Radiation Protection and Nuclear Science Department

National Environment Agency

Environmental Building, 3rd Storey, Annex Block

40 Scotts Road, Singapore 228231

Email: Contact\_NEA@nea.gov.sg

Website: <http://www.nea.gov.sg>

### RADIATION PROTECTION ACT 2007

APPLICATION FOR A LICENCE TO USE LASERS

 *This form will take approximately 15 minutes to be completed.*

*Every section of the application form MUST be duly completed. “N.A.” should be used when appropriate.*

*Application form without the details of the irradiating apparatus, incomplete application form, or incorrect payment*

*will result in the rejection of this application.*

*For payment by cheques, the accompanying cheque must be submitted together with the completed*

*application form, failing which the form will not be processed.*

1. Particulars of the applicant

|  |  |
| --- | --- |
| Name: |  |
| Marital Status: |  | Sex: | Age: |
| Date of birth: |  | Profession / Designation: |  |
| Email Address: |  |
| Nationality:  |  Singapore Citizen | NRIC No.:  |
|  Foreign Citizen | Passport No.: |
| Country of Nationality: |
| Residential Address: | Home Phone: |
|  | Cellular Phone: |
| Relevant Laser Qualification and Laser Training: (e.g. Laser Type, Where, etc.) (If no, please provide the information on the type of training to be arranged.) |  |

|  |
| --- |
| For Foreign applicant, where applicable, please provide: |
| Singapore PR - IC No.: | Employment Pass No.: | Work Permit No.: |
|  |  |  |

2. Particulars of the employing organisation (local)

|  |  |
| --- | --- |
| Name of local organisation: |  |
| Division/Department:Address: | NIR-Code (if available): |
| Tel No.: Fax No.: |
| Contact Person: |  | Designation: |
| Email address: |  |

3. This box is to be completed by foreign applicant on short-term attachment to the above local organisation

|  |  |
| --- | --- |
| Name of employing organisation (overseas): |  |
| Address: | Tel No.: |  |
|  |
| Fax: No.: |  |
| Tentative duration of the attachment (number of days):  |
| Purpose of the attachment: To maintain the laser To do demonstration on the laser To commission the laser |
|  Others (Please specify): |  |  |

4. Purpose of applying for this licence (please tick)

|  |
| --- |
|  To operate industrial laser(s) |
|  To operate laser as a medical professional or as a veterinary |
|  To operate / demonstrate the laser on phantom and/or nonliving object  |
|  To use the laser as an tool on laboratory samples or in a research laboratory |
|  To operate entertainment laser(s) |
|  To commission, maintain and/or service the laser |
|  Other (please specify): |

5. Specification of the lasers\* for which licence is sought

|  |  |  |  |
| --- | --- | --- | --- |
| N1/ N2 Licence Number | Maker / Model | Laser Class | Medical Laser |
|  |  |  | **YES / NO** |
|  |  |  | **YES / NO** |
|  |  |  | **YES / NO** |

 \* *Please list separately if more than one laser/licence.*

6. Please include the following supporting document

|  |  |  |
| --- | --- | --- |
| S/N | Document | Checklist |
| (a) | Certificate on Laser Safety Courses |  |
| (b) | Certificate of Training in using Medical Laser |  |
| (c) | Others (Please specify): |  |

7. Mode of payment\* (Check with your Finance Department before completing this section – Please Tick One Only):

|  |
| --- |
|  Payment by GIRO (Your company must have a RPNSD Giro Account) |
|  Payment by cheque – Cheque Number: (Please refer to Notes below.) |
|  Payment by NETS or Credit Cards at NEA Customer Service Counter (Level 2, ENV Building, 40 Scotts Road) |

*\* Notes: Unless specially requested, the invoice and the receipt will be sent to the company address provided at Section 1 above. Cheques should be made payable to “National Environment Agency”. Payment by methods not specified above is liable to be rejected and will cause processing delay to your application.*

*You are encouraged to use GIRO for all payments. The GIRO application form and instruction can be found on the NEA website.*

8. Other remarks pertaining to this application

 [E.g., (i) previous licence number, (ii) payment details, etc.]

