

## NUCLEAR SAFETY DIRECTORATE - BUSINESS MANAGEMENT SYSTEM

### SITE INSPECTION AND ENFORCEMENT

### **GUIDANCE: LC 18 RADIOLOGICAL PROTECTION**

**T/INS/018**

ISSUE 001

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## 1. Purpose & Scope

1.1 The purpose of this guidance is to facilitate a consistent approach to LC 18 compliance inspection and to provide assistance to inspectors while carrying out their duties in this area. The guidance should not be regarded as either comprehensive or mandatory.

1.2 The guidance does not indicate when or to what extent these compliance inspections should be made as these matters are covered in individual inspectors inspection programmes.

1.3 The guidance provided is split into five main elements:

- 1) Purpose of the Licence Condition
- 2) Guidance on arrangements for LC 18.
- 3) Guidance on inspection of arrangements.
- 4) Guidance on inspection of implementation of arrangements.
- 5) Action to take in the event of a notification

1.4 A specification is mandatory for Sizewell B and specifications have been issued for all power reactor sites.

## 2. Licence Condition

### 2.1 LICENCE CONDITION 18 - RADIOLOGICAL PROTECTION

18(1) The licensee shall make and implement adequate arrangements for the assessment of the average effective dose equivalent (including any committed effective dose equivalent) to such class or classes of persons as may be specified in the aforesaid arrangements and the licensee shall forthwith notify the Executive if the average effective dose equivalent to such class or classes of persons exceeds such level as the Executive may **specify**.

18(2) The licensee shall submit to the Executive for **approval** such part or parts of the arrangements as the Executive may **specify**.

18(3) The Licensee shall ensure that once approved no alteration or amendment is made to the approved arrangements unless the Executive has **approved** such alteration or amendment.

### 3. Purpose of Licence Condition

3.1 The purpose of this licence condition is to implement Recommendation 3 of Sir Frank Layfield's report on the Sizewell B Public Inquiry-

"I recommend that an average annual dose equivalent for the workforce at Sizewell B should be set as an operational investigation level. If the average dose equivalent, including any committed dose equivalent, were to exceed this level, the Nuclear Installations Inspectorate (NII) should investigate the circumstances with a view to ensuring that ALARP (as low as reasonably practicable) is being achieved. At present the relevant level should be 5mSv."

This condition is therefore additional to the requirements of the Ionising Radiations Regulations 1999.

3.2 LC18 (1) provides for the making and implementing of arrangements. It also allows the Executive the power to specify an average dose for notification to the Executive.

3.3 LC 18(2) gives the power to the Executive to **specify** the arrangements or parts of arrangements for **approval**. This power would be used when first these arrangements were made, not for subsequent alterations.

3.4 LC 18(3) ensures that where the Executive has approved arrangements the Licensee must apply for **approval** to amend or alter those arrangements.

### 4. Guidance on arrangements for LC 18

4.1 The following list of elements of arrangements provide NSD's views on what the Licensee's arrangements might be expected to contain to comply with the LC. The list is neither exclusive nor exhaustive and will be subject to review and revision in light of operational experience. If licensees have generic model(s) for arrangements then it is for the site to justify any deviation from the model(s). **[note: not all licensees use generic models].**

4.2 Arrangements should be provided to comply with LC 18.

4.3 Arrangements should address the licence condition requirements.

4.4 The arrangements should identify the person who is responsible for compliance with this condition.

4.5 The arrangements should ensure that suitably qualified and experienced staff are available for the duties required under this condition.

4.6 The arrangements should define the class or classes of persons and provide the means of identifying those for whom average doses should be kept. The classes of work used for the HSE's Central Index of Dose Information will be suitable in most instances.

4.7 The arrangements should identify the person(s) responsible for providing and processing data.

4.8 The arrangements should ensure that adequate records are kept for the purpose of this condition that are consistent with the arrangements made for LC6.

4.9 The arrangements should enable the licensee to respond to any Specification from the Executive.

4.10 At present in its Specifications the Executive has used a value of 5 mSv as the dose level for the classes of classified workers on the site included in the arrangements made under LC18(1). The arrangements should therefore include the means of amending such figures specified by the Executive.

4.11 The arrangements should include a requirement to notify the Executive forthwith if the average dose to a class of persons exceeds the level specified by the Executive.

4.12 The arrangements should ensure that arrangements approved under this

licence condition by the Executive can only be changed or amended with the Approval of the Executive. The person(s) responsible for ensuring compliance with this requirement should be identified in the arrangements.

## **5. Guidance on inspection of arrangements**

5.1 Part 5 of this guidance is to assist inspectors in judging the adequacy of the licensees' arrangements. The following list is neither exclusive nor exhaustive and will be subject to review and revision in light of operational experience. It does however, provide a hit list of aspects of LC 18 that can be examined during routine inspections.

5.2 Check that arrangements have been made to demonstrate compliance with the LC.

5.3 Examine the arrangements documentation layout and check that it is consistent. Review the arrangements to establish validity, whether any changes have been made since the last review and whether the identified responsible persons are correct. Note whether instructions, methods and quality assurance rules claimed in procedures have been followed and whether any changes have been correctly incorporated and validated.

5.4 Check that arrangements ensure suitably qualified and experienced staff are available for duties required by this licence condition.

5.5 Check that the arrangements ensure dose assessment results are entered into a suitable dose record from which data for the average dose within classes can be determined.

5.6 Check that the arrangements require adequate records to be kept and that they are being made and kept in accordance with LC6 arrangements.

5.7 Check that arrangements enable the licensee to respond to any specifications from the Executive and notify the Executive if the average dose to a class of persons exceeds the level specified.

5.8 With respect to ensuring suitable interaction with the Executive, check that the arrangements:

- 1) cover a system for submission for approval to the Executive of those part or parts of the arrangements that may be specified; and

- 2) contain such controls that any consequent amendments only take place with the Executive's approval.

## **6. Guidance on inspection of implementation of arrangements**

6.1 Part 6 of this guidance is to assist inspectors in judging the adequacy of the Licensee's implementation of their arrangements i.e. is the licensee doing what their arrangements say they should be. The following list is neither exclusive nor exhaustive and will be subject to review and revision in light of operational experience. It does however, provide a hit list of aspects of LC 18 that can be examined during routine inspections. An inspection under LC 18 should be limited to the arrangements for identifying appropriate classes of persons on the site, recording their average dose and notifying the Executive if necessary. All other aspects of radiological protection inspection should be done under the Ionising Radiations Regulations 1999.

6.2 Check that the procedures identify the person who is responsible for compliance with this condition and discuss the arrangements with them.

6.3 Check that dose assessment results have been entered onto dose records and the licensee, or his agents, have derived the average dose within identified classes.

6.4 Check that the identified classes, derived from criteria contained in the procedures, are still current. If changes have occurred check that the reasons for such changes are justified and that they have not been created to disguise groups that would otherwise have exceeded the specified level.

6.5 If the Executive has issued a specification, examine the procedures/ instructions to establish that the present level of 5mSv for all classes of workers has been included. Check that the licensee has included in the procedures/ instructions the means of amending such figures if specified by the Executive.

6.6 If during the inspection by the Executive it is found that the average dose to a class(es) exceeds the dose level specified check that the licensee, or his agent, notified, or is in the process of notifying, the Executive.

## **7. Action to be taken in the event of a notification**

Upon receipt of a notification under LC 18 the Site Inspector should inform his/her Superintending Inspector. Specialist assessment effort should be requested to analyse the implications of the situation.