protective equipment. Further information on this is contained in the Merchant Shipping and Fishing Vessels (Personal Protective Equipment) Regulations 1999 (SI 1999/2205) and Merchant Shipping Notice MSN 1870 (M+F) Amendment 5;

(h) instructions provided by the manufacturer of any equipment covered by legislation giving effect to any other Community Directives.

8.2 Any work area where workers could potentially be exposed to levels of artificial optical radiation exceeding the exposure limit values referred to in paragraph 3.1 above must be marked by appropriate signs that comply with the Merchant Shipping and Fishing Vessels (Safety Signs and Signals) Regulations 2001 (SI 2001/3444) and Merchant Shipping Notice MGN 556 (M+F) Amendment 2. In addition the areas in question are to be clearly identified, and access to them limited where the work to be undertaken permits this to be done.

8.3 Workers shall not be exposed above the exposure limit values referred to in paragraph 3.1 above. Where, despite any measures taken by the employer to comply with the requirements of the Optical Radiation Regulations 2010, the exposure limit values are exceeded, the employer must take immediate action to reduce exposure below the exposure limit values. In addition, the employer must identify the reasons why the exposure limit values have been exceeded and must adapt any protection and prevention measures accordingly to prevent the exposure limit values being exceeded again.

8.4 In accordance with the provisions of the General Duties Regulations, the employer shall adapt the measures referred to in paragraphs 8.1 to 8.3 above to the requirements of individual workers, or those groups of workers, who are particularly at risk as a result of exposure to artificial optical radiation e.g. workers who are particularly sensitive to artificial optical radiation, pregnant workers etc.

9. Information and training for workers (Regulation 8)

9.1 The employer must ensure that any workers who are identified as being at risk as a result of exposure to artificial optical radiation at work, or their elected representatives, are provided with any necessary information and training relating to the findings of the risk assessment. Such information and training should cover, in particular:-

(a) the measures taken to implement the requirements of the Optical Radiation Regulations 2010;

(b) the exposure limit values and the associated potential risks;

(c) the results of the assessment, measurement and/or calculations of the levels of exposure to artificial optical radiation carried out in accordance with these Regulations together with an explanation of their significance and potential risks;

(d) how to detect adverse health effects of exposure and how to report them;

(e) the circumstances in which workers are entitled to health surveillance;

(f) safe working practices to minimise risks from exposure;

(g) proper use of appropriate personal protective equipment.

10. Health surveillance (Regulation 9)

10.1 Employers are required to ensure that any worker who health has been identified by the risk assessment as being at risk as a result of exposure to artificial optical radiation can be kept under appropriate health surveillance by a doctor, an occupational health professional or a medical authority responsible for health surveillance.

10.2 The arrangements referred to in paragraph 10.1 are for the employer to put in place but must be such as to permit the timely detection and prevention of any adverse health effects, as well as the prevention of any long-term health risks and any risk of chronic diseases, resulting from exposure to artificial optical radiation.

10.3 Any person or organisation responsible for the carrying out of health surveillance is to be given access by the employer to the results of the risk assessment where such results may be relevant to the health surveillance.

10.4 In every instance, where exposure above the limit values is detected, a medical examination must be offered to the worker(s) concerned. Such medical examination must also be offered where, as a result of health surveillance, a worker is found to have an identifiable disease or adverse health effect which is considered by a doctor or occupational health professional to be the result of exposure to artificial optical radiation at work. In cases, when either limit values are exceeded, or adverse health effects (including diseases) are identified:

(a) the worker shall be informed by the doctor or other suitably qualified person of the result which relates to him personally. He shall, in particular, receive information and advice regarding any health surveillance which he should undergo following the end of exposure;

(b) the employer shall be informed of any significant findings of the health surveillance, taking into account any medical confidentiality;

(c) the employer shall:

— review the risk assessment carried out pursuant to paragraph 7 above;

— review the measures provided for to eliminate or reduce risks pursuant to

paragraph 8;

