

L2 Newsletter

June 2017: Issue: 8



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This is our eighth newsletter aimed at our customers and other stakeholders with an interest in our activities.

This issue deals with the imminent update of the Ionising Radiations Regulations, feedback from regulators on experience of regulating industrial radiography and transport of radioactive materials. There is also an update on the latest developments in environmental permitting/authorisations.

It has been a very busy period for L2 through 2016 and early 2017, where we have been working with NuGeneration Limited in developing environmental permit applications and the underpinning organisational arrangements, management systems and operating techniques for the planned construction and operational activities associated with the Moorside Power Station in West Cumbria. L2 has also continued to provide radiological protection, radioactive waste and environmental protection support to NuGeneration Limited site investigation and site development works.

Nuclear new build is picking up pace in the UK with the commencement of nuclear construction works of the two EPR for NNB GenCo plant at Hinkley Point C, the submission of the nuclear site licence by Horizon Nuclear Power for Wylfa Newydd and commencement of the procurement of long lead items. Alongside this, work continues at Moorside on the development of the site specific environmental permits, nuclear site licence and licensing, permitting and consents. January 2017 saw the commencement of the GDA of the HPR1000 technology which General Nuclear System Ltd (joint venture between CGN and EDF Energy) plan to deploy at Bradwell B.

Since early 2016, L2 have been recognised by HSE as a Radiation Protection Adviser Body (RPA Body), delivered by our team of RPA's and Health Physicists. We now provide RPA advice to over 30 customers.

The upcoming implementation of the BSSD will bring significant change in radiological protection by the introduction of the new Ionising Radiations Regulations later in 2017. L2 are already working on the consideration of potential impacts to a number of our Customers and developing updated training materials to reflect the changes.

Implementation of radiological protection across the UK continues to provide opportunities for learning from others, particular in the use of site radiography, where the HSE have identified a number of common areas for improvement in users of ionising radiation.

The 2-yearly revision of ADR, came out in January 2017, for the transport of dangerous goods by road including Class 7 (radioactive) and must be implemented from 1 July 2017. L2 has a number of Dangerous Goods Safety Advisers (DGSA) who can provide advice on the transport of radioactive materials. In this newsletter, we have summarised some of the key findings from recent ONR inspections.

UPDATE ON THE NEW IONISING RADIATIONS REGULATIONS (IRR)

From our previous newsletters, we have kept you up to date with the process of the UKs implementation of the European Union Directive on the Basic Safety Standards (BSSD, identified as Directive 2013/59/EURATOM) for protection against the dangers arising from exposure to ionising radiation. Following the recent EU Referendum, the Department for Business, Energy and Industrial Strategy (BEIS) has confirmed that implementation of the revised Basic Safety Standards Directive (BSSD) will proceed as planned and that the latest transposition date of 6th February 2018 will be met.

The Health and Safety Executive (HSE) have recently completed a consultation exercise on what is assumed to be the proposed Ionising Radiations Regulations 2017. These proposals included draft regulations and the associated Approved Code of Practice (ACoP). The process is on track for the new IRRs to be issued on 1 October 2017 for implementation on 1 January 2018.

Other government departments are undertaking similar consultation exercises on other regulations which are affected by BSSD such as public exposures from radioactive discharges/disposals (Environment Agencies (i.e. EA, SEPA, NRW and NIEA)) and exposure from transport of radioactive materials (Office for Nuclear Regulation).

The proposed new IRRs contain a range of new and amended measures with the main changes being:

1. Reduction of the eye dose limit in planned exposure situations from 150 mSv to 20 mSv per year. This is unlikely to have an impact on

the nuclear, oil/gas and industrial sectors

2. Implementation of a 'Graded Approach' to the regulatory control of a practice. This is the introduction of a new three-

tiered risk-based system of Notification, Registration and Licensing. This will have an impact on most sectors using ionising radiation

Notification covers low risk practices such as small quantities of radioactive materials, Radon, NORM etc. Registration is for higher risks and is likely to cover the majority of users. It includes the use of radiation generators, radioactive sources not defined within the Licensing category. Each individual practice will require a separate registration and subject to 5 yearly renewal. Licensing applies to industrial radiography, practices involving the use of HASS, accelerators, irradiation industry etc. One license condition will be that industrial radiography cannot be undertaken without at least 7 days' notice. However, there will be a waiver system based on 'urgent'/emergency needs.

Each graded category is likely to be administered by a digital/electronic system, requiring confirmation that specific requirements of the regulations have been carried out such as risk assessments, local rules etc. This will enable HSE to assess the risk profile of the applicant for inspection purposes.