|  |
| --- |
|  |

9. I hereby apply for a licence to use the laser(s) specified above for a period of 3 / 6 / 9 / 12 / 24 months and declare that all the particulars contained in this application are correct and true. (Note: Any fee paid for the application of this licence shall not be refundable)

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Months | 3 | 6 | 9 | 12 | 24 |
| Fees (no GST) | $ 26.25 | $ 52.50 | $ 78.75 | $ 105 | $ 210 |
| Please Tick One | ( ) | ( ) | ( ) | ( ) | ( ) |

 (Note: *This portion is to be filled up by applicant who will hold this N3 licence if approved*.)

|  |  |
| --- | --- |
|  |  |
|  Signature of Applicant |  Date |

*The National Environment Agency (NEA) collects personal information to carry out its various functions and duties under the National Environment Agency Act (Cap 195) including the implementation of environmental and public health policies in Singapore and any other related purposes.  I hereby consent to NEA’s use of the information provided by me in the course of any application I have made to the NEA, to facilitate the processing of such application for such purposes. I hereby further consent to NEA sharing the information in such application with other Government agencies, or non-government entities authorised to carry out specific government services, unless prohibited by legislation.*

Notes:

1. Applicants wishing to be licensed should first undergo a medical examination by local Medical Practitioner with Medical Certificate Form MC2 (below). The medical examination should be conducted in an eye-clinic or eye-centre where the necessary parts of the examination can be carried out.

1. Applicant can be called up to attend a licence qualifying test. Some study notes for the test can be downloaded from NEA website, under the section “Anti-Pollution & Radiation Protection > Radiation Protection > Radiation Protection Services > Training & Education”:

<http://www.nea.gov.sg/anti-pollution-radiation-protection/radiation-protection/radiation-protection-services#TE>

 Further information can be read from here:

 <http://www.nea.gov.sg/anti-pollution-radiation-protection/radiation-protection/laser-pointers>

1. If you already have a valid N3 licence, and you need to include more controlled equipment into the N3 licence, then, you should not use the form. Instead, please write a letter to NEA, stating your licence number and its expiry date, and listing out the equipment as in Section 5 above. Then, send it to NEA with the amendment fees ($25) or GIRO number.
2. As there could be a need for the applicant to sit for a licence qualifying these, the application form should be submitted well in advanced.
3. The completed application form, included the completed medical form, should be submitted together with the prescribed fee to:

Director

Radiation Protection and Nuclear Science Department

National Environment Agency

Environment Building

3rd Storey, Annex Block

40 Scotts Road, Singapore 228231

# MEDICAL CERTIFICATE FOR LASER OPERATORS (MC-2)

Regulations 8 & 20(c) of the Radiation Protection (Non-Ionising Radiation) Regulations, 1991

|  |
| --- |
| HISTORY\* |
| Family: |  |
| Medical: |  |
| Occupational: |  |
| **CLINICAL & SPECIAL INVESTIGATION\*\*****(SATISFACTORY / UNSATISFACTORY)**  |
| Dermatological: |  |
| Others: |  |
| OPHTHALMOLOGICAL EXAMINATION\*\*\*(SATISFACTORY / UNSATISFACTORY)  |
| Date of Examination: |  |
| Medical History of Eyes: |  |
| Colour Vision: |  |
| Visual Acuity |
| Far : |  | Near: |  |
| Amsler Grid : |  |
| Manifest Refraction : |  |
| External Ocular Examination : |  |
| Examination of the Ocular Fundus with an ophthalmoscope : |  |
| Other Examinations : |  |
| Optional : |
| Examination by slit lamp: |  |
| Tonometry: |  |
| Photograph of Posterior: |  |
| Pole of the Fundus: \* , \*\* , \*\*\* see overleaf |  |
| STATEMENT |
| This is to certify that:  |
| Dr/Mr/Ms/Mdm: |  |  |
| NRIC No.: |  |  |
| Employed by: |  |  |
| has undergone a medical examination by me and I am of the opinion that this person is **FIT / UNFIT** § to engage in laser work. In addition, I have the following comments to make: |
|  |  |  |
|  |  |  |
|  |  |
|  Name of Hospital / Clinic |  Name of Medical Practitioner  |
|  |  |
|  Address of Hospital / Clinic |  Date and Signature of Medical Practitioner |

 § Delete “fit” or “unfit” as applicable.