— take into account the advice of the occupational health professional or other suitably qualified person or the competent authority in implementing any measure required to eliminate or reduce risk in accordance with paragraph 8 above; and,

— arrange continued health surveillance and provide for a review of the health status of any other worker who has been similarly exposed. In such cases, the competent doctor or occupational health professional or the competent authority may propose that the exposed persons undergo a medical examination

10.5 The employer must—

(a) ensure that for each worker who undergoes health surveillance, an individual health record containing a summary of the results of the health surveillance is made and kept up to date;

(b) keep all health records in a form suitable for consultation at a later date, taking into account any issues of medical confidentiality;

(c) supply copies of those health records to a relevant health authority and the Secretary of State (in practice the Maritime and Coastguard Agency) on request; and

(d) on reasonable notice being given, allow a worker access to that worker's individual health record.

10.6 Further guidance is contained in Marine Guidance Note MGN 636 (M) Amendment 4 and the Code of Safe Working Practice for Merchant Seafarers.

11. Consultation with and participation of workers (Regulation 10)

11.1 Employers are obliged to consult workers or their elected representatives on all matters covered by the Optical Radiation Regulations 2010. Such consultation should include matters such as the findings of the risk assessment in relation to exposure or potential exposure of workers to artificial optical radiation and arrangements for any health and safety training related to artificial optical radiation.

12. Duties of other persons (Regulation 11)

12.1 As with earlier health and safety Regulations, any duties placed on an employer by the Optical Radiation Regulations 2010 are extended to "any person who does have control of the matter to which the Regulation in question relates". This is in recognition of the situation that on some ships there may be more than one employer responsible for the workers on board and effectively means that, whilst every employer is responsible for their own workers, an overall duty in respect of all workers on board, irrespective of who employs them, will be placed on the person(s) responsible for the actual operation of the vessel.

12.2 In addition to the duty referred to in paragraph 12.1 above, a duty is also placed on all workers requiring them to make full and proper use of all protective equipment provided by the employer, and to give effect to all instruction and training with which they have been provided.

13. Offences, penalties and detentions (Regulations 12 to 17)

13.1 Any contravention of the Optical Radiation Regulations 2010 is an offence and could potentially result in prosecution of the employer. However, that is generally a last resort and normal practice is to issue Improvement or Enforcement Notices and/or detain the vessel to

enable things to be put right.

14. Right of appeal and compensation (Regulation 18)

14.1 The provisions of regulations 11 and 12 (right of appeal and compensation) of the Merchant Shipping (Port State Control) Regulations 1995 are, by virtue of Regulation 18 of the Optical Radiation regulations 2010 applied to a detention notice served on a Government ship under these Regulations.

15. Prohibition on charging of workers (Regulation 19)

15.1 In complying with the requirements of the Optical Radiation Regulations 2010, employers are not permitted to make any charge, or permit any charge to be made, on any worker.

More information

Seafarer Safety and Health Branch
Maritime and Coastguard Agency
Bay 2/17
Spring Place
105 Commercial Road
Southampton
SO15 1EG

Telephone: +44 (0)203 81 72250

Email: seafarersafety@mcga.gov.uk

Website: www.gov.uk

General enquiries: infoline@mcga.gov.uk

Please note that all addresses and telephone numbers are correct at time of publishing.

ANNEX 1

Sources only likely to produce insignificant exposures, which can be considered "safe"
Ceiling mounted fluorescent lighting with diffusers over the lamps
Computer or similar display screen equipment
Ceiling mounted compact fluorescent lighting
Compact fluorescent floodlighting
UVA insect traps

Ceiling mounted tungsten halogen spotlighting
Tungsten lamp task lighting (including daylight spectrum bulbs)
Ceiling mounted tungsten lamps
Photocopiers
Interactive whiteboard presentation equipment
Indicator LEDs
Personal digital assistants (PDAs)
Vehicle indicator, brake, reversing and foglamps
Photographic flashlamps
Gas-fired overhead radiant heaters

