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LICENSED AIRCRAFT MAINTENANCE ENGINEERS PERSONAL RESPONSIBILITY WHEN MEDICALLY UNFIT OR UNDER THE INFLUENCE OF DRINK OR DRUGS

1. PURPOSE

The International Civil Aviation Organization (ICAO) has introduced an amendment to Annex 1 to the convention on international civil aviation which will have the effect of extending certain standards and recommended practices to all licence holders.

In connection with the ICAO Annex 1, this Advisory Circular (AC) provides the guidance regarding medical fitness in connection with the use or abuse of intoxicating liquor, narcotics or drugs. The necessary amendments to the Myanmar Aircraft Rules are now in process to implement this medical fitness situation. It should be noted that the holder must not exercise the privileges of their licence/authorization if a 'mental condition renders them unfit to exercise such privileges'. In this sense, mental condition means psychological integrity.

2. REFERENCES

Myanmar Civil Aviation Requirements MCAR Part 66 and Part 145.

3. GUIDANCE AND INFORMATION

- (a) An aircraft maintenance engineer's licence authorizes the holder, subject to any conditions that may be specified on the licence, to issue various certificates relating to maintenance. The process of issuing the certificates (CRS and CMR) requires clear decisions to be made directly affecting the airworthiness of the aircraft to which they relate. It follows that the quality of these decisions is directly influenced by the physical or mental state of the certifier at the time of certification, and whether or not he/she is subject to the adverse effects of drink and/or drugs.
- (b) This AC is equally applicable to all non-licensed personnel engaged in aircraft maintenance tasks and in principle should be adopted throughout the aviation industry as a code of practice. The management of all Approved Maintenance Organizations are therefore required to review this AC and implement suitable policies and procedures to make all maintenance staff aware of them.

Organizations shall also take note of items in paragraph (d) through (l) which requires their participation in the areas concerned.

- (c) All persons to whom this AC applies should be aware of the guidance material contained herein. It is the responsibility of the individual concerned to ensure that he does not report for duty or certify if he is genuinely unfit. Such persons should also be aware of an organization's own internal policies and monitoring procedures to verify the above.
- (d) **Fitness:** In most professions there is a duty of care by the individual to assess his or her own fitness to carry out professional duties. This has been a legal requirement for some time for doctors, flight crew members and air traffic controllers. Licensed aircraft maintenance engineers are also in future shall be required by law to take a similar professional attitude. Cases of subtle physical or mental illness may not always be apparent to the individual but as engineers often work as a member of a team any sub-standard performance or unusual behaviors should be quickly noticed by colleagues or supervisors who should notify management so that appropriate support and counseling action can be taken. In particular, a decrease in mental fitness in many cases may be related to stress from within the working environment or to the personal circumstances of the individual. Instances of aggressive behavior, vagueness and slippage of personal standards (cleanliness, appearance etc.) may be indicative of more serious mental issues. Such issues may bring into question the ability of the individual to be trusted or to maintain the necessary levels of concentration to take appropriate decisions on maintenance matters.
- (e) **Fatigue:** Tiredness and fatigue can adversely affect performance. Excessive hours of duty and shift working, particularly with multiple shift periods or additional overtime, can lead to problems.
- (f) **Stress:** Every-one is subject to various stresses in their life and work. Stress can often be stimulating and beneficial but prolonged exposure to chronic stress (high levels or differing stress factors) can produce strain and cause performance to suffer allowing mistakes to occur. Stress factors can be varied, physical, e.g. heat, cold, humidity, noise, vibration; they can be due to ill-health or worries about possible ill-health; from problems outside the workplace e.g. bereavements, domestic upsets, financial or legal difficulties. A stress problem can manifest itself by signs of irritability, forgetfulness, and sickness absence, mistakes, or alcohol or drug abuse. Management has a duty to identify individuals who may be suffering from stress and to minimize workplace stresses. Individual cases can be helped by sympathetic and skilful counseling which allows a return to effective work and licensed duties.

- (g) **Eyesight:** A reasonable standard of eyesight is needed for any aircraft engineer to perform his duties to an acceptable degree. Many maintenance tasks require a combination of both distance and near vision. In particular, such consideration must be made where there is a need for the close visual inspection of structures or work related to small or miniature components. The use of glasses or contact lenses to correct any vision problems is perfectly acceptable and indeed they must be worn as prescribed. Frequent checks should be made to ensure the continued adequacy of any glasses or contact lenses. In addition, colour discrimination may be necessary for an individual to drive in areas where aircraft manoeuvre or where colour coding is used, e.g. in aircraft wiring. Organizations should identify any specific eyesight requirement and put in place suitable procedures to address these issues.
- (h) **Hearing:** The ability to hear an average conversational voice in a quiet room at a distance of 2 metres (6 feet) from the examiner is recommended as a routine test. Failure of this test would require an audiogram to be carried out to provide an objective assessment. If necessary, a hearing aid may be worn but consideration should be given to the practicalities of wearing the aid during routine tasks demanded of the individual. It is important to remind employers of individuals working in areas of high ambient noise, which require employers to carry out assessments of noise levels within their premises and take appropriate action where necessary.
- (i) **Drug and Alcohol Abuse:** Drinking problems or the use of illicit or non-prescribed drugs are unacceptable where aircraft maintenance safety is concerned and once identified will lead to suspension of the licence and/or authorization and possibly further licensing action being considered.
- (j) **Medication:** Any form of medication, whether prescribed by a doctor or purchased over the counter and particularly if being taken for the first time, may have serious consequences in the aviation maintenance environment unless three basic questions can be answered satisfactorily_
- (i) Must I take medicines at all?
 - (ii) Have I given this particular medication a personal trial for at least 24 hours before going on duty, to ensure that it will not have adverse effects on my ability to work and make sound decisions?
 - (iii) Do I really feel fit for work? Confirming the absence of adverse effects may need expert to advice and General Practitioners and Company Medical Officers are all available to assist in this matter. Common types of medication in use and their effects are further described in Appendix to this AC.
- (k) **Alcohol:** Alcohol has similar effects to tranquillizers and sleeping tablets and may remain circulating in the blood for a considerable time, especially if taken with food. It should be borne in mind that a person may not be fit to go