\* The patient medical history on the current and past medication use is reviewed. His general health status should be inquired about with special emphasis upon diseases which can give ocular or skin problems. Certain medical conditions may cause the laser worker to be at phenothiazine and psoralens, lower the threshold for biological effects in the cornea, lens and retina. Aphakic individuals would be subject to additional retinal exposure from near UV radiation. Unless chronic viewing of lower levels of laser radiation in these wavelengths is required, there should be no reason to deny employment to these individuals. With current laser systems, chronic exposure even to low levels of blue laser radiation is very unusual.

\*\* A dermatological examination is important for laser workers with history of photosensitivity or those working with ultraviolet lasers as well as for persons operating with or maintaining of high power lasers. Examination of the skin for presence of abnormal pigmentation of depigmentation, keratoses, malignancies, etc.

\*\*\* **Examination Protocols**

*Medical history of eye*

Medical history of eye is required for preplacement examinations of all laser workers. His past eye history and family eye history are reviewed. Any current complaints, which he now has about his eyes, are noted.

*Colour Vision*

Colour vision on eye is required for preplacement examination of all laser workers. His ability to perceive differences of colours must be examined and recorded.

*Visual Acuity*

Required for preplacement examinations of all laser workers. Distance visual acuity should be tested both with & without corrective lenses to 20/15. Results should be recorded in Snellen figures. The visual acuity at near is tested at 35 cm and recorded in Jaeger-tested figures or Snellen figures with & without lenses. Visual acuity screening instruments may be used.

*Amsler Grid*

The Amsler grid sheet is presented to each eye separately and any distortion of the grid is noted by the patient and drawn by him; it is part of a thorough ophthalmologic examination.

*Manifest Refraction*

Required for preplacement examinations of all laser workers when indicated. This is to measure the patient's refractive error, and the new visual acuity of the patient must be noted if the visual acuity is improved over that achieved with the patient's old lens prescription, or if he has no lenses at the time of examination. This examination shall be carried in all personnel whose best corrected distance visual acuity in either eye is less than 20/20.

*External Ocular Examination*

Required for preplacement examinations of laser workers using laser systems producing radiation below 350 nm or above 1400 nm. This includes examination of brows, lids, lashes, conjunctiva, sclera, iris and pupillary size, equality, reactivity and regularity.

*Examination of the Ocular Fundus with an Ophthalmoscope*

Required for preplacement examinations of laser workers using laser systems producing radiation between 390 nm and 1400 nm and any aphakic worker. In the recording of this portion of the examination the points to be covered are: the presence or absence of opacities in the media; the sharpness of outline of the optic nerve; the size of the physiological cup; if present, the ratio of the size of the retinal veins to that of the retinal arteries; the presence or absence of a well-defined macula and the presence or absence of a foveolar reflex; and any retinal pathology that can be seen with a direct ophthalmoscope. Even small deviations from normal should be described and carefully localized.

*Other Examination*

Further examinations should be done as deemed necessary by the eye specialist.

#### **Optional**

*I Examination by Slit Lamp*

Required for preplacement examinations of laser workers using laser producing radiation below 429 nm or above 750 nm. The cornea, iris and lens are examined with a biomicroscope and described.

*II Tonometry*

 This is the measurement of intraocular pressure; should be part of a thorough ophthalmologic examination.

*III Photograph of the Posterior Pole of the Fundus*

This includes the area of the macula and head of the optic nerve and should be taken in color, may be obtained by the examining physician to more fully describe retinal abnormalities. Appropriate techniques to reduce the patient's exposure to optical radiation should be employed.

 **Notes:**

1. This certificate should be given to the examining Medical Practitioner for completion and should be submitted together with the application form to the address shown on page 2.
2. Where the person examined is considered unfit to be engaged in laser work, please give the reasons.