



Une histoire de confiance
A matter of trust

SPECIAL EDITION

Compétences

the french accreditation magazine

Accreditation and the work environment

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Occupational
Health &
Safety



Occupational health & safety: a favoured sector for accreditation

There are few sectors that make more use of the tools proposed by accreditation than the occupational health & safety sector. Moreover, these tools are most often used within a regulatory framework.

There are multiple reasons for this widespread use of accreditation, often in the context of a modern replacement for an older ministerial approval approach.

The primary reason is, of course, that occupational health and safety issues, through inspection and regulation, aim to prevent exposure to risks by drawing on recognised competences for the benefit of workers who, by the nature of their activities, are often faced with environments or processes that may generate serious or atypical risks.

The second reason is that it is often essential, in order to check compliance with regulatory reference values, to be able to rely on enforceable and credible inspection or measurement methods that are recognised by all interested parties: employees, employers, inspectors, and specifiers.

Lastly, it is because workers often find themselves exposed to new or emergent risks, the efficient control and management of which require very early recourse to the best recognised state-of-the-art in terms of measurement and prevention as deployed in the accreditation framework.

In this context, Cofrac and accreditation provide specifiers with a global tool that is recognised by all, everywhere, and which, through the diversity of its resources and the accreditation of laboratories, inspection bodies and certification bodies, enables these many issues to be addressed. Aside from ad hoc accreditations, the particular interest of certification as per the ISO 45001 standard is worth underlining, insofar as it allows the companies concerned to have their commitment recognised globally as part of an overall approach to improving the safety of their employees and reducing risks in the workplace.

All the same, as in many sectors, even if accreditation remains a powerful tool for demonstrating competences in such a high-stake area, it cannot serve as a substitute for the responsibility of the various stakeholders concerned or for the policing role, which accreditation is not designed to fulfil. In this context, it is worth underlining the precious and unique character of the monitoring of regulatory actions as deployed under the umbrella of accreditation by the DGT (Direction Générale du Travail — General Directorate for Labour), in the framework of a multi-annual agreement.

This special edition of *Compétences* magazine will help everyone to discover the variety and extent of recourse to accreditation in the “special” sector of occupational health & safety.

Dominique Gombert
General Director



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Questions for the Head of the DGT

For this special edition dedicated to occupational health and safety, Pierre Romain, Head of the DGT (Direction Générale du Travail —General Directorate for Labour), has kindly accepted to answer our questions.

WHAT IS YOUR VIEW OF ACCREDITATION?

Accreditation has become a central mechanism in the regulation of certain services in the field of work, since the accreditation and certification procedures have progressively taken the place of the approval procedures initially adopted in the regulations to attest to an organisation's capacity to provide services within the field of occupational health and safety with regard to conformity checks, measurements and analyses, safety training, and expert appraisal.

This substitution process, initiated in the early 2000s by the DGT, in particular within the framework imposed by the requirements of the European "services" directive (2006/123/CE), is today all but finalised. The lessons learned have nonetheless prompted the DGT to modify its approach, with the aim now to designate bodies by joint order of the Ministers

for labour and for agriculture when it appears technically or economically difficult to guarantee the accreditation of at least one body, in particular for certain technical fields (e.g. artificial optical radiation), or due to a scope that is limited to requests for verification by the labour inspectorate's control officer.



We have worked for a long time with Cofrac, our primary contact in matters of certification, and with whom we have an agreement for the implementation of the measures stipulated by the French Labour Code.

WHAT IS THE NATURE OF YOUR RELATIONS WITH COFRAC?

We have worked for a long time with Cofrac, our primary contact in matters of certification, and with whom we have an agreement for the implementation of the measures stipulated by the French Labour Code. The latest agreement signed covers the period 2021-23 and is the subject of an annual work programme that provides for technical support in the development or revision of accreditation mechanisms stipulated by the Labour Code and the transmission of an annual accreditation report.

WHAT ARE YOUR MAIN TOPICS OF CONCERN, AND HOW DOES ACCREDITATION HELP SUPPORT YOUR ACTIONS?

With regard to accreditation as such, our main concern is ensuring that it does indeed enable us to guarantee the quality of the expected services in areas that most often present major challenges in terms of protecting the health and safety of workers.

As such, we wish to further reinforce the control measures, for example by improving the mechanisms for taking account of notifications from labour inspectors (particularly in the areas of asbestos or ionising radiation, although this concerns all mechanisms) or by clarifying the various frameworks for periodic or unannounced inspections.

ARE THERE ANY ACCREDITATION-BASED SCHEMES THAT ARE BEING DEVELOPED OR THAT YOU ARE LOOKING TO INITIATE?

Yes, we are currently developing the mechanism created by Article 11 of Act 2021-1018 of 2 August 2021 for reinforcing occupational health risk prevention, and which stipulates that the risk prevention and occupational health services should undergo a certification procedure conducted by an independent body.

Furthermore, a certain number of other mechanisms such as that relating to the certification of companies working in nuclear facilities are also currently being overhauled, something that we regularly undertake across all fields of



Pierre Romain, Head of the DGT

accreditation to take account of changing practices, on the one hand, and changes to the regulatory context on the other.



Of course, we mainly keep track of the accreditation mechanisms linked to regulatory requirements, but we are particularly attentive to all the means that allow us to guarantee the quality of the proposed services.

OCCUPATIONAL HEALTH AND SAFETY IS A HIGHLY REGULATED AREA. DO YOU THINK THAT ACCREDITATIONS REQUESTED VOLUNTARILY IN THIS AREA CAN PLAY A COMPLEMENTARY ROLE IN TERMS OF OHS?

Of course, we mainly keep track of the accreditation mechanisms linked to regulatory requirements, but we are particularly attentive to all the means that allow us to guarantee the quality of the proposed services, particularly with regard to the more technical issues, for which user companies may have difficulty analysing and differentiating between the different offers (for example, regarding the measurement of electromagnetic fields or radiation measurement). ❖

ANSES: supporting public policies in the prevention of occupational risks

Depending on their sector of activity or profession, every worker may be faced with some kind of hazard, be it physical, chemical, or organisational. It is vital to protect the health of workers in the face of the different current or potential risks. Interview with Henri Bastos, Scientific Director for Occupational Health at ANSES, the French Agency for Food, Environmental and Occupational Health & Safety.

WHAT IS THE ROLE OF ANSES AND WHAT ARE ITS MISSIONS IN MATTERS OF OCCUPATIONAL HEALTH?

ANSES mainly assists in guaranteeing human health & safety in the fields of food, the environment, and work. Concerning the latter, our own work enables the authorities, companies, and stakeholders in risk prevention to better protect workers, most notably by anticipating the emergent risks. We act as a watchdog and provide stimulus to acquire data about hazards and exposures, with the aid of continuous monitoring by the National Network for the Monitoring and Prevention of Occupational Illnesses (known by the French acronym RNV3P). We also contribute to the funding of research via the National research programme for environmental and occupational health (PNREST) which, over time, has enabled better structuring of scientific teams around the topic of occupational health and safety. Our mission also consists in producing scientific assessments of risks useful in developing national and European regulations (crop protection products, biocides, veterinary medicines, pest control products, REACH, CLP) and in the drafting of occupational exposure limits (OEL) to improve the protection of the health of workers exposed to different chemical products. Since 2019, ANSES is also responsible for the scientific appraisal to be conducted prior to the creation or development of occupational illness tables or the drafting of recommendations for regional committees for the recognition of occupational illnesses.

WHAT TYPE OF APPRAISALS DO YOU DO?

The agency's appraisals are generally carried out in response to referrals mainly coming from Government ministries (OEL, carcinogenic processes, occupational illness appraisals). However, they might also emanate from national worker-representative organisations and interprofessional organisations of employers sitting on the Board of Directors. The appraisals can be conducted in the framework of various regulations (generally European), relating to chemical substances, plant protection products, fertilisers, and biocides. Lastly, ANSES is also capable of initiating its own appraisals when it identifies a situation of risk necessitating additional investigations. The expert appraisals carried out concern above all the assessment of hazards, exposures, and risks for health. A large proportion of these assessments concern chemical products. We have assessed occupational exposure to chemical agents such as ethanol and its compounds and formaldehyde, which is used in many sectors. But we also investigate risks linked to physical agents, such as electromagnetic fields, noise, or hyperbaric conditions. In addition, we have conducted risk assessments linked to specific modes of organisation, such as night working, and we favour an approach per trade or sector of activity to take better account of the diversity of exposures, even though these assessments present a challenge in both scientific and

methodological terms. In 2019, for example, we appraised the health risks incurred by firefighters, and provided our first mission report on workers in the waste recycling and management sector. The agency's recommendations are systematically made public.

IN RECENT YEARS, WHAT ARE THE MAIN ISSUES THAT YOU HAVE SEEN EMERGE?

The agency's activities place much focus on expert appraisals and work on supporting research into risks that are the subjects of major scientific and societal controversies. In recent years, we have therefore been particularly mobilised on the health risks associated with endocrine disruptors, nanomaterials, and pesticides. We have also seen issues arising around new forms of work activity, linked in particular to the new information and communication technologies (work on platforms, generalised recourse to working from home, etc.). Sometimes, we are also faced with phenomena of the re-emergence of pathologies that we considered to be of another age. Thanks to the clinical emergence activity of the RNV3P, we were able to raise an alert in 2015 about the serious silicosis risk concerning workers in cutting and machining workshops involving reconstituted stones containing high levels of crystalline silica. Lastly, the approach per substance or limited to a single type of nuisance no longer suffices to fully explain workplace risks. There is an increasing need to investigate "polyexposure", in other words to develop new understanding and robust methodologies to take account of the combined effects of mixing chemical substances or different types of nuisance (chemical, physical, biological or organisational), to be able to provide a finer-scale assessment of their consequences for health.

HAVE SOME OF THESE ISSUES TRIGGERED RECOURSE TO ACCREDITATION?