No submission of supporting documents will be required. A fee will apply to Registration and Licensing. No details on scale of the fees has been advised yet. Employers (what used to be Radiation Employers under IRR99) must comply by February 2018 and it is planned to allow them to be able to pre-comply from October 2017 (subject to confirmation).

Other changes to be aware of include:

- Notification and recording of significant events: HSE have interpreted 'significant event' as an event which results in an accident. Currently, IRR does not require the recording and analysis of an accident. HSE propose to link this to requirements for Contingency Plans.
- Outside workers: the definition to include all those who work with radiation (classified and non-classified) to ensure outside workers are afforded the same protection as those workers employed by the employer responsible for the work. Passports will not be required for non-classified persons.
- Public dose estimation: Procedures are required that estimate the doses to members of the public. Guidance on methodology will be provided.
- Appointed doctor: HSE intend to remove the requirement for a registered medical practitioner to be appointed 'in writing' for the purposes of these Regulations.
- Authorisation of the whole body dose limit in special cases: HSE will authorise the application of an effective dose limit of 100 mSv over five years (with no more than 50 mSv in a single year) rather than dutyholders only giving prior notification.

- Authorisation of 5 year averaging for dose limit to lens of the eye: Dutyholders can make use of this flexibility but this will be subject to conditions specified by HSE.
- Dosimetry services: HSE is to adopt the BSSD terminology of "recognition" in place of "approval" as part of revising the current dosimetry service regime.
- New Weighting Factors for dosimetry.
- Dosimetry record retention: change from 50 years to not less than 30 years after the last day of work.
- Radon: IRR expresses the radon reference level over a 24 hour period, while the BSSD expressed the reference level on an annual basis. HSE will adopt the value in the BSSD.
- Radiation Employer: term to be removed, leaving only 'Employers'

Key matters which have not been changed include:

- Requirements for restriction of exposures ie ALARP
- Whole body and extremity dose limits for classified persons, 16-18 year olds and public as relevant
- Protection of pregnant and nursing mothers
- Classification and Medical Surveillance
- Requirements for Training
- Requirements for RPAs
- Requirement for Local Rules and RPSs
- Categorisation of Designated Areas and additional measures including signage
- Radiological Monitoring - areas and personnel

However, improvements and changes have been proposed to the new ACoP in respect to some of the above matters including Prior Risk Assessments and ALARP.

We will be providing advice to our RPA Customers on the necessary changes needed to their management systems once the new IRRs and ACoP have been issued and will be running training courses on the new IRRs.

Update on radiological protection for schools & colleges

Schools and colleges will be affected by the implementation of new IRRs but it is expected this will only be in a minor way.

The proposed Graded Approach to the regulatory control of a practice will mean that the small quantities of radioactive sources and materials typically held by schools and colleges will fall within the Notification category. It has not been decided whether a fee will be applied.

In May 2017 CLEAPSS issued a revised version of L93 - Managing Ionising Radiations and Radioactive Substances in Schools and Colleges (for download see <http://science.cleapss.org.uk/resource/L093-Managing-Ionising-Radiations-and-Radioactive-Substances-in-Schools-and-Colleges.pdf>). The main changes which must be implemented include:

- Changes on disposal - Section 12 has been rewritten, specifically noting changes in disposal of some types of sources and disposal of aqueous radioactive waste by the sewer.
 - Changes to some specific risk assessments including scintillation plates, protactinium generator and the addition of a new source (the encapsulated uranium oxide disc sources). The 2013 risk assessments should no longer be used.
- Section 4 on storage has been revised to make it clearer. Nothing significantly has changed.
 - Use of home-made protactinium generators is no longer advised and they should be disposed of as per GL119 - Making-storing-monitoring-and-using-a-protactinium-generator.
 - The leak testing procedure has been revised. The background rate is taken over a longer period to get a better estimate of the average rate, avoiding false negatives. The pass/fail threshold has been increased to twice the background rate to reduce false positives.
 - In section 16, a template for a disposal record sheet has been added.



Feedback From HSE April 2017

RPA Industrial Radiography Workshop

A workshop for RPAs working in the industrial radiography sector was held by HSE on 4 April 2017 in Bootle.

