

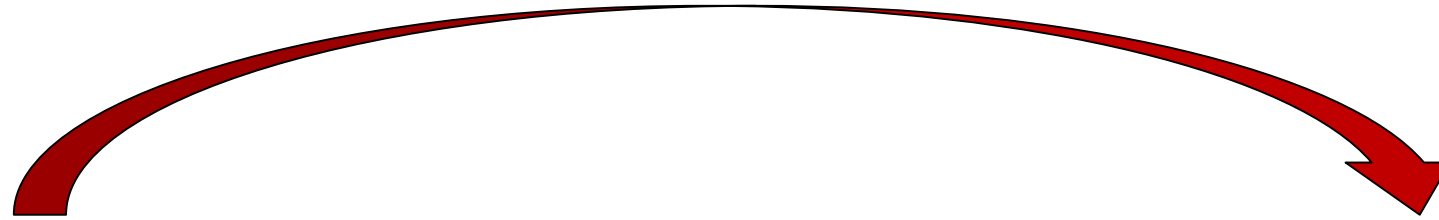
TRAINING IN RADIATION PROTECTION REQUIRED BY LEGISLATION: APPROACH DURING THE COVID-19 CRISIS AND PRACTICAL IMPLEMENTATION

Tom CLARIJS (SCK CEN), An FREMOUT (FANC)

ETRAP

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Regulatory framework



96/29/Euratom
'Basic safety standards'

97/43/Euratom
'Patient directive'



Royal Decree of 20 July 2001 laying down the general regulations on the protection of the public, the workers and the environment against the hazards of ionizing radiation (ARBIS/RGPRI)



2013/59/Euratom
'Basic safety standards'
(groupes 5 directives)



ARBIS/RGPRI (revision)
+
Sector specific Royal Decrees,
such as
Medical Exposures Decree
(13/02/2020)

E&T requirements (ARBIS/RGPRI)

- Workers (well-being at work, occupational risks) :
 - Information on health risks and RP : before entry into service + at least yearly
 - Female workers : early declaration of pregnancy
 - Emergency workers : prior information + confirmation
- RPE
 - 12 ECTS radiation protection + between 20h and 24 ECTS domain specific safety
- RPO
 - Modular, minimum 8h **+ for all : continuous education**
- Occupational physician
 - Medical and industrial : 150h theory + 45 h practice + internship of 160h
 - Nuclear installations : supplement of 50 h + internship of 750h

E&T requirements (Medical Exposures Decree)

- Practitioners
 - Personal license based on competence in RP of patient, specific per domain : 75 h for x-ray applications, 200h for radiotherapy/nuclear medicine
- Authorized staff (nurses, paramedics,...)
 - No personal license but E&T requirements
 - Training RP of patient : 50h+ 10h for radiotherapy or nuclear medicine
- MPE
 - Recognition based on competence : Master in medical physics of 120 credits (or 60+60) + internship 1 year/domain
- MPA
 - 20 credits

+ for all : continuous education
evaluation by FANC per target group

Impact of COVID-19 for competent authority

- Nuclear and radiologic = essential sector
- Internal crisis cell
 - > continuity plan activities
 - Which activities should go on
 - How ? Protect FANC staff and stakeholders



Impact of COVID-19 for competent authority

- Dedicated crisis cell “healthcare sector”
 - **Facilitate** in order to relieve pressure on healthcare departments/professionals where possible
 - **Safety measure** :
 - **Fast commissioning** of x-ray devices for diagnosis and follow-up of COVID19-patients
 - Cope with shortage of qualified staff to assist practitioners in diagnosis and follow-up of COVID-19 patients : **allow non-qualified staff within certain conditions**
 - **Exemption from continuous education**
 - Automatic prolongation of personal licenses/recognitions of healthcare professionals expiring between March and August 2020

PRIORITY

Impact of COVID-19 for competent authority

- Basic E&T
 - **FANC verifies compliance of programs with regulatory criteria**
 - Exact form of education and training is not within competence of FANC
 - Federal and regional COVID-measures for education at all levels + university/college internal policies apply
 - End of academic year
 - Form of education and training (distance learning, on campus, ...)
 - Examination methods
- Continuous education
 - Evaluated in view of prolongation of license/recognition

Online courses can be accepted if it fulfils the regulatory criteria and participants are registered

Impact of COVID-19 for training providers

Jan-Feb
2020

- Face-to-face training courses respecting social distancing and hand hygiene
- Practical exercises and technical visits cancelled or replaced by alternatives
- With internal prevention service and medical service → feasible and effective protection measures

Mar-May
2020

- Some face-to-face training courses postponed to 2021
- Online webinars and remote teaching

Summer
2020

- Preparation of distance learning in a sustainable way (remote teaching and e-learning)

Challenges & opportunities **competent authority**

- Theoretical modules -> relatively easy conversion to online learning
- Alternative knowledge tests
- **Main difficulties for practical training**
- Training of medical professionals : medical departments had other priorities and higher risk of contamination
- **A pragmatic approach cannot be taken outside the boundaries of regulations** → safety measures and formal decisions in combination with federal and regional COVID-measures
- Future : **distance learning and more flexible ways of learning**
= **new reality** to take into account for future regulations

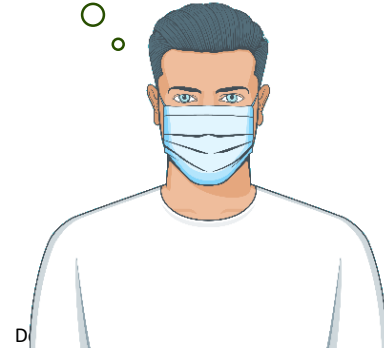
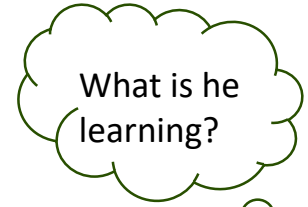
Challenges & opportunities training providers

- **Uncertainty** and hesitation of companies to request training from external providers
- Switch to distance learning : **investment**
 - Software licenses for qualitative online broadcasts and e-learning
 - Hardware : headsets, cameras, (tablet) computers
 - Other consumable expenses being reduced (printed material, catering)
- Administrative support :
 - Shift from room reservations, catering, printing material towards **electronic support** : registration, connectivity, testing, follow-up
 - **Track participation**
- Development of **guidance for trainers and participants**



Challenges & opportunities trainers

- **Inability to read body language** from trainees due to PPE
- **Informal networking more difficult** during face-to-face training and absent during online training
- **Redesign of training material**
 - Adaptation of material for practical training
 - Creation of instructional videos
 - Reformatting of presentation files to suit online format
- **Practical skills**
 - Webinar tools
 - Extra hardware
 - Optimisation of online lecturing environments



Challenges & opportunities trainees

- **Networking more difficult** or absent
- **Cooperation** for practical exercises, peer discussions or group assignments **more difficult**
- **Discipline to stay focused**
- **Equipment** : computer, audio devices, network, environment
- Advantage for trainers and trainees : **gain in time** (travel)



Conclusions and future outlook

- Continuous effort to assure knowledge, skills and competences in radiation protection
- Even during a pandemic, the radiological and nuclear sector offered radiation protection training
- The regulatory authority facilitated a practical approach respecting the boundaries of regulations
- Training providers offered adapted programmes
- On the long term investments are needed to maintain distance learning
- Hybrid future : online engagement + face-to-face training



Tom CLARIJS (SCK CEN) – An FREMOUT (FANC)
tom.clarijs@sckcen.be – an.fremout@fanc.fgov.be