We do not directly have recourse to accreditation. Nevertheless, in the framework of our appraisals, particularly on chemical products and especially when this involves documenting exposure to regulated substances, we may use measurement data recorded by accredited bodies responsible for the technical inspection of occupational exposure limits in the 'accredited bodies information collection system' (SCOLA database) managed by INRS. Clearly, our degree of confidence in the data generated as part of a study is all the greater when this data has been produced by accredited bodies. Furthermore, in December 2015, as part of our work on the effects on health and the identification of cleavage fragments of amphiboles deriving from quarry materials, it was observed that the analysis methods routinely used did not make it possible to formally differentiate the cleavage fragments of asbestiform fibres, in particular in materials naturally containing asbestos. We then recommended

that Cofrac draft a specific requirements document for the accreditation of bodies conducting analysis of Elongate Mineral Particles (EMP) of calcic and sodic-calcic amphiboles in natural materials. Generally speaking, the advice provided by the agency to the public authorities often contains recommendations relating to the monitoring of exposure and, where applicable, to changes to the measurement practises.

WHAT ARE YOUR TOPICS OF CONCERN FOR THE COMING MONTHS?

The agency will, of course, continue to be mobilised in support of the public authorities, in particular on the question of OELs, occupational illness appraisals, and classification and labelling. We have also launched several workplace health appraisals whereby the question of risk assessment in situations of polyexposure is central. This means we have work underway aimed at assessing the risks for workers in the cleaning sector, or concerning the risks for workers in the packaging and household waste recycling sector. We are also going to build on the agency's expertise regarding the questions and challenges linked to air pollution, in particular by way of our past projects but also our current work, such as the appraisal of risks linked to air pollution in aircraft cabins or concerning workers exposed to air pollution in proximity to road traffic. We would like to make the various stakeholders in the world of work more aware of the interface between environmental health and occupational health, most notably by drawing on the fourth occupational health plan in which ANSES will be involved. Lastly, we have been consulted by several union organisations to anticipate and assess the risks linked to the new forms of work organisation, and are currently carrying out work on the health effects of atypical working hours (excluding night shifts, for which we already published an appraisal in 2016), and on the risks for meal delivery riders via digital platforms and the very topical question of risks linked to the strong rise in teleworking. ❖



INRS accreditation at the heart of the occupational health & safety risk prevention system

Three questions for Benoit Courier, Head of Department – Pollutants Metrology at INRS and Chair of the Chemicals-Environment Accreditation Commission, Laboratories division, Cofrac. | By Julie Petrone-Bonal

COULD YOU TELL US ABOUT INRS AND ITS ROLE?

INRS (French national research and safety institute for the prevention of occupational accidents and illnesses) is a non-profit organisation under French law created in 1947, and is a generalist body for occupational health and safety which works alongside the other institutional actors in the prevention of occupational risks. Its budget is provisioned by the compulsory occupational accident and illness contributions paid by firms, under the auspices of the French Social Security organisation.

INRS is managed by a joint Board of Directors representing employers and employee trade unions.

Its articles of association, its ethical commitments, as well as the scientific and technical independence to which its experts and researchers are bound, guarantee the impartiality and credibility of INRS.

INRS employs 580 people with a wide range of skills: engineers, doctors, researchers, instructors, lawyers, and information specialists. Based in two locations (Paris and Lorraine), it proposes tools and bespoke services to:

- company bosses and workers,
- company risk prevention officers (health & safety committee members, safety officers, etc.),
- occupational physicians (and occupational health services),
- other risk prevention actors (occupational risk health insurance network, labour inspectorate, technical centres, occupational risks prevention bodies (IPRPs), etc.).

INRS is at the heart of the occupational health & safety risk prevention system which includes the occupational risk health insurance network (occupational risks department of CNAM [national health insurance fund] and its regional network of health, safety and retirement insurance funds [Carsat, Cramif, CGSS, Eurogip], the State services (DGT, COCT [Working Conditions Advisory Committee], Labour Inspectorate),

specialised bodies such as OPPBTP, Anact, ANSES, SFP, IRSN, etc.

INRS has research laboratories in a wide range of fields, covering the majority of occupational risks, be they toxic, chemical, biological, physical (RSI), or psychological (occupational stress). The Institute does not provide any commercial services or appraisals, and acts on behalf of the risk prevention network.

INRS IS ACCREDITED FOR INTER-LABORATORY COMPARISONS (ILC) ONLY. WHY IS THIS?

In its risk prevention and support missions for the DGT, INRS has been accredited since 2004 for the organisation of inter-comparison tests aimed at bodies in charge of inspecting occupational exposure to risks, first with regard to the approval of bodies authorised to proceed with worker exposure inspections, then in the framework of changes to the regulations for technical inspections of occupational exposure limits in workplaces and the conditions of accreditation for bodies responsible for these inspections. INRS organised as many as seven inter-comparison tests, six of which were accredited. In 2013, INRS decided to curtail the organisation of six tests. Currently, the ALASCA (Aptitude des Laboratoires pour l'Analyse de Substances Chimiques dans l'Air — Suitability of laboratories for analysing chemical substances in the air) test concerns exclusively the counting of asbestos fibres by analytical transmission electron microscopy (ATEM).

WHAT DO YOU GET FROM ACCREDITATION?

The accreditation of the ALASCA MET test is a voluntary process guaranteeing 1) recognition of technical and organisational know-how, 2) conformity with the reference standard of the organised test, and 3) the impartiality and neutrality of the ALASCA test. The objective being to offer a test that meets user expectations while enabling INRS to fulfil its mission as a risk prevention body. ❖



Optical radiation: accreditation contributing to greater measurement reliability

Workers may be exposed to optical radiation that can have serious consequences on their health. Artificial optical radiation and the lighting of workplaces must therefore be monitored closely, since a poor assessment of the risks can lead to dramatic accidents. Focus on two little-known mechanisms open to accreditation. | By Sébastien Laborde

ARTIFICIAL OPTICAL RADIATION: A REAL EVERYDAY RISK

Many artificial sources can be found in workplaces, such as:

- Lighting sources: the general lighting of premises, stage spotlights, surgery lights used in operating theatres or dental surgeries.
- UV lamps used in industry and the medical sector for many applications (bacterial disinfection, defect detection, etc.).

In addition, certain industrial processes such as arc welding or molten glass casting also generate undesirable ultraviolet, visible, or infrared radiation.

These types of radiation can present risks for the health of persons exposed to them, the degree of which depends on the wavelength, the intensity of the radiation, and the exposure duration. The effects of this radiation on the human body may be acute or chronic: for the skin, this can range from rashes to cancer, and for the eyes, from a lesion of the cornea to lens opacification.

To protect workers, the regulations therefore oblige employers to assess the exposure of their employees to artificial optical radiation and to comply with the set occupational exposure limits.

This risk assessment may involve taking measurements, but this is not mandatory. However, the regulations do require that any measures made are done so in the framework of accreditation if prompted by a request from the labour inspectorate. The objective is to provide measurements that are reliable and trustworthy in the event of any doubts about

the protective measures taken by employers with regard to their personnel.

WORKPLACE LIGHTING: A FAR FROM NEGLIGIBLE ISSUE

Even if this may seem somewhat peripheral, how a workstation is lit is nonetheless essential for preventing workplace accidents and avoiding falls or awkward postures. Good lighting also contributes to worker performance by avoiding eye strain.

As well as setting out quality requirements for lighting installations, the regulations also oblige employers to put in place rules for checking and maintaining these installations.

Last year, these regulations were updated to specify the measurement methods for checking the conformity of workplace lighting and the accreditation conditions for bodies authorised to take photometric readings.

At the request of the DGT, Cofrac has therefore launched accreditation for checking the conformity of workplace lighting, carried out in the framework of photometric readings prescribed by the labour inspectorate. Here again, this is with a view to ensuring the highest possible reliability of the measures made. ❖





Electrical installations in the workplace: accreditation as support

Worker protection also involves periodic checks of the electrical installations of workplaces. Even if this is a fairly recent development, it remains no less essential in a context of rapid technological change. Alexis Souche, inspector and technical assessor for Cofrac in this field, answers our questions. | By Sébastien Laborde

WHAT ARE THE APPLICABLE REGULATIONS FOR ELECTRICAL INSTALLATIONS IN THE WORKPLACE?

The regulations revolve around three texts:

- The regulatory obligations concerning electrical installations as defined in Decree No. 2010-1016 of 30 August 2010
- The Order of 26 December 2011 specifying the rules for checking these installations with respect to the Labour Code
- The Order of 19 April 2012 defining the standards for electrical installations that buildings designed to receive workers must meet.

The regulations require establishments and companies employing personnel and/or receiving the public to have mandatory regulatory checks of their electrical installations carried out by an accredited organisation, whether these installations be permanent or temporary, in order to guarantee the protection of workers and other external parties, and to safeguard the company's assets.

Permanent electrical installations must be checked every year, as from the date of the initial check authorising the opening of the establishment.

Temporary electrical installations must be checked upon commissioning, with a view to ensuring that they comply with the safety requirements imposed by the Labour Code and the safety regulations for buildings open to the public. These include installations for building sites, public works,

and the construction or repair of ships and boats. This also concerns exhibition stands, market stalls, funfair attractions, events activities, and live and recorded entertainment activities.

The installations need to be rechecked every four years and throughout the lifetime of the establishment. A ratio is applied for other intermediate checks with, for example, inspection of a third of the light fittings and half of the power sockets in offices.

In recent years, the regulatory and normative developments with regard to electricity have mainly been aimed at integrating the technological changes linked to ecological transition, the accessibility of electrical installations to persons with a disability, and harmonisation with European standards.

WHAT MAKES THE INSPECTION OF ELECTRICAL INSTALLATIONS SO ESSENTIAL?

Faults with and insufficient monitoring of electrical installations can be a source of accidents – in particular electrocution – or the cause of fires linked to overheating, voltage surges, or electrical discharges. These kinds of incidents are regularly reported in the press.

A certain degree of monitoring of these installations is therefore necessary in order to prevent such situations occurring. This is all the more important with so many

technological developments currently being implemented in the framework of ecological transition, such as electric vehicle supply equipment (EVSE), photovoltaic installations equipped with decoupling systems, wind turbines, and so on. These new types of equipment require compliance with implementation rules. It is important to check that these rules are complied with.

Take for example the charging stations for electric vehicles: they are increasingly powerful and therefore inevitably more dangerous for users. The presence of safeguards is thus essential and the inspection of these installations is precisely one such safeguard!

