

**SAFETY OF IONIZING RADIATION AND SECURITY OF RADIOACTIVE SOURCE**  
(Government Regulation Number 33 Year 2007 dated June 8, 2007)

BY THE GRACE OF GOD ALMIGHTY,

THE PRESIDENT OF THE REPUBLIC OF INDONESIA

Considering:

- a. that Regulation of Government Number 63 Year 2000 regarding Safety and Health of Ionizing Radiation Exploiting as execution of rule of Article 16 Law Number 10 Year 1997 regarding Nuclear Energy, have not inappropriate with growth of technology and science that happened in this time which progressively claim existence of worker safety guarantee, society and also protection to environment and security of radioactive source, so that requires to change with new regulation;
- b. that pursuant to consideration as referred in letter a requires to specify Regulation of Government regarding Safety of ionizing radiation and Security of Radioactive Source;

Remembering:

1. Article 5 sentence 2 of Constitution of 1945 (*BN No. 7152 pages 14A-23A*);
2. Law Number 10 Year 1997 regarding Nuclear Energy (Statute Book Republic of Indonesia Year 1997 Number 23, Supplement to Statute Book Number 3676);

D E C I D E S . :

To stipulate:

THE GOVERNMENT REGULATION REGARDING SAFETY OF IONIZING RADIATION AND SECURITY OF RADIOACTIVE SOURCE.

CHAPTER I  
GENERAL PROVISION

Article 1

In this Government Regulation means with:

1. Safety of Ionizing Radiation hereinafter referred to as Safety of Radiation is action which is conducted

to protect worker, society member, and environment of radiation danger.

2. Security of Radioactive Source is action which is conducted to prevent illegal access, destructive, loss, theft, and/or illegal evacuation of Radioactive Source.
3. Radiation Protection is action which is conducted to lessen radiation effect which damages because of radiation presentation.
4. Exploiting is an activity related to nuclear energy covering research, development, mining, making, produce, transportation, depository, transfer, export, import, usage, decommissioning, and management of radioactive waste to increase prosperity of people.
5. Nuclear energy is mystical power of any form which is freed in course of core transformation including energy which is coming from ionizing radiation source.
6. Ionizing radiation hereinafter referred as Radiation is electromagnetic wave and contained particle of which because of its owned energy It can ionize media which is passed by it.
7. Source of Radiation hereinafter referred as Source is everything which is cause presentation of Radiation, covering radioactive substance or Radiation producing, and installation or facility which in it is radioactive substance or equipments which is producing Radiation.
8. Radioactive source is radioactive substance in form of repacked solid permanently in capsule which is tied strength.
9. Safety culture is guidance of nature from organizational attitude and individual in organizational which is giving attention and priority at problems of Radiation Safety.

10. Presentation of Radiation is irradiating of Radiation which is accepted by items or human, intended well or does not, which is coming from Radiation and also internal or external.
11. Normal Presentation is estimated presentation which shall be accepted in a condition of normal operation of installation or facility, including minor accident which is able to be controlled.
12. Potential presentation is presentation which do not be expected or estimated but having possibility happened because of accident of source or because an occurrence or network occurrence which possible happened including the failure of equipments or mistake of an operational.
13. Work Presentation is presentation which is accepted by worker of radiation.
14. Medic Presentation is presentation which is accepted by patient as part of diagnosed or medication; and others as volunteer who is assisting patient.
15. Society Presentation is presentation which is coming from Source of Radiation which is accepted by society member, including presentation which is coming from Source and Exploiting which have obtained Intervention situation and permission, but not including the Work Presentation or Medic Presentation, and Radiation with normal local background.
16. Emergency Presentation is resulted presentation which is causing nuclear emergency condition or radiology.
17. Intervention is every action to lessen or avoid possibility or ability of happening of chronic presentation and Emergency Presentation.
18. Intervention Level is dose level which is able to avoid by conducting protective action of remedial for the situation of presentation of chronic or Presentation of Emergency.
19. Naturally Occurring Radioactive Material later on shortened by NORM is radioactive substance which is naturally in nature.
20. Technologically Enhanced Naturally Occurring Radioactive Material hereinafter shortened as TENORM is radioactive substance of nature which because of activity of human being or technological process cause the improvement of Potential Presentation in comparison with early situation.
21. Dose of Radiation hereinafter referred as Dose is the amount of radiation which are in field of Radiation or absorbent of amount of radiation energy or accepted by items which is passed by it.
22. Record is document which is expressing reached result or gives evidence of execution of activity in Exploiting of Nuclear Energy.
23. Dose Boundary Value is biggest Dose which is permitted by BAPETEN which is acceptable by radiation worker and society member in certain period of time without generating effect of genetic and somatic which is meaning effect of Exploiting of Nuclear Energy.
24. Supervisor Corporation of Nuclear Energy later on BAPETEN is institution which is its duty to execute observation through regulation, licensing, and inspection to all activity of Exploiting of Nuclear Energy.
25. Officer of Radiation Protection is appointed officer by Permission Owner and by BAPETEN is expressed to be able to conduct work related to Radiation Protection.
26. Worker of Radiation is each who works at nuclear installation or Ionizing Radiation installation which is estimated accepted annual Dose exceeds Dose for public society.
27. Inspection is one of the observation elements of Exploiting of Nuclear Energy which is executed by Nuclear Safety Inspector to ascertain adhering of law and regulation of Nuclear Energy.

28. Inspector of Nuclear Safety is a officer of given by BAPETEN the authority by Head of BAPETEN to conduct inspection.

29. Licensee is body or people which have accepted permission of Exploiting of Nuclear Energy of BAPETEN.

30. Program of Best Quality in Exploiting of Nuclear Energy hereinafter referred as Program of Best Quality is systematically action and plan to ascertain the fulfillment of target of Safety of Radiation.

CHAPTER II  
SCOPE AND TARGET  
Article 2

(1) This Regulation of Government is arranged regarding Safety of Radiation to worker, society, and environment. Security of Radioactive Source, and inspection in Exploiting of Nuclear Energy.

(2) Safety of Radiation as referred at sentence 1 covers Exploiting of Nuclear Energy and Intervention.

(3) Security of Radioactive Source as referred at sentence 1 does not cover security of nuclear materials.

(4) Security of nuclear materials as referred at sentence 2 is arranged in separate Government Regulation.

Article 3

This Government Regulation aims to guarantee safety of society member and worker, protection to environment, and Security of Radioactive Source.

CHAPTER III  
SAFETY OF