Sources not likely to present a health risk under specific circumstances	
Source	*Circumstance for safe use*
Ceiling mounted fluorescent lighting without diffusers over the lamps	Safe at normal working illumination levels (≈ 600 lux)
Metal halide/high pressure mercury floodlighting	Safe if front cover glass intact and if not in line of sight
Desktop projectors	Safe if beam not looked into
Low pressure UVA blacklight	Safe if not in line of sight.
Any ”Class 1” laser device (to EN 60825-1)	Safe if covers intact. May be unsafe if covers removed
Any “Exempt Group” product (to EN 62471)	Safe if not in line of sight. May be unsafe if covers removed
Vehicle headlights	Safe if extended direct intra-beam viewing avoided
Deck or other high intensity lights	Safe if extended direct intra-beam viewing avoided

Sources that may present a health risk under specific circumstances
Any of the items in the previous table which do not comply with the requirements for safe use
Ultra-violet sewage treatment equipment when operated with cover removed
Use of welding equipment when protective equipment not used or other unprotected workers in close proximity

NOTE - The above tables are for illustrative purposes only and should not be regarded as covering every item of equipment which may emit artificial optical radiation.

ANNEX 2

Other Useful Sources of Information

MCA Publications

MGN 636 (M) Amendment 4 merchant shipping and fishing vessels (health and safety at work) regulations 1997 can be found on the Gov.UK website.

Code of Safe Working Practices for Merchant Seafarers - copies of this document are required to be carried on board all UK registered ships except fishing vessels. A "read only" copy can be found on the MCA Website at ***https://www.gov.uk/government/publications/code-of-safe-working-practices-for-merchant-seafarers-2025-edition***

Hard copies of the Code can also be purchased from The Stationery Office at the following:-
Website: www.tso.co.uk

Tel: + 44 (0) 333 202 5070

E-mail: customer.services@tso.co.uk

HSE Publications

HSE priced and free publications can be viewed online or ordered from www.hse.gov.uk or contact HSE Books, PO Box 29, Norwich, NR3 1GN Tel: +44 (0)333 202 5070. HSE priced publications are also available from bookshops.

Further information on HSE priced and free publications can be found on HSE Books website at "www.hsebooks.co.uk". Free leaflets can also be found and downloaded from HSE's main website at "www.hse.gov.uk".

EC Publications

Directive 2006/25/EC of the European Parliament and of the Council of 5 April 2006 on the minimum health and safety requirements regarding the exposure of workers to risks arising from physical agents (artificial optical radiation)

A copy of this directive is available from this link:
https://www.legislation.gov.uk/eudr/2006/25/contents

After IP completion day (31 December 2020 11pm) no further amendments will be applied to this version.

Non-Binding Guide on the Requirements of the Optical Radiation Directive

A copy of this guide can be found at: https://op.europa.eu/en/publication-detail/-/publication/556b55ab-5d1a-4119-8c5a-5be4fd845b68

European committee for standardisation (CEN) publications

BSI - British Standards Institution
389 Chiswick High Road
London
W4 4AL
Tel: + 44 0345 086 9001

email: icservices@bsigroup.com

website: www.bsigroup.com/

International commission on illumination (CIE) publications

CIE Central Bureau
Kegelgasse 27
1030 Vienna
AUSTRIA
Tel: +43 1 714 31 87 0
Fax: +43 1 714 31 87 18
email: ciecb@cie.co.at

website: www.cie.co.at

International electrotechnical commission (IEC) publications

IEC Central Office
3, rue de Varembé
P.O. Box 131
CH - 1211 GENEVA 20
Switzerland
Tel: +41 22 919 02 11
Fax: +41 22 919 03 00
website: www.iec.ch
webstore: http://webstore.iec.ch/

Additional sources of information can be found in Appendix H of the EC guide

NOTE - The above list is not exhaustive and further useful information may be obtainable from other sources.