Since the obligation came in for checking installations, a reduction in electricity-related accidents has been observed. The population is now more aware of the dangers of a defective installation and of the importance of having it regularly inspected. Besides the inspections conducted at the request of the labour inspectorate, insurers have become aware that it is entirely in their interest to ensure application of the regulations, since it is they who insure the companies and who compensate them in the event of an incident or a claim. For this reason, insurers are increasingly insisting on a Q18 certificate.

A Q18 certificate is the summary inspection report of an electrical installation, which traces only the nonconformities generating a risk of fire, explosion, or electrocution. Other nonconformities, which are not likely to give rise to such risks, are not included. For example, the unsuitability of mechanisms providing protection against voltage surges may generate a fire risk: it will therefore be mentioned in the Q18 certificate, whereas a defective appliance or an incorrectly identified circuit will not.

WHAT ARE, AND WHAT HAVE BEEN, THE BENEFITS OF ACCREDITATION IN YOUR OPINION?

Let us remember that accreditation constitutes official acknowledgement that an accredited body is competent for carrying out its inspection activities.

The main advantage of accreditation, in my opinion, is to provide customers and contracting clients with reassurance about the level of confidence they can have in the services carried out by the conformity assessment bodies. It also contributes to the harmonisation of practices within the profession.

Accreditation offers certain assurances, namely, that employees involved in inspection activities are properly trained and their skills are kept up-to-date, in order to provide

quality services; that measurement equipment is monitored; and that there is respect for fundamental ethical values (impartiality, independence and confidentiality) and for the inspection processes and the content of reports.

The accreditation process is also a unification driver within organisations, in that it gets employees more involved in developing their skills. This is something I have noticed more and more in the course of the assessments that I have carried out as a technical assessor for Cofrac.

HOW DO YOU SEE YOUR JOB AS AN INSPECTOR DEVELOPING IN THIS FIELD?

The regulations in the field of electricity will probably undergo many developments in the coming years, particularly to account for the innovations linked to ecological transition, which will continue apace.

Inspectors must ceaselessly ramp up their skills to stay abreast of these transformations and accompany as best they can their customers by providing them with genuine added value. In such a context, training will become more essential than ever. It is a real issue for bodies that carry out checks on electrical installations, since they must give their inspectors time to familiarise themselves with the regulatory and normative changes.

In my opinion, the future of inspection will also involve infrared thermography. Currently, there are still very few accredited bodies for carrying out this type of inspection, which is not mandatory.

Infrared thermography is a very efficient inspection that uses a thermal camera to visualise overheating before it goes out of control and starts a fire. I myself have certification from the CNPP which allows me to carry out this type of inspection. You cannot imagine the number of cases of overheating that I have observed, which could have started fires if measures had not been quickly taken to resolve it! With this kind of inspection, for any type of defect observed, you need to be able to recommend one or more solutions for correcting it. Moreover, more and more insurance companies are imposing this type of inspection, as an additional means of checking electrical installations. ❖



Checking lifting machines and devices

Lifting machines and devices (see box insert) present major accident risks. In order to minimise these risks, labour regulations stipulate periodic inspection during operation and before any recommissioning following on from modification or disassembly/reassembly. | By Sébastien Laborde

This kind of work equipment can only be used if it complies with the applicable technical rules. It is the employer's responsibility to ensure that the necessary checks have been carried out to identify and remedy, in good time, any deterioration liable to cause danger.

Whether or not the regulations stipulate the frequency of the general checks, it is up to the company to determine how often these inspections are to take place. The frequency is therefore defined on the basis of the actual operating or environmental conditions, the feedback, and the risk analysis carried out. Hence, checking equipment at more regular intervals than laid down in the regulations may prove necessary to ensure appropriate safety for workers.

Periodic equipment checks and verifications before the commissioning or re-commissioning of equipment are carried out by qualified persons who are competent in the field of risk protection with regard to the work equipment in question, and who are familiar with the relevant regulatory provisions.

While it may be possible to have these checks carried out by company employees with the requisite skills, it may be necessary for the employer to call upon a third party, of whose independence and competence the employer needs assurances in advance.

The choice of a Cofrac-accredited inspection body assures the labour inspectorate that the aforementioned criteria are met and justifies confidence in the results of the checks. It is also a way for the employer to avoid liability in case of an accident.

WHAT IS A LIFTING MACHINE OR DEVICE?

Machines and their equipment, driven by an operator or operators who control the equipment's movements using operating devices under their control, of which at least one function is to move a load with a significant change in level of that load during its displacement.

SOME STATISTICS

- 25 accredited bodies for periodic general checks
- 21 accredited inspection bodies for checks before commissioning or re-commissioning

EXAMPLES OF LIFTING DEVICES AND MACHINES

Winches, hoists, overhead cranes, tower or mobile cranes, lifting gear, tractors, forklifts, gantries, lift tables, tailgate lifts, etc.

When a request for inspection comes from the labour inspectorate, the employer is obliged to call upon an accredited inspection body. Accreditation thus contributes to improving safety and accident risk prevention on worksites. ❖



Health and Safety Coordination to ensure the safety of worksites

Health & Safety Coordination is a function provided for in the French Labour Code for preventing risks in the field of construction and civil engineering. It has been mandatory since 1995 and has for several years been based on certification under accreditation. | By Julie Petrone-Bonal

Within the general regime of the French Social Security system, the building and public works sector represents the highest level of accident risk. Despite an almost constant reduction since 2019 in the number of workplace accidents in this sector – 120,652 in 2009 compared to 88,360 in 2019* – safety management remains a major issue for all those involved in building sites and public works.

HOW DO WE REDUCE THE RISKS?

The French Labour Code requires health and safety coordination for workers to be in place for any building or civil engineering site where several self-employed workers or companies, including subcontractors, are involved. The objective is to prevent the risks resulting from their simultaneous or successive activities and to provide for, when needed, the use of common resources such as infrastructures, logistical means, or collective protection.

To this end, the project owner designates a Health & Safety Coordinator, who is involved from design phase through to project sign-off. In particular, this coordinator is responsible for ensuring the consistency of the procedures of the different parties working on the site. This H&S coordinator must also anticipate the safety measures that will be needed following delivery of the structure, once in operation.

A REGULATORY FRAMEWORK

While the duration of worksites is often underestimated, and the work done by the different trades is optimised as far as is possible, the simultaneous performance of tasks increases the risks facing workers. To take account of this reality on the ground, the DGT decided to professionalise and promote the H&S Coordinator role. On 1 January 2013, certification under accreditation was introduced to structure the training of these

HEALTH & SAFETY COORDINATION STATISTICS

- 3 Cofrac-accredited certification bodies as per standard NF EN ISO/IEC 17065
- 19 certified training bodies
- 4,500 H&S Coordinators currently active in France, 11% of whom are women

coordinators, thereby replacing the approval mechanism for training bodies previously in force.

This means that anyone wishing to act as an H&S Coordinator needs not only to demonstrate certain professional experience or a diploma, but also certification in H&S competence acquired in training laid on by a training organisation itself certified by an accredited body. The coordinator needs to refresh this specific training every five years.

Since various criteria (pedagogical content of the training, course duration, means for validating competences, etc.) are monitored, the implementation of this accredited certification for training bodies has helped improve the quality of the training provided and, consequently, helped improve the management of the risks linked to simultaneous activity on worksites. ❖

* Source: www.risquesprofessionnels.ameli.fr



Helping to safeguard the health and safety of workers using PPE

Personal protective equipment (PPE) is defined in the French Labour Code as *“items or means designed to be worn or carried by persons to protect them against one or more risks likely to threaten their health or safety”*. How can you be sure that this equipment is reliable? The answer comes with a presentation of the regulatory framework governing the production of PPE. | By Julie Petrone-Bonal

WHAT IS PPE?

Hard hats and protective goggles, ear plugs, safety gloves and footwear, protective respiratory apparatus... these are some of the types of personal protective equipment designed to protect workers against the diverse risks to which they may be exposed (biological, chemical, mechanical, electrical, thermal risks, ionising radiation, noise, etc.).

There are three categories of PPE:

- Category I PPE, such as gardening gloves, cover minor risks.
- Category II PPE is for intermediate risks, and includes certain safety footwear, for example.
- Category III PPE concerns serious or lethal risks, and includes such equipment as fall-arrest harnesses.

The use of PPE is meant to complement collective measures which are implemented as a priority to eliminate or reduce risks. If the risks analysis conducted by the employer shows that the collective measures are insufficient or impossible to deploy, the employer is then obliged to provide its employees with the appropriate PPE and to maintain this PPE in accordance with the applicable technical rules.

HOW CAN YOU BE SURE THAT THIS PPE IS RELIABLE?

PPE is subject to a European regulation that makes the labelling of these products with the CE mark mandatory.

With this mark, the manufacturers certify that their products meet the essential health and safety requirements of PPE regulation 2016/425/EU. The technical requirements applicable to the PPE are described, when they exist, in harmonised European standards that specify the test methods to be conducted and the performance requirements to be attained by the PPE.

The PPE regulation provides for different assessment systems depending on PPE category, and therefore the level of risk to which the user is exposed. While category I relates to self-certification – whereby a declaration from the manufacturer that the equipment complies with the technical rules is sufficient – categories II and III require certification by a third-party body called a notified body (NB). As required by the PPE regulation in place since 2018, this NB must be an accredited certification body as per standard ISO/IEC 17065, with accreditation being a prerequisite for notification by the French authorities* in application of the European Union regulations. In addition, the notified bodies applying the conformity assessment procedures of the PPE regulation rely on tests carried out by laboratories whose competence and independence can be demonstrated, in particular by accreditation as per standard ISO/IEC 17025.

Covering the highest risk level, category III PPE is subject to a reinforced assessment system based on periodic monitoring of production, which involves controls through sampling or auditing of the manufacturer's quality assurance system by

* In this context, the DGT (Direction Générale du Travail —General labour directorate) and the DGE (Direction Générale des Entreprises (General Enterprise Directorate).

a notified body.

Accreditation makes the PPE conformity assessment system more robust, thereby guaranteeing the health and safety of workers who use this type of equipment.



QUESTIONS FOR ERIC CONTESTI, TECHNICAL ASSESSOR FOR COFRAC

Could you tell us who you are and what kind of work you do in the field of PPE?

