

Sameiginlega afstaða norrænna geislavarna-og flugmálalastjórna um framkvæmd eftirlits með geislaálagi flugáhafna.

Meðfylgjandi er enskur texti með sameiginlegri afstöðu norrænna geislavarna-og flugmálalastjórna um framkvæmd eftirlits með geislaálagi flugáhafna.

Samkvæmt 5. lið er gert ráð fyrir að geislavarnastofnun í hverju landi taki við upplýsingum frá flugrekstraraðilum, einu sinni á ári. Á Íslandi eru það Geislavarnir ríkisins, Rauðararstíg 10, 150 Reykjavík. Senda skal Geislavörnum upplýsingar um geislaálag flugáhafana á liðnu ári fyrir 1. mars ár hvert. Sjá nánar í 5. lið.

Það skal tekið fram að löggjöf (tilskipanir) Evrópusambandsins um geislavarnir gilda ekki á Íslandi því hún/þær byggir/byggja á EURATOM samningnum en hann er ekki hluti af samningnum um Evrópska Efnahagssvæðið (EES samningnum). Með lögum nr. 44/2002 um geislavarnir var íslensk löggjöf um geislavarnir og framkvæmd hennar samræmd löggjöf Evrópusambandsins um geislavarnir og framkvæmd hennar.

Control of the Exposure to Cosmic Radiation of Air Crew in the Nordic countries.

Nordic Radiation Protection and Civil Aviation Authorities Working Party on Cosmic Radiation Control of the exposure to cosmic radiation of air crew in the Nordic countries.

Dose rates from cosmic radiation vary strongly with altitude and also with latitude and with the phase of the solar cycle. The exposure of air crew to cosmic radiation can be significantly increased dependent on rostering.

The Nordic Radiation Protection and Civil Aviation Authorities have agreed on the following interpretation of requirements for the control of the exposure to cosmic radiation of air crew in the Nordic countries. The interpretation take due account of the requirements in JAR-OPS 1.390 and 1.680 regarding cosmic radiation (ref. 1), the revised European Basic Safety Standards Directive (ref. 2) and the guidance made by the European Commission in transposing the Directive into national legislation (ref. 3).

1. Operators of aircraft in commercial air transport registered in a Nordic country or operating on a Nordic AOC (Air Operator Certificate) shall take the exposure of air crew (both flight deck and cabin crew) to cosmic radiation into account in accordance with these recommendations if the annual effective dose to a crewmember can exceed 1 mSv¹.

2. The operator (employer) shall inform the aircrew of the risks of occupational exposure to cosmic radiation. Female aircrew shall know of the need for early declaration of pregnancy in view of the risks of exposure for the child to be born.

¹ 1) For flights operating below 26.000 ft (~ 8 km) the annual effective dose to a crewmember will not exceed 1 mSv. Similar, the recommendations do not apply if the operator can demonstrate that due to the general operating practices of the company, it is very unlikely that the dose to the crew (or a well defined group of crew members) will exceed 1 mSv.

3. Effective doses to air crew can be estimated by the operator by using route doses calculated with a suitable computer programme² taking generic or specific flying circumstances into account. Other means of estimating the exposure to air crew shall be approved by the National Radiation Protection Authority in co-operation with National Civil Aviation Authorities to ensure adherence to JAR-OPS 1. Operators, who before each traffic season can demonstrate annual average crew radiation exposure well below 6 mSv based on the average flying pattern and expected average number of flight duty hours, can use actual duty hours as a scaling factor for estimating individual effective doses. The average crew radiation exposure estimate must take into account the varying flying pattern of different groups of crew members, if applicable.

4. The operator shall after each calendar year estimate the effective dose to each individual crew member in accordance with paragraph 3 and inform the crew member of his/her effective dose.

5. Once a year before 1 March the operator shall forward the following information regarding the previous calendar year to the national radiation protection authorities, in Iceland:

Geislavarnir ríkisins, Rauðarárstíg 10, 150 Reykjavík.

a) A summary of the estimated yearly effective doses to the air crew (Number of crew members in each 1 mSv interval (<1 mSv, 1-2 mSv, 2-3 mSv, 3-4 mSv etc.)

b) A list of crew members with an estimated yearly effective dose equal to or above 6 mSv. (Full name, national identification number, profession i.e. stewardess, pilot and estimated dose in accordance with national legislation on personal registries).

6. When organizing working schedules the operator shall take into account the estimated effective doses with a view to reduce individual yearly doses for those individuals whose yearly effective dose is estimated to be at or above 6mSv.

7. When a pregnant crew member informs the operator of her condition, the operator shall ensure that the working schedule for female crew members, once they have notified the operator that they are pregnant, keep the equivalent dose of the fetus as low as can reasonably be achieved and in any case ensure that the dose does not exceed 1mSv for the remainder of the pregnancy.

² At present no approval procedure has been agreed upon. Examples of computer programs which have demonstrated an agreement with measured values available within acceptable uncertainty limits are CARI-6 (ref. 4), EPCARD-3.1 (ref. 5) and FREE-1.0 (ref. 6).

References:

1. [JAR-OPS 1](#), Amendment 3.
2. [Directive 96/29/Euratom of 13 May 1996](#) laying down basic standards for the protection of the health of workers and the general public against the dangers from ionizing radiation.
3. [Recommendations for the Implementation of Title VII of the European Basic Safety Standards Directive](#) (BSS) Concerning Significant Increase in Exposure due to Natural Radiation Sources, European Commission 1997.
4. Information about and download of CARI-6: <http://www.cami.jccbi.gov/AAM-600/610/600radio.html>.
5. Information about and download of EPCARD-3.1: (available on the internet late 2001).
6. Information about FREE-1.0: Technische Universität Graz, Institut für Technische Physik, Peter.Kindl@TUGraz.at or felsberg@sbox.tu-graz.ac.at.