on duty even eight hours after drinking large amounts of alcohol. Individuals should therefore anticipate such effects upon their next duty period. Special note should be taken of the fact that combinations of alcohol and sleeping tablets, or anti-histamines, can form a highly dangerous and even lethal combination.

- (l) **An aesthetics:** It should be remembered that following local, general, dental and other an aesthetics, a period of time should elapse before returning to duty. This period will vary depending upon individual circumstances, but may even extend up to 24 or 48 hours. Any doubts should be resolved by seeking appropriate medical advice.

4. SUMMARY

The effects of illness, injury or medication on work performance are the direct concern of the individual. Where there is doubt about the ability of an individual for these reasons, it is imperative not to exercise the privileges of his or her licence or authorization whilst unfit. While this AC gives some guidance on the issues to be considered it cannot be comprehensive. If individual licence holders or their managers have any doubt they should consult the medical sources mentioned for advice.

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The following are some of the types of medicine in common use which may impair work performance. This list is not exhaustive and care should be taken in ensuring the likely effects of any prescribed drug are adequately known before taking it.

- (a) **Sleeping Tablets** These dull the senses, cause mental confusion and slow reaction times. The duration of effect is variable from person to person and may be unduly prolonged. Individuals should have expert medical advice before using them;
- (b) **Tranquillisers** Anti-depressants and sedatives depress the alerting system and have been a contributory cause of mistakes leading to fatal accidents. Therefore a person should not work when taking them;
- (c) **Antibiotics** Antibiotics (penicillin and the various mycins and cyclines) and sulpha drugs may have short term or delayed effects which affect work performance. Their use indicates that a fairly severe infection may well be present and apart from the effects of these substances themselves, the side-effects of the infection will almost always render an individual unfit for work;
- (d) **Anti-histamine** Such drugs are widely used in cold cures and in the treatment of hay fever, asthma and allergic skin conditions. Many easily obtainable nasal spray and drop preparations contain anti-histamines. Most of this group of medicines tends to make the taker feel drowsy. Their effect, combined with that of the condition, will often prevent the basic three questions (paragraph 3 (j) of this AC) from being answered satisfactorily. Admittedly very mild states of hay fever etc. may be adequately controlled by small doses of anti-allergic drugs, but a trial period to establish the absence of side effects is essential before going on duty. When individuals are affected by allergic conditions which require more than the absolute minimum of treatment and in all cases of asthma, one of the above mentioned sources of advice should be consulted;
- (e) **'Pep' pills** (e.g. containing Caffeine, Dexedrine, and Benzedrine) used to maintain wakefulness are often habit forming. Susceptibility to each drug varies from one individual to another, but all of them can create dangerous over-confidence. Over-dosage may cause headaches, dizziness and mental disturbances. The use of 'pep' pills whilst working cannot be permitted. If coffee is insufficient, you are not fit for work;
- (f) **Drugs** for the relief of high blood pressure are proving to be very effective in controlling this condition. However, anti hypertensive agents all have some side effects and should not be administered before adequate assessment of the need for treatment. The prescribing practitioner should be able to advise on any side effects to be considered;
- (g) **Drugs** when prescribed for Anti-malaria in normally recommended doses do not usually have any adverse effects. However, the drug should be taken in good time so that the question in paragraph 3 (j) (ii) of this AC can be answered;

- (h) **Oral contraceptive tablets** in the standard dose do not usually have adverse effects, although regular supervision is required;
- (i) **'Sudafed'** is the trade name of a preparation containing pseudo-ephedrine hydrochloride. This may be prescribed by GPs for relief of nasal congestion. Side-effects reported however anxiety, tremor, rapid pulse and headache. The preparation does not contain anti-histamines which could sedate and cause drowsiness but the effects can nevertheless affect skilled performance. Sudafed, therefore, is not a preparation to be taken when making engineering decisions or performing licensed duties.

Although these are common groups of drugs, which may have adverse effects on performance, it should be pointed out that many forms of medication, which although not usually expected to affect efficiency may do so if the person concerned is unduly sensitive to the particular drug. Therefore no drugs or medicines, or combinations, should be taken before or during duty unless the taker is completely familiar with the personal effects of the medication and the drugs or medicines have specifically been medically prescribed for the individual alone. Again the sources of advice mentioned earlier in this notice should be consulted in cases of doubt.



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