I have been a technical assessor for Cofrac since 2005, for the Laboratories division, working in connection with the physical-chemical tests conducted on PPE and, since 2017, for the PPE regulation certification division, conducting assessments according to modules B, C2 and D, which are the conformity assessment modules for PPE stipulated in the PPE regulation.

I also work regularly on behalf of a notified body (NB), accredited by Cofrac, to audit organisations within the framework of monitoring category III PPE as per module D. I therefore have the opportunity to see the different aspects of the PPE sphere, from the perspective of users in companies, where PPE is a very important issue; from the perspective of the manufacturers; from that of the laboratories testing the PPE; and from that of the NBs.

What do these different assessment modules signify?

Category II and category III PPE is subject to what is known as an "EU-type examination" certification procedure, also called module B. The role of the NB consists in studying a technical file drawn up by the PPE manufacturer, to check that the product design complies with the essential health and safety requirements stated in the PPE regulation. To demonstrate conformity with these requirements, the manufacturer can call upon the existing harmonised European standards (EN). The NB, in the framework of its module B assessment can, for its part, draw upon results of tests conducted by a laboratory, accredited as per ISO/IEC 17025, to check that the requirements of the applicable EN standards are met.

Category III PPE must, in addition to an examination as per module B, be subjected to annual monitoring by a notified body. Two monitoring modes are possible: according to module C2, which means taking samples at the PPE's place of production or place of storage, in the course of which a test laboratory may be called in; or according to module D, which involves monitoring by annual audit. In the latter case, the notified body will scrutinise the products and tests carried out by the manufacturer in its own factory laboratory.

Module C2 or module D module necessarily implies a Module B assessment beforehand. These modules make it possible to

check that the manufacturer is producing series of PPE that remain compliant, over time, with models that have been subject to EU-type certification.

All PPE carries a CE mark. What guarantees does this offer?

The CE mark is meant to guarantee that a product meets essential health and safety requirements. There are many such requirements, and these include the assurance of having the protection levels suited to the risks incurred, compatibility between PPE, ease of use, and harmlessness of the product, for example.

90% of these requirements are taken from the harmonised European standards. In the event of there being no existing standard, as is the case for beekeepers' clothing for example, worker protection needs to be assured in a different way. In this case it is the expertise of the notified body that will enable the drafting of the technical specifications on the basis of which conformity with the essential health and safety requirements can be guaranteed.

What changes have you been able to observe since accreditation under the ISO/IEC 17065 standard has become mandatory for notified bodies?

Back when the European directives applied, prior to the PPE regulation, the notified body was conflated with the laboratory that was accredited according to the ISO/IEC 17025 standard. The certification activity was a sort of annex of the laboratory, where the documents were studied and performance of the tests was checked.

With accreditation under the ISO/IEC 17065 standard, we have witnessed the professionalisation of the certification component, with accreditation providing the guarantee that the notified body works in a professional manner and meets the requirements both of the standard and of the PPE regulation. As it happens, the notified bodies have been obliged to put in place distinct functions and structures to separate laboratory tests from product certification, and thereby respect the notion of independence imposed by the standard.

The NBs are still adapting as the system is still fairly recent. EU-type certifications according to the PPE regulation are valid for a maximum 5 years. Since the regulation was put in place in 2018, this means that the systematic requests for "recertification" will not be submitted before 2023. ❖



The CACES® mechanism: when accreditation helps reduce the workplace accident risk

When discussing occupational health and safety, it is hard not to include the topic of site machinery used daily, a non-negligible source of accidents. Christophe Desplat, consultant engineer at CNAM, and Thierry Hanotel, expert in consulting and support at INRS, tell us about CACES®, a mechanism that has proved its worth for over 20 years, and which remains a uniquely French concept. | By Sébastien Laborde

WHAT IS CACES®?

Christophe Desplat: *Over the last 30 years, the Assurance Maladie – Risques professionnels organisation (French National Health Insurance), which is the mandatory insurance body for companies for occupational accident risks and occupational illnesses, has observed via its statistics and the studies that it conducts that there are major risks of accidents linked to the use of workplace equipment. It has therefore long recommended that checks be made of the competences of employees responsible for using this equipment, which culminated in the creation of CACES®, the safe driving fitness certificate. CACES® delivers personal certification attesting to success in theoretical and practical tests.*

Thierry Hanotel: *It should indeed be stressed that CACES® does not directly concern the training of drivers and operators of workplace equipment. It is an examination composed of a theoretical and practical assessment once training is complete. It concerns the most common situations, which can be summarised by “80% of machinery, used by 80% of drivers, in 80% of companies that have a traditional activity in a normal environment”. There are a total of 33 different CACES® certificates for as many categories of machinery.*

WHAT GAVE RISE TO THIS MECHANISM?

TH: *CACES® was born from the need for accident prevention and from experience in the field. The social partners (management and worker representatives) were the first to*

take an interest in how to reduce the risks linked to driving and operating machines and cranes in the construction industry. This was long before the legislator took up the subject.

CD: *In 1998, changes were made to the French Labour Code: the driving and handling of self-propelled mobile work equipment and of lifting equipment is now restricted to workers who have received adequate training, which must be upgraded and updated whenever necessary. It also stipulates that the driving and handling of certain equipment presenting particular risks is subject to driving authorisation being issued by the employer.*

This driving authorisation is issued on the basis of the following three elements:

1. A fitness examination carried out by the occupational physician
2. A test of the operator's knowledge and know-how concerning the safe driving and handling of the work equipment
3. Knowledge of the premises and the instructions that apply at the sites of use.

The National Health Insurance has defined benchmark skills standards for the theoretical and practical assessment required to obtain driving authorisation. These standards, or CACES® recommendations, have been adopted by the social partners. They provide business leaders with a tool in the framework of operator assessment.

Six families of work equipment are concerned by this

SOME KEY STATISTICS

- 906,000 CACES® certificates were issued in 2021
- 5 years: the CACES® certificate validity period (10 years for worksite machinery)
- 5 bodies are accredited for the certification of CACES® tester bodies

obligation: remote-controlled or ride-on site machinery, tower cranes, mobile cranes, mobile elevating work platforms, ride-on self-propelled handling trucks, and auxiliary vehicle loading cranes.

CAN YOU EXPLAIN TO US HOW THE CACES® MECHANISM WORKS, AND THE VARIOUS STAKEHOLDERS INVOLVED?

TH: *The responsibility for assessing operators rests with the head of the company, who can rely on the results obtained by the employee in the CACES® test for the appropriate category. Only a testing body (CTB) certified for conducting the tests for the family and category of equipment concerned can issue a CACES® for this particular category. The list of CTBs is kept updated on the INRS website, and can be sorted per department, family, and category.*

CD: *The testing bodies are certified by accredited certification bodies. Organisations that wish to be recognised as certification bodies need first to sign an agreement with CNAM, the owner of the CACES® brand and proprietor of the certification standard, in which they undertake to request accreditation from Cofrac and to implement the provisions featuring in the certification standard. The first accreditations for this mechanism were issued in 2001.*

WHY DID YOU SEEK ACCREDITATION?

CD: *Obtaining certification under accreditation is a choice dictated partly by the need to control quality and ensure equality of treatment nationwide, and partly by a question of resources.*

TH: *INRS and CNAM are bodies with a public service remit. They have the engineering to improve risk prevention and working conditions in the world of work. Our role is to look into issues that no one considers spontaneously and to put forward solutions. When these solutions are viable, it is not our job to keep them going because our resources are limited. It then makes sense to call upon other parties to run these mechanisms, which also frees up time for us to explore other fields and propose new prevention engineering. In the case of CACES®, this was actually a necessity, with more than 500 testing bodies involved in this mechanism! The decision was therefore taken to call on entities whose business it is to assess conformity, and which has culminated in the current pyramid principle.*

THE CACES® MECHANISM WAS MODIFIED IN 2017. WHAT WERE THE MAIN CHANGES?

TH: *Since the publication of the CACES® recommendations 20 years earlier, new machines have appeared and new needs have arisen in companies and among users, leading us to review the categories and the methods of practical assessment.*

Professional federations and associations have also become aware of the benefits provided by this mechanism for assessing driver training, with fewer accidents and breakages despite the massive growth in the amount of work machinery used in companies. The wish of these associations and federations to continue improving driver training has gone hand in hand with a ramping up of the requirements relating to assessment.

Lastly, there has been a desire on the part of CNAM and the social partners to add two new families – overhead cranes and lifting gantries – for which there have been either serious or fatal accidents, or accidents that are generally less serious but far more numerous and costly in terms of time off sick. The CACES® mechanism was therefore extended to include these types of equipment in 2020, although the Labour Code does not require the issuing of authorisation to their operators.

CD: *It should also be pointed out that we have not changed the mechanism with regard to certification under accreditation, which has proved its worth.*

PRECISELY HOW HAS ACCREDITATION BROUGHT ADDED VALUE IN YOUR OPINION?

TH: *The added value from accreditation and more broadly from the mechanism as a whole is the quality and consistency of treatment nationwide. The social partners wanted to see a uniform mechanism established for the entire country, which could inspire a real level of confidence. It was not possible to obtain this result other than by putting in place this kind of national mechanism based on accreditation and pre-existing quality standards.*

CD: *As for Cofrac, it provided very good advice when the mechanism was being developed. It provided sound support for CNAM and it continues to do so on other topics. ❖*

TO FIND OUT MORE

See the brochure INRS ED 6348 – Q&A on training, driving authorisation and CACES®.



Ionising radiation: checking equipment and workplaces covered by accreditation

Since December 2020, a new family of inspections under accreditation relates to the initial checks of certain equipment and workplaces for the prevention of risks linked to ionising radiation. These checks have replaced the inspections carried out until then under the Labour Code by bodies approved by the ASN*. | By Julie Petrone-Bonal

IN WHAT CONTEXT WAS THIS MECHANISM CREATED?

The implementation of this regulatory mechanism, "Regulatory inspections of sealed sources, work equipment emitting ionising radiation, and workplaces exposing workers to ionising radiation", follows on from work carried out by Cofrac and the DGT in the framework of transposition into French legislation of the 2013/59/Euratom directive. This European directive sets the basic standards for health protection against the dangers resulting from exposure to ionising radiation.