The aims and objectives were to:

- Give an overview of implications of proposed new IRRs 2017
- Give feedback on recent industrial radiography inspections and enforcement actions
- Give an overview on how to deal with suspected/actual overexposures
- Promote discussion between RPAs and the HSE radiation team

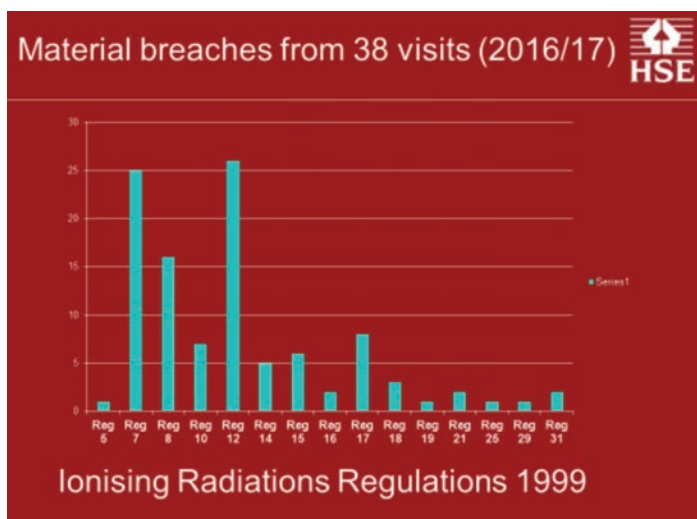
HSE stated that following a recruitment campaign there were now 6 Inspectors (4 in England/Wales and 2 in Scotland) forming the Operational Radiation Team plus a small number of Radiation Regulatory Inspectors who are currently being trained. The main focus of the workshop related to the findings from the recent Site Radiography Inspection Project carried out during 2016/17.

A total of 38 visits were made and a number of material breach non-compliances were identified as shown:

HSE were disappointed with these findings and the inspection programme will now be rolled-out across all industrial radiography sector companies. Where visits still identify breaches indicated above, then prosecutions will be considered.

The main HSE concerns related to:

1. Contingency Plans (level of detail, rehearsals of all plans not just source recovery)
2. Risk Assessments (consequences of radiation



accidents not being assessed i.e. dose assessment)

3. Restriction of Exposure (application of ALARP)
4. Local Rules & RPSs (meant to be key working instructions for normal operations and all accident situations, should be site specific)
5. Maintenance and routine safety checks (including enclosure controls, equipment etc; results from service engineers not being implemented)
6. Co-operation Between Employers

HSE also expressed concerns over the suitability and competence of some RPAs and the poor level of advice being provided to Radiation Employers. Other concerns related to RPAs not being present during annual inspections, approach to investigation /notification of overexposure or suspected overexposure and involvement with Appointed Doctors.

L2 will be working with all RPA Customers during

the coming months to ensure the feedback from HSE is addressed where appropriate, recognising

that forthcoming HSE inspection visits are likely to focus on these areas.

Update from ONR on transport of Radioactive Materials

The 2-yearly revision of ADR, came out in January 2017, ADR17, for the transport of dangerous goods by road including Class 7 (radioactive) and will be implemented from 1 July 2017. In the interim period, transitional measures in ADR15 1.6.1.1 can be used until 30 June 2017.

ONR have recently issued guidance on the ONR's interpretation of the changes from ADR15 to ADR17 for transport of Class 7 dangerous goods, copies of this has been circulated to L2 Customers.

ONR has recently issued the following guidance which are primarily aimed at non-nuclear sector duty-holders (they have been circulated to L2 Customers and are also available for download from the L2 website):

1. Transporting radioactive material – Guidance on radiation & contamination monitoring requirements and determining a Transport Index. This guidance details the actions needed to comply with radiation dose rate and radioactive contamination monitoring requirements and how to appropriately determine a Transport Index.
2. Transporting radioactive material – Security Guidance on the carriage of Class 7 radioactive material. Guidance relates to the general requirements to be complied with for all Class 7 material as well as the additional provisions required for High Consequence Radioactive Material.
3. Transporting radioactive material – Guidance on emergency arrangements. This is a requirement

of CDG that, before the carriage of radioactive material takes place, both the Consignor and the Carrier

must have a written plan detailing appropriate emergency arrangements to protect the vehicle crew, the public, attending emergency services personnel and the environment when transporting radioactive material. Emergency plans are required in addition to the Instructions in Writing required by ADR (Section 5.4.3).

4. Guidance for Consignors & Carriers of Class 7 Dangerous Goods Who Wish to Transport Such Goods into and within GB via Road & Rail. Companies who use overseas Consignors or Carriers to move Class 7 radioactive material should make them aware of The Carriage of Dangerous Goods and Use of Transportable Pressure Equipment Regulations 2009 in respect of emergency arrangements. GB based Consignors and Carriers are also required to comply with CDG requirements.



ONR Transport have also issued a summary of their 2016/17 inspection findings and provided updates on key compliance issues at a number of seminars. Some of the key findings have been:

- Poor communications between consignors/carriers
- Lack of or deficiencies in Security Plans
- Inadequate training and refresher training
- Inadequate emergency arrangements
- Shortfalls in advice from DGSA's

Companies should also be aware that transport of radioactive materials is a practise under the Basic Safety Standards Directive (BSSD) and the new Ionising Radiation Regulations (IRR17) will have an impact. There will also be an impact on Radiation (Emergency Preparedness and Public

Information) Regulations 2001 and the Carriage of Dangerous Goods and Use of Transportable Pressure Equipment Regulations (CDG09), Schedule 2, to implement the BSSD in regard to accidents. The current proposal is to issue amendment regulations to CDG 2009 rather than new transport regulations.

As a reminder, contact details for ONR in relation to a transport incident/accidents changed recently are now a single telephone number, 0203 028 0650 (outside normal working hours, the general ONR Emergency Contact number, 0151 922 9235 can be used for serious incidents). Email contact for incidents can be made via onr.incidents@onr.gov.uk, which is where completed ONR Incident Notification Form (INF1) should be sent.

Environmental Permitting (England and Wales) Regulations 2016

The new Environmental Permitting (England and Wales) Regulations 2016 came into force on 1st January 2017.

These Regulations are made under the Pollution Prevention and Control Act 1999 and provide a consolidated system of environmental permitting and replace the main requirements of the Environmental Permitting (England and Wales) Regulations 2010 and associated amendments, which established a single 'environmental permitting' system in England and Wales.

The 2016 Regulations now incorporate a system for environmental permitting of:

- Waste operations, mining waste operations, mobile plant and installations
- Water discharges



- Groundwater discharges
- Radioactive substances
- Small waste incineration (England only)
- Solvent emission activity (England only)
- Flood risk activities.

Whilst there are no major changes as a result of the new regulations, they provide a consolidated system of environmental permitting in England and Wales and transpose provisions of fifteen EU Directives which impose obligations requiring delivery through permits or which are capable of being delivered through permits.

For our Customers undertaking radioactive substances activities (Schedule 23), the only change is the changes to Part 6 of Schedule 23 (posting on premises of environmental permits) has been removed (the permit condition in the current template is currently that a permit must be readily available).

L2 has extensive experience in the development of environmental permit applications, variations and surrender. Our strength lies in our environmental permitting professionals who have extensive experience in the development of environmental permit applications for various sectors including nuclear, oil/gas and other high hazard industries. L2 also provides support to our Customers with existing permits/authorisations by undertaking compliance audits ensuring the adequacy of the underpinning BAT/BPM assessments, management arrangements and operating techniques.

Impact of Basic Safety Standards Directive on Environment Agencies

Environment Agency (EA) is continuing to work with the Department for Business, Energy and Industrial Strategy (BEIS), the devolved administrations and others to determine whether existing legislation and administrative arrangements deliver the requirements of the revised BSSD. Where gaps are identified, work is in progress to develop suitable measures to implement the BSSD.

To date, EA has not identified any need for significant changes to its regulatory approach, which is consistent with the graded approach adopted in the BSSD.

However, changes to legislation will be required to:

- Update references to Articles within the Directive
- Bring in revised definitions, for example, for practice and HASS and

- Implement new requirements such as notification of damage to an orphan source during metallurgical operations.

The revised BSSD adopts the IAEA clearance and exemption values but provides some flexibility for Member States to adopt alternative values provided defined criteria are met. BEIS is considering



retaining the existing exemption values for some radionuclides, for example, Cs-137 and C-14.

BEIS under the Public Exposures Working Group are reviewing the BSSD public exposures requirements which are satisfied mainly through the Regulation of Radioactive Substances (Schedule 23 of EPR16 for England and Wales and RSA94 for Scotland/Northern Ireland). The Group was set up to support consistent transposition of BSSD across the UK. A consultation paper and impact assessment will be published in 2017 prior to finalised proposals and legislation. There is no overlap on consultation between the environmental permitting/authorisation regime and IRR. A public dose limit of 1mSv/y from all sources combined, with a dose constraint of 0.3 mSv/y for a single facility will be retained. Under the graded approach (as for the new IRR) there are no anticipated changes to permitting arrangements, and exemptions will continue to apply.

In terms of sources, BSSD consolidates the 1996 BSSD and the 2003 HASS Directive, resulting in some consequential changes such as definitions. The move to adopt IAEA 'D' values will bring some sources under HASS requirements while others will

no longer be HASS (a greater number will fall under the latter).

BSSD also requires consideration as to whether any updates are required to current 'Out of Scope' values. IAEA levels will be used for exemptions, but not where this significantly reduces the exemption activity.

BSSD includes reference levels for public exposure to aid the optimisation of protection strategies in emergency and existing exposure situations. These levels will not mandate or trigger specific actions and may change over time in relation to doses. The concept of Reference Levels can be accommodated by existing Radioactive Substances Regulation and Contaminated Land Regulation, although some new or amended legislation/regulation may be required to ensure clear lines of authority exist in all situations. In terms of existing exposure situations, current legislation can accommodate the requirement for contaminated land, areas and items. The 3 mSv/y criterion for contaminated land is unlikely to change, consistent with the range of reference levels in BSSD. Still under consideration are delineation of contaminated areas, access to those areas and the means for individuals to control their own exposure.

Update on Scottish Regulatory Reform Update

The Scottish Government's Consultation on Proposals for an Integrated Authorisation Framework has recently been completed.

The new framework plans to bring together the authorisation, procedural and enforcement arrangements for existing environmental protection regimes relating to water, waste, radioactive substances and pollution prevention and control. Currently the consultation has only set out high level proposals, so we are yet to see the technical details which will be set out later in 2017.

The new framework aims to simplify and standardise the process for obtaining, modifying, transferring or surrendering authorisations across the existing regimes. SEPA and Scottish Government propose four tiers of authorisation within the integrated framework. Operators will be regulated against the lowest tier appropriate to the environmental risk their activities create. The proposed authorisations are tiered as follows:

Permits: this is the top tier and will apply to operators carrying out activities where the environment is at greater risk of damage from operations or who require bespoke conditions for their operations. Operators will need to apply for a permit and undergo a rigorous assessment from SEPA before being granted a permit.

Registrations: this second tier will apply to activities where SEPA is content to carry out a short assessment or on-line screening before approving operations. Applications for a registration will be determined within 28 days. If an application is approved, operators will need to comply with a set of standard conditions.

Notifications: there are a range of lower risk activities



where there will be no need for approval from SEPA and proposals are that SEPA only needs to be notified that the activity is taking place and that the rules set for the activity are being followed.

General Binding Rules: proposals for lower risk activities mean that operators do not need to contact SEPA at all and can carry out the activities provided they are carried out in line with a set of rules to be known as the general binding rules.

Another proposal contained in the consultation is to introduce a wider 'Fit and Proper Person' test that applies to all registration and permit level authorisations. The proposed test would be proportionate to the risk of the activity with all applicants needing to demonstrate they are willing and able to comply with any conditions or standard rules. Some will need to demonstrate they are competent, do not have a history of being involved in environmental crime and have the finances needed to manage their liabilities as appropriate. The authorised person will be responsible for managing the authorisation and held to account if issues arise.

L2 Key Offerings

L2 is a leading independent UK based technical consultancy providing advice and technical support Customers operating in the nuclear, oil/gas and other high hazard industries. We provide a range of key offerings covering the aspects of our Customers business activities which have significant regulatory involvement.



Environmental Permitting

Helping you meet your regulatory requirements for any activities which require an environmental permit/authorisation from application to surrender.



Radiological Protection

We are your provider of Radiation Protection Adviser (RPA) services to organisations who work with ionising radiation and Dangerous Goods Safety Adviser (DGSA) services to those organisations who transport radioactive materials.



Environmental Protection

We provide advice on all aspects of environmental compliance to site operators to ensure that their activities do not cause environmental pollution.



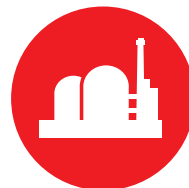
Radioactive Waste

We provide technical and regulatory support to existing and prospective generators of radioactive waste including appointment as Radioactive Waste Advisers (RWA).



Health & Safety

Provide you with a team of highly qualified safety consultants with a wealth of experience in delivery of regulatory compliance and industry best practice across a range of industry sectors.



Nuclear Licensing

We support existing and prospective Nuclear Site Licensees by providing advice on the regulatory requirements hold and operate a Nuclear Site Licence.

For more information on how L2 can support you please contact us at:

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