Its transposition is part of a global reform of the organisation of radiation protection which concerns both revision of the role of experts in radiation protection within companies (see page 24) and the reorganisation of the methods for conducting technical inspections of equipment emitting ionising radiation, which are now called "initial checks". The requirements of this mechanism, better graduated with respect to the risks incurred by workers, now also make it possible to align the approach applicable to the "ionising radiation" risk with the approach taken for the other risks, by introducing an accreditation requirement for these checks.

WHAT IS THE PURPOSE OF THIS MECHANISM?

Its main objective is to guarantee the health and safety of workers faced with the risks linked to exposure to ionising radiation as emitted by work materials and equipment. The checks concern the efficiency of the means of prevention relating to the sources and devices emitting ionising radiation and the layout of work premises. They also help ensure that work equipment and radioactive sources are installed and

used in accordance with the stipulated specifications, in complete safety, and that the work premises offer efficient protection mechanisms.

WHAT ARE THE ACTIVITIES CONCERNED?

All sectors of activity may be concerned, in particular if this involves the use of electrical equipment emitting ionising radiation, as is the case in the medical field, in radiotherapy and nuclear medicine; in the industrial sector, with the sterilisation process by irradiation, for example; or in airports, with metal detectors.

The checks carried out by accredited inspection bodies are conducted when the equipment is being commissioned or following any major modification to the equipment or installation. For some of this equipment, the initial check can be repeated once the equipment has already been in operation for some time.

In the course of these checks, the accredited body will inspect the radioactive sources, the work equipment, and the workplaces likely to expose workers to ionising radiation. In particular, it will conduct a visual inspection, examinations, and measurements to confirm the integrity of the equipment, the efficiency of the protection and alarm mechanisms, and of the demarcated zones, all in accordance with the risk assessment. ❖

* Autorité de Sûreté Nucléaire (French Nuclear Safety Authority)



Monitoring the work environment using area dosimetry

Radiation protection regulations aim to prevent the dangers linked to exposure to ionising radiation. Whether this involves prohibiting the possibility of worker exposure to a fatal dose or reducing worker exposure to limit the risks of developing a long-term illness, the Labour Code proposes several means of action. Among these, area dosimetry consists in measuring the radiation “dose” in a room, as explained here. | By Julie Petrone-Bonal

Dosimetry is used to determine the dose received by the human body following exposure to ionising radiation. Naturally present all around us, as in granite for example, this ionising radiation can also be of artificial origin and can be used for its various properties in many professional environments, such as nuclear medicine or industry.

Worker exposure to this radiation, above a certain dose, can constitute a hazard over the long or medium term. To monitor this dose, employers must put in place a dosimetric tracking mechanism, known as external individual dosimetry, which consists in measuring the radiation received by the human body emanating from an external source; internal dosimetry, which measures the radiation emitted by all or part of the human body following contamination; and/or area dosimetry.

HOW DOES AREA DOSIMETRY WORK?

An area dosimeter is a device placed in a given room for monitoring the development of the radiation field, expressed as “ambient dose equivalent”, symbolised as $H^*(10)$. This is what is called an active dosimeter since it is continuously measuring and is permanently connected to a control panel, for direct monitoring.

It may have better resolution than a personal dosimeter but, unlike the latter, it will not be capable of stating what dose any particular worker has received. However, the area dosimeter can raise the alarm if the exposure limits have been exceeded in the room concerned. Its measurements can be used to define the working conditions to be put in place: protections, zone demarcations, etc.

The best-known exposure limits concern a person’s exposure for the whole body or for the extremities, with specific limits. In reality, zoning limits are also applied when zones within a building are defined according to their hazard level. A colour code, from green to red, then warns of the exposure limit

values and the maximum length of stay, which gets shorter the greater the hazard.

Also called zone dosimetry, area dosimetry can be used to check the follow-up of this zoning and the conditions for passing from one zone to another. The zones where the radiation does not exceed the natural radiation are called non-controlled zones, as there is no dosimeter there.

CALIBRATION UNDER ACCREDITATION

Installation of the area dosimeter is the employer’s responsibility. The device used must have been inspected to ensure it provides accurate measurements. To this end, to have the quality of their results recognised, laboratories can request accreditation according to the ISO/IEC 17025 standard, in a voluntary framework, for the calibration of this type of equipment. Eight laboratories have been accredited to date for this activity.

The area dosimeter is calibrated “free in the air”, i.e. with no diffusing material around it, so as to measure the radiation coming directly from the source. The procedure for this calibration consists in placing the dosimeter at a given point within known radiation, irradiating it according to known dose equivalents, recording its readings, then checking if these readings are correct with respect to what should have been measured. The customer is then issued a certificate with a calibration coefficient: if it is close to 1, this means that the device is measuring correctly. If not, if the observed deviation is greater than the device’s claimed precision level, the device may need to be corrected. ❖



Accreditation for the individual monitoring of workers exposed to ionising radiation

Certain professions, such as medicine or the nuclear industry, are particularly exposed to what is termed “ionising radiation”. Protection for these workers is provided in part through the individual monitoring of their exposure, in which accredited laboratories take part. | By Julie Petrone-Bonal

Born of the collaboration between Cofrac and the DGT, several accreditation schemes have been launched for worker protection, in particular for the prevention of risks linked to ionising radiation. Several types of dosimetric monitoring exist in this field: area dosimetry (see page 19), external dosimetry, and internal dosimetry, which are all complementary. It is up to the employer to declare the employees concerned and carry out a workstation study to define which dosimetry is best suited to their protection and what kind of equipment they need.

HOW IS INDIVIDUAL MONITORING CONDUCTED?

The French Labour Code imposes strict individual dosimetric monitoring for certain workers. “Dosimetry” is the term given to the operation that determines the “dose” received by a worker. It is often carried out by the occupational health service laboratories – often attached to establishments such as nuclear power plants – dosimetry bodies and biomedical laboratories (BML).

External dosimetry

External dosimetry designates measurements made outside the human body. Depending on the part of the body exposed to the radiation, different dosimeter models may be made available to workers, who need to wear them during their

activity: a unit on the chest, or a smaller one near the eye for example, a bracelet on the wrist, or a ring for the hand. The objective is to be able to attach the dosimeter as closely as possible to the zone to be monitored. This equipment is individual, personal, and records constantly to measure the cumulative doses in the body. The dosimeters are regularly collected – to be replaced with new ones – then analysed to determine the received dose over the time they were worn. A cumulative total is established for the year elapsed. The measurements are expressed as “personal dose equivalent”, noted as Hp.

The results of these measurements are sent to the worker and to the occupational physician. Since this data is covered by medical confidentiality, the employer has no access to it. The data is also recorded in the SISERI (*Système d'information de la surveillance de l'exposition aux rayonnements ionisants* - Information system for monitoring exposure to ionising radiation) database managed by IRSN (*Institut de Radioprotection et de Sécurité Nucléaire* – Radiation protection and nuclear safety institute), enabling a long-term history to be built up of the doses received by workers.

For obvious safety reasons, in order not to irradiate a person each time, the calibrations carried out on the dosimeters use



Personal dosimeter worn on the chest.

a "phantom", in other words an artefact that simulates the absorption and diffusion properties of the human body and which most often takes the form of a plexiglass container filled with water.

Internal dosimetry

Internal dosimetry measures what comes from the body, based on an analysis of all or part of the body or a human sample. This is a dosimetry of contamination, via inhalation or a wound, in particular. There are two levels of analysis: anthroporadiometry, whereby sensors measure the body's radiation; and, if something is detected and internal contamination is suspected, a radiotoxicology examination is then carried out. The latter is done on biological samples to measure the level of radionuclides and determine the activity excreted by a person.

The results, in becquerel/l, are then passed on to the occupational physician, who analyses them and converts them into "dose equivalent" according to the radionuclide concerned and the specific characteristics of the worker.

WHAT ARE THE REQUIREMENTS FOR THE LABORATORIES?

Dosimetric monitoring of workers is framed by the regulations. From 2014 onwards, the legislation in force necessitated approval issued by the French nuclear safety authority (ASN) to the laboratories conducting the monitoring, and validation of the methods by IRSN. Laboratories had to be accredited according to standard ISO/IEC 17025, or ISO 15189 for BMLs, and the assessment reports were passed on to the ASN.

At the behest of the DGT in 2017, the two Cofrac divisions concerned, Laboratories and Healthcare, took part in the IRSN study to review the existing inspection methods. The objective of the DGT was to put an end to the approval system based on

accreditation only, in order to check compliance with certain regulatory requirements, in addition to the standards.

Hence, since 2021, the Cofrac assessment team has been responsible for assessing the regulatory requirements defined in the Order of 26 June 2019 and linked to application of standards ISO/IEC 17025 and ISO 15189, including assessment of the declaration, monitoring and transmission of results to the occupational physician, and the practicalities for transmitting worker monitoring data to the SISERI platform. Around 50 laboratories are today accredited for these activities.

Other requirements under the same Order, which do not pertain to Cofrac or to accreditation, apply to other stakeholders in the field: employers, occupational physicians, and IRSN.



QUESTIONS FOR JEAN-MARC BORDY, OF THE HENRI BECQUEREL NATIONAL LABORATORY*, AND MEMBER OF COFRAC'S PHYSICS-MECHANICS ACCREDITATION COMMISSION

Radiation protection of workers is based on exposure limits to ionising radiation. How are these limits defined?

The thresholds not to be exceeded are defined in the European directive which is mainly based on the "Basic safety standard" of the International Atomic Energy Agency (IAEA). This directive is then taken up in the legislation of each Member State, with specifications about its concrete application.

On a worldwide level, there are two very important commissions on which the IAEA draws for establishing its standard: the International Commission on Radiological Protection (ICRP), which analyses the effects of radiation – on the basis of epidemiological and radiobiological studies, among others – and uses these to define the exposure limits. What it actually uses, however, are dosimetric quantities that are not measurable as they are defined in a model called an anthropomorphic phantom. To ensure that the limits are verifiable, a second commission is involved: the International

* Université Paris-Saclay, CEA, List, Laboratoire National Henri Becquerel (LNE-LNHB), F-91120, Palaiseau, France.

Commission on Radiation Units and Measurements (ICRU). This commission is responsible for developing a system of measurable dosimetric quantities which estimates the quantities defined by the ICRP.

UNSCEAR (United Nations Scientific Committee on the Effects of Atomic Radiation) is another important organisation contributing to these definitions. This scientific committee of the United Nations studies the effects of ionising radiation. Its publications support the work of the ICRP.

Can you describe the chain of traceability applied in the dosimetric monitoring of workers?

Traceability is an essential component of quality assurance standards. If I had to summarise how radiation protection was currently assessed, I would say that we start off with the dosimetric quantities defined by the ICRU and which are taken up in the legislation. These quantities correspond to what we need to measure. We then have the devices whose properties need to comply with the specifications defined in the standards (ISO or IEC), and involving a certain number of tests. Once tested, the dosimeters distributed to workers need to be calibrated. Lastly, these devices must be used in accordance with the technical specifications of other ISO standards.

The French Labour Code provides all the necessary information, in language that anyone can understand. To ensure that the rules are complied with, the Code stipulates the means of inspection, such as recourse to accreditation.

The objective is to make sure that the devices are used under the intended conditions to correctly measure the dosimetric quantities of the ICRU and, consequently, to provide a correct estimation of the dosimetric quantities of the ICRP, in order to check the exposure limits of workers. This chain must be respected to guarantee that persons working in premises where they are likely to be exposed to ionising radiation are not exposed beyond the limits defined by law.

Internationally, the metrological system is organised in such a way that, based on a common traceability scheme, and even if the dosimeters are different, their results are traceable against national references mutually comparable worldwide. This helps ensure the harmonisation of the results of radiation

protection measurement in every country.



QUESTIONS FOR PHILIPPE CORRÈZE, HEAD OF THE RADIOTOXICOLOGY LABORATORY OF THE ORANO SITE AT LA HAGUE AND TECHNICAL ASSESSOR FOR COFRAC

Could you tell us who you are and explain what your laboratory does?

As a trained clinical biologist, I have been head of the radiotoxicology laboratory on the Orano site at La Hague for 13 years. We are responsible for the radiotoxicological monitoring of around 6000 employees, half of whom are employees of the company and the other half employees of subcontractor companies. We also monitor other Orano plants that are situated in the south of France.

The activities of the Orano group concern everything related to the "fuel cycle", first upstream, with the extraction of uranium, its enrichment, and the production of fuels for nuclear plants, then downstream, after the uranium pellets have been used in the plants, recycling this spent fuel and turning it into new fuel composed of uranium and plutonium. We manage to recycle 96% of the material, which is far from negligible.

In terms of employee monitoring, we mainly track the presence of uranium for those working in the upstream phase, while downstream we will look for heavy elements that are the most radiotoxic: these being mainly uranium, plutonium, americium, and curium. In irradiated fuel, you can find practically all the Mendeleev elements**!

In what context do the radiotoxicology laboratories work?

For internal dosimetry, we have two means of monitoring employees with respect to the contaminants that they may have incorporated, mainly by inhalation: in vivo measurements, with anthroporadiometry, and in vitro measurements, with radiotoxicology. The latter involves measurements that separate the radio-contaminants generally found in urine and stool samples, or in handkerchiefs.

These radiotoxicological analyses are defined as biomedical examinations because they have the same definition:

** Reference to the periodic table, or Mendeleev's table, which classifies all known chemical elements.

processing a signal from a human sample for diagnostic purposes.

As such, they are prescribed by the occupational physician, who is our client. We send the results of the analyses to the occupational physician and propose a consulting service on dose calculation.

Radiotoxicology is not on the classic training curriculum. Whether it be our fifteen or so lab technicians or our biologists, we have all been specially trained in these techniques by the INSTN (French national institute for nuclear science and technology), which is managed by the CEA (Atomic energy and alternative energies commission).

There are eight such radiotoxicology laboratories in France, which is not very many. It is an environment that we are very familiar with. We are far from being a classic BML, where there tends to be a lot of automation, since our radiotoxicology involves very little automation. It involves manual chemistry techniques – essentially chromatography. The work is more akin to that of a chemist than that of a medical laboratory technician!

What about the regulatory framework?

The accreditation of laboratories for radiotoxicology has long been mandatory, in line with the 2007 legislation concerning workers exposed to radiation. Initially, laboratories had to be accredited according to the ISO/IEC 17025 standard. When the biomedical reform came in, in 2013, the radiotoxicology laboratories had to seek accreditation according to the ISO 15189 standard, like all BMLs.



This change of standard has contributed a great deal to the pre-analytical phase, since it has helped to harmonise practices and improve the quality of the samples, which was not a requirement of the ISO/IEC 17025 standard before then. Regarding the purely quality aspect, the introduction of process organisation and risk analysis has also brought us new benefits.

I became a technical assessor for Cofrac in order to participate in the continuous improvement of the laboratories. I have been conducting assessments since 2012 in haematology, biochemistry, and for the radiotoxicology subfamily, but also according to the ISO/IEC 17025 standard in anthroporadiometry. I have learned an awful lot through doing this. Of course, it allows you to be more at ease when being assessed yourself, but conducting assessments has above all allowed me to share good practices, including in my own laboratory! ❖



*Storage tank for fuel for recycling.
Orano's La Hague site.*



Radiation protection advisor: a key resource within the company

Transposition into French law of the 2013/59/Euratom directive led to the publication in late 2019 of new regulations on radiation protection, thereby modifying the provisions of the French Labour Code. This overhaul seeks to reinforce the competences of those working in this field. Here we present the new function of “radiation protection advisor”, created in this framework. | By Julie Petrone-Bonal

In the world of work, an installation’s operator is held responsible for the use of equipment emitting ionising radiation. According to the risk level incurred, the operator is then obliged to call upon an accredited body for the initial check of equipment to be brought into service, such as medical imaging equipment, or industrial or nuclear equipment (see page 18).

For equipment already in use, this is placed under the responsibility of a “radiation protection advisor” who may be, depending on the option chosen by the employer:

- Either, an internal employee of the company, known as a “person competent in radiation protection (PCR, *Personne Compétente en Radioprotection*); this person, or PCR, must hold a certificate issued on completion of training dispensed by a training body, itself certified by an accredited body;
- Or, a “competent radiation protection body” (OCR, *Organisme Compétent en Radioprotection*), which must be certified according to a regulatory standard by an accredited certification body.

OCR certification was put in place following publication of the Order of 18 December 2019 on the methods for training PCRs and for certifying training bodies and OCRs.

To provide a framework for the competence of radiation protection advisors, accreditation of the bodies certifying OCRs and companies training PCRs is required. To attest to the ability of these advisors to exercise their missions, the regulations emphasise the quality of the training with which they are provided.

WHAT ARE THE MISSIONS OF A RADIATION PROTECTION ADVISOR?

The missions of these advisors are laid out in the Labour Code and the Public Health Code. In particular, their role consists in:

- Providing recommendations about the design of workplaces and safety mechanisms designed to prevent the specific risks of ionising radiation; about the verification programmes and how the individual exposure of workers is monitored; about the demarcation of risk zones and their conditions of access; and about preparing for and intervening in emergency radiological situations
- Providing their support in the assessment of risks; in defining and implementing provisions relating to the working conditions of workers; in drafting procedures for the decontamination of workplaces; and in troubleshooting and analysing significant events
- Conducting and supervising measurements and checks of the efficiency of the means of prevention.

Three bodies are currently accredited by Cofrac according to the standard EN ISO/IEC 17065 – Requirements for bodies certifying products, processes and services – for issuing certifications in this field, which accounts for around 80 certified OCRs and 26 training bodies. ❖



Contributing to the prevention of the risks of exposure to noise and vibrations

Exposure to noise and vibrations is a genuine nuisance in the world of work. Noise can damage hearing, but can also cause stress and fatigue which, long term, can have consequences on employee health and the quality of their work. The sixth major cause of occupational illness in France, vibrations generate pathological effects which depend on the dominant frequencies, the amplitude, duration of exposure, and posture. | By Sébastien Laborde

PREVENTING THE RISKS OF EXPOSURE TO NOISE AND VIBRATIONS

It is considered that there is a risk to hearing from a level of 80 decibels and above over an 8-hour working day. If the level is higher than 130 decibels – or the noise of a Boeing 747 on take-off – any exposure, even of very short duration, becomes dangerous and can lead to deafness.

On building and construction sites, the regular driving of a vehicle or worksite machinery and/or the handling or use of a portable tool can expose employees to high levels of vibrations, which can lead long term to pathologies.

Deafness and pathologies such as lumbago or slipped discs, and osteoarticular, vascular or neurological disorders are recognised as occupational illnesses.

The prevention of occupational risks linked to exposure to noise and vibrations has a regulatory framework that is identical to that for any other risk. It is based on an approach whose general principles are laid down by the Labour Code: it is firstly a matter of preventing the risks of exposure to noise and vibrations, by intervening as far up the line as possible on the work environment and, secondly, of assessing the risks that remain in order to put in place protection measures for the workers exposed.

To prevent these risks, French regulations define threshold values beyond which specific prevention and protection actions must be implemented by employers according to the sound and vibration levels.

Employers must therefore assess and, if necessary, measure the sound and vibration levels to which workers are exposed. This assessment and measurement are intended to determine the physical parameters characterising the exposure to noise and vibrations and to determine if, in a given situation, the exposure values are exceeded. These operations must be carried out by competent persons.

ACCREDITATION HELPING TO PREVENT THE RISKS OF EXPOSURE TO NOISE AND VIBRATIONS

The measurement of noise and vibration levels can therefore be assigned to a Cofrac-accredited laboratory, except in the event of a formal notice from the labour inspectorate, in which case this becomes mandatory.

By guaranteeing that the measurement results are trustworthy, accreditation contributes to the prevention of the risks of exposure to noise and vibrations for workers. ❖



Measuring asbestos fibre dust levels for workers: what accreditation provides

Ten years ago, Decree 2012-639 of 4 May 2012 considerably reinforced the health protection of workers exposed to asbestos fibres. This wide-ranging reform, the culmination of a long process, established a new framework for authorised bodies: inspection of working methods, skills audit, transparency. Marie-Annick Billon-Galland, specialist in asbestos metrology, explains. | By Aurélien Tardiveau

IN YOUR EXPERT OPINION, DO WE NOW HAVE AN EFFICIENT FRAMEWORK FOR THIS?

In my various functions I have taken part in many projects based on my field knowledge. I have been an assessor at Cofrac, vice-chair of the Building accreditation commission, and head of LEPI (inhaled particles study laboratory) – now LAFP – for the city of Paris, between 1990 and 2012.

In parallel, I have worked as an expert for ANSES, in order to bring about the changes to the regulations for workers exposed to asbestos, and no longer solely for air measurements in buildings. The published LAB REF 28 is the summary of this.*

IN WHAT WAYS DID THE 2012 REFORM CONSTITUTE A BIG BANG FOR THE STAKEHOLDERS IN THE FIELD, AS WELL AS FOR THE WORKERS EXPOSED?

It was the result of a long process that took a lot of time. We needed to demonstrate that we could use the same method for analysing the air in buildings and for measuring occupational exposure, then set regulatory values. We are therefore looking at far greater protection for the exposed workers.

We are still the only ones in the world to propose this kind of mechanism using analytical transmission electron microscopy (ATEM). This regulatory counting method has made it possible to:

- *Distinguish asbestos fibres from other fibres*
- *Count the finest fibres, which were previously unobservable.*

In France, we have proved that it is possible to use this technique, whereas in Europe it is still at the project stage, in the framework of a recommendation.

THIS DATE MARKED THE REPLACEMENT OF LABORATORY APPROVAL WITH ACCREDITATION, WITH RECOURSE TO COFRAC. WHAT WERE THE ISSUES INVOLVED?

Previously, a file would be submitted to the ministry and this would very much be taken on trust. There was proficiency testing for the analyses, but that was practically it. If the results were correct, sampling bodies and analysis laboratories alike were “approved” and were listed in an ordinance. Then, accreditation became mandatory for being approved, which brought greater constraints.

* Specific requirements for the accreditation of bodies conducting measurements of asbestos fibre dust levels at the work station.

Henceforth, to work in compliance with the regulations, bodies are obliged to be accredited. Approvals no longer exist, and the ministries do not have the means to manage such procedures (receiving files, inspections, etc.), and so Cofrac was mandated.

ATEM accreditation for asbestos dates from 1999 for air measurements in buildings and materials research, so this wasn't entirely new. For occupational exposure measurements using ATEM, we have conducted an entire document modification process.

WHAT REQUIREMENTS ARE INCUMBENT ON THE ACCREDITED BODIES, AND HOW IS THIS BENEFICIAL?

Based on these updated documents, the bodies have had to standardise their practices, the tracking of their procedures, and the compliance of their operations both from a technical point of view and also in terms of quality. They were already observing aspects of traceability, but it was not as thorough as what we required (from customer request to final results).

In the event of nonconformity, they must correct the observed findings. And if the findings are "critical", they are obliged to send proof of the correction to Cofrac.

After the initial assessment, they then receive, every 12 or 15 months, a visit from a quality assessor and a technical assessor, over a 5-year cycle. The bodies have therefore had to ramp up their competences and professionalise their approach.

THE FOLLOWING YEARS SAW THIS ACCREDITATION PROCESS CHALLENGED, WITH AN EVER-GROWING NUMBER OF REQUESTS. HOW CAN THIS BE EXPLAINED?

Initially there were very few bodies in this field. Some no doubt thought there was a commercial opportunity to be seized, without really figuring out what accreditation implied.

In terms of quality, competence monitoring gave rise to many discrepancy findings at first, as it was necessary to be able to justify both external and internal training, prove that field inspections had taken place, etc. Findings could also be observed in terms of metrology, with devices that need to be monitored and inspected by calibration specialists, in order to maintain their conformity.

THE NEW FRAMEWORK GAVE RISE TO SOME RESERVATIONS. FOR WHAT REASONS?

The first thing was on the laboratory side: small structures are audited in the same way as large ones. You can imagine the efforts that this requires.

For building trade professionals, this also marked a major change. The electron microscope technique is quite expensive,

and this made it more expensive to meet their obligations. Since then this has been optimised, but the method remains more complicated and longer to implement than before, when you could go on site with a device that was smaller but far less efficient.

THIS REFORM HAS REQUIRED A CONCERTED EFFORT BY THE STAKEHOLDERS TO APPLY THE NEW REQUIREMENTS CORRECTLY. HOW HAS THIS BEEN MANIFESTED IN CONCRETE TERMS?

There has obviously been intensive interaction between the ministries, the laboratories, INRS and the building trades to deploy these changes efficiently.

As for Cofrac, we have updated the reference document, LAB REF 28, which sets out the broad guidelines to be followed, by removing the non-essential elements to make the document as easily readable as possible. Once the standards (samples and analysis) are correctly established, there is usually no point in detailing them in the LAB REFs.

Of course, this in no way eliminates the need to keep track of all the standards concerned and their upgrades: in 2017, the standard NF X 43-269 for example, replaced the experimental standard XP X 43-269. This established a mandatory procedure for taking samples: "on membrane filters for determining the concentration in the number of fibres via microscopy techniques" for ATEM measurements.

The 2018 ordinance introduces other requirements for bodies, such as the obligation to conduct training in the use of the information collection system database of accredited bodies (SCOLA), and defines the format and transmission period for the final measurement report.

HOW IS THE MECHANISM LIKELY TO EVOLVE?

Cofrac still intends to optimise its approach. This is why, for monitoring operations 3 or 4, if there have been no serious findings previously, the inspection visit can be assigned to a single assessor, responsible for an assessment combining the technical and quality dimensions.

The procedure could also be trimmed down for multi-sites, with a single assessor and/or inspections more spaced out over time. ❖



Asbestos training scrutinised through accreditation

Governed by a government order of 2012, the accreditation of certification bodies guarantee the conformity of training on the prevention of risks linked to asbestos, which is dispensed to employees of companies working on asbestos removal operations. | By Benjamin de Capèle

On account of the serious risks for the health of workers linked to asbestos removal operations, companies carrying out this work are obliged to train their employees, in compliance with a strict regulatory framework as laid down by the Order of 23 February 2012. This provides details on the practicalities of this training according to the different categories of workers concerned, specifying its duration, its content, and its learning validation methods. It also stipulates the obligation for certification of the training organisations by bodies that are themselves accredited. Cofrac is responsible for the latter operation, working with three certification bodies present on this market: Qualibat, Global Certification and Icert.

A TWO-STAGE ASSESSMENT

To certify these bodies' competence, Cofrac calls upon external technical assessors. There are two of these, who are risk prevention engineers from DIRECTTE, qualified both for the certification of asbestos processing companies and for the training side. In the framework of accreditation, they proceed with two types of assessment. An initial examination at the headquarters of the bodies checks the provisions relating to impartiality, skills management, and the certification process procedure. "This operation consists in checking the procedures for processing files and their application. We make sure, for example, that the planned monitoring audits have indeed taken place in the required time frame and that everything has run according to the certification programme provided for

in the ordinance. We also verify that the certification bodies have checked the competences of their own auditors," says Hélène Tagzout, Pole Manager in the Certifications division of Cofrac. Next, the assessor conducts a field inspection by attending, as a silent observer, the certification audit of a training body.

REGULAR MONITORING

Following this assessment, the certification body obtains its accreditation according to the ISO/IEC 17065 standard for the certification of organisations providing workers with training on the asbestos risk. This accreditation is initially issued for a 4-year duration, with annual monitoring. Subsequently, renewal is every 5 years with monitoring every 15 months. "This involves a conventional, regular monitoring process via assessment at head office and field observation," Hélène Tagzout goes on to say. Cofrac also intervenes in the event of an appeal from a training organisation to its certification body when the former has received no reply or has been subject to treatment that it has judged to be unsatisfactory, or else at the request of the DGT." The certification bodies exercise their activity on a relatively stable market: 35 training bodies were certified for 2021, compared to 32 in 2020. ❖



Accreditation for enhancing the safety of hyperbaric work environments

Certain professions are exposed to particular risks. This is the case, for example, for workers operating in hyperbaric environments, where the pressure is higher than atmospheric pressure. We take a close look at the dual accreditation scheme put in place by the public authorities regarding work in these environments.

| By Sébastien Laborde

Repairing underwater pipes, conducting leak tests, digging tunnels, working on submerged structures, working in nuclear reactor containments or underground public works... these are just some of the tasks where the hyperbaric risk is a reality.

The consequences of bad practices can lead to "barotraumas", on account of excess pressure to the ears, the lungs, or the sinuses, intoxications due to inhaled gases, or decompression accidents. While the effects on health may be limited to mere discomfort, they can in certain cases be dramatic and lead to serious consequences or even death. Repeated accidents can also give rise to the onset of chronic illnesses such as osteonecrosis*, hence the strict regulations for an activity recognised as a work stress factor since 2015.

To provide a framework for the conducting of hyperbaric activities, the public authorities, via the DGT, have put in place dual certification based on accreditation:

- Certification for training bodies providing safety training for workers exposed to the hyperbaric risk
- Certification for companies carrying out hyperbaric work, whether or not conducted in an underwater environment (applicable since 1 January 2020).

These two certifications are issued under accreditation according to the ISO/IEC 17065 standard, with the ultimate objective of reducing workplace accidents and the related occupational illnesses. The corollary of this would be less time off work and reduced costs for the community.

A hyperbaric proficiency certificate is issued to the worker by a certified training body, attesting to the worker's qualification level. Valid for five years, the certificate must be submitted for revalidation, at its holder's initiative, during the fifth year of its possession.

HYPERBARIC CERTIFICATION STATISTICS

- Number of companies certified in France for conducting hyperbaric work: 161**
- Number of certified training bodies providing safety training for workers exposed to the hyperbaric risk: 17***

Certification under accreditation of the training body ensures that the practicalities of safety training for workers exposed to the hyperbaric risk comply with the regulations and that they have been assessed by an independent third-party body.

"Hyperbaric company" certification attests to the fact that the company receiving the certification is capable of implementing and maintaining the conditions necessary for conducting hyperbaric work in complete safety.

To date, four certification bodies have been accredited to certify companies conducting hyperbaric work. A single certification body is accredited by Cofrac for the certification of training bodies in the safety of workers exposed to the hyperbaric risk. ❖

* Osteonecrosis is the abnormal and premature death of bone tissue, due to defective intraosseous vascularity. It can affect all the bones in the body.
| **Source: SNETI (<https://sneti.eu/reglementations/la-certification-des-entreprises-de-travaux-hyperbare/>) | *** Source: BCS Certification



Chemical risks in the workplace: interview with an accredited company

Oxygenair is a company accredited by Cofrac for inspecting exposure to chemical agents in the workplace. Its boss, Olivier Pétrique, explains the issues surrounding this accreditation, for the company and for its customers.

| By Benjamin de Capèle

In France, the inspection of worker exposure to chemical or particulate agents in the workplace is subject to a strict regulatory framework. Every employer must check if their employees are exposed to pollutant emissions generated by the company's activity and, if so, ensure that this exposure remains below a given occupational exposure limit (OEL), so as not to constitute a risk for their health. These measurements must be carried out by bodies accredited by Cofrac according to reference standard LAB REF 27.



We were one of the very first companies to be accredited as per LAB REF 30.

INDOOR AIR EXPERTS

Based in Chambray-les-Tours, Oxygenair is one of these bodies. "We are specialists in the field of indoor air," explains Olivier Pétrique, its co-founder, an engineer who worked in air quality monitoring networks for 15 years before starting up his own consultancy. "When we created the firm 10 years ago, we specialised in quality control of the air in buildings open to the public (nurseries, schools, etc.), and we were one

of the very first companies accredited for LAB REF 30. Two years later, we wanted to diversify the company's activity and develop occupational exposure measurements since, while the techniques may differ, the basic expertise is similar."

To this end, Oxygenair embarked on an approach that enabled it to obtain LAB REF 27 accreditation in 2015. This involved a two-part assessment, with the company first demonstrating that its quality management system met the requirements of the international standard ISO/IEC 17065 applicable to all test, calibration and sampling laboratories. Next, the company was audited on its technical speciality: industrial hygiene. "This assessment related to the competence of our staff and of the company. The auditors checked our measuring equipment, the presentation of results, the reports we provide, and the uncertainties we ascribe in relation to our results," says Mr. Pétrique.

This initial accreditation obtained for a 4-year period is accompanied by an annual audit, and then inspections every 15 months over a 5-year cycle. Oxygenair is accredited for 3 out of 4 steps in the inspection process: sampling strategy, samples, and use of the results, coupled with a statement of

conformity, with analysis being subcontracted to laboratories that are themselves accredited.

GREATER CREDIBILITY

Over and above the regulatory requirement, holding this accreditation represents a real plus point for the company, according to the company boss: *"We satisfy an international standard that recognises the technical competences of our laboratory and the competences of our personnel. This is very important. In addition, this approach also involves the implementation of a quality management system that allows us to structure the company, identify the risks and opportunities with respect to our current and future markets, and if necessary to process nonconformities in association with our activities. All this also reinforces our credibility with our clients, including when we are working in fields that are not under accreditation, since we systematically apply the principle of continuous improvement, whatever the mission."*



We provide a value, which indicates that workers are exposed to a given concentration in the air of a given chemical agent, with an associated uncertainty.

CHECKING FOR EXPOSURE: A HOW-TO GUIDE

In concrete terms, how do you go about checking for exposure to chemical agents? The company works at the request of its clients who wish to measure the exposure of their staff to potentially hazardous substances. Around 150 chemical agents (benzene, acetone, etc.) and particulate agents (wood dust, fibres) are included in the regulatory framework of LAB REF 27.

According to Olivier, the first step is to establish a sampling strategy for the company population: *"To do this, you need to know the company and its various activities. We divide up the company employees into homogeneous exposure groups (HEG), bringing together the persons who are exposed in the same way to chemical agents."*

Then, within each HEG, employees are fitted with a measurement device suited to the chemical agents being investigated, to take samples continuously over an 8-hour period (i.e. the length of a standard working day). These samples are then analysed and Oxygenair interprets the result. *"We provide a value, which indicates that workers are exposed to a given concentration in the air of a given chemical agent, with an associated uncertainty. If this value is above the regulatory limit values, the company is obliged to put in place corrective actions. We can then give them*

guidelines on the measures to take to reduce exposure, but as an accredited body we have a duty of impartiality and our support will go no further. These missions represent a genuine challenge for public healthcare and occupational health & safety. The expectations are very high, both on the part of company directors who have a responsibility toward their personnel, and from the employees themselves."

ACCREDITED AND ASSESSOR

While Oxygenair is accredited by Cofrac, Olivier Pétrique is himself an assessor in the two fields of LAB REF 27 and LAB REF 30. He finds it particularly rewarding to be on both sides of the same regulation. *"The regulatory requirements are broken down by each laboratory differently. Each company is free to address them in its own way, to choose its procedures and how to proceed. All that counts is the performance. We are in a field where we are subject not to a best-efforts obligation, but to a performance requirement. In my capacity as an assessor, I need to keep my eyes open to what really works."* ❖

WHAT IS LAB REF 27?

Specific requirements for the accreditation of bodies conducting occupational exposure inspections for chemical agents in workplace air.

SOME STATISTICS

- Number of bodies accredited for sampling to control occupational exposure to chemical agents in workplace air: 88 (https://tools.cofrac.fr/fr/easysearch/resultats_advanced.php?list-737179)
- Number of bodies accredited for analysis to control occupational exposure to chemical agents in workplace air: 38 (https://tools.cofrac.fr/fr/easysearch/resultats_advanced.php?list-4032830)

* Specific requirements for the accreditation of bodies conducting monitoring measurements of indoor air quality in buildings open to the public

ISO 45001

THE standard dedicated to health and the safety in the workplace

We simply could not devote an issue of **Compétences to occupational health and safety** without including an article on certification according to the ISO 45001 standard: "Occupational health and safety management systems – Requirements with guidance for use".

Specifically drafted by ISO for bodies wishing to improve the safety of their employees and reduce risks in the workplace, ISO 45001 is an international standard published in March 2018. Its objective is to enable companies that so desire to introduce a management system that provides a framework for organising and deploying risk prevention actions to ensure the health and safety of workers. Certification according to this standard serves as a genuine management tool for companies.

The ISO 45001 standard was drafted in light of previous international documents published in this field, such as OHSAS 18001 or the ILO-OSH* guiding principles and the conventions of the International Labour Organization. It follows the structure common to other management system standards such as ISO 14001, relating to the environment, and ISO 9001, to quality. It is hardly surprising then that companies frequently request these three certifications – ISO 45001, ISO 14001 and ISO 9001 – together, to cover these different topics.

Following publication of the ISO 45001 standard, several certifying bodies turned to Cofrac to find out if accreditation was possible to issue this certification, which at the time was not the case. To satisfy their request, accreditation for the certification of occupational health and safety management systems (OH&SMS), as per the ISO 45001 standard, was

launched in spring 2019 by the Certifications division. It now counts 7 accredited certification bodies in France.

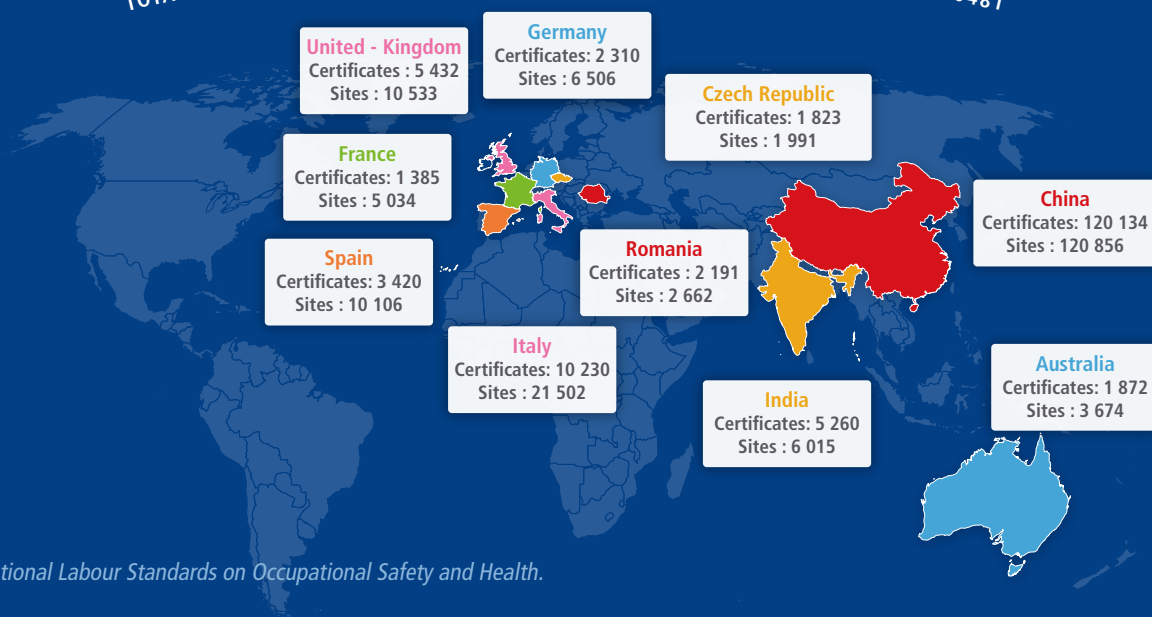
In the framework of the publication of the ISO 45001 standard, the IAF (International Accreditation Forum) created the document IAF MD 22 to harmonise certification and accreditation practises worldwide. This document supplements the implementing rules of the EN ISO/IEC 17021-1 accreditation standard for the certification of OH&SMS.

In particular, IAF MD 22 has served as a basis for defining the accreditation scheme launched by Cofrac. This is why accreditation guarantees implementation of the international rules set out in this document.

Exact application of this document is also a factor in the robustness of the certifications issued, which is necessary for them to be taken into account in the framework of company obligations with regard to employee health and safety.

OH&SMS certification according to ISO 45001 features in the "IAF MLA" (multilateral agreement), of which Cofrac is a signatory. This allows the accreditations that it issues to be recognised worldwide!

TOTAL NUMBER OF ISO 45001 CERTIFICATES ISSUED AROUND THE WORLD : 19 0481



*International Labour Standards on Occupational Safety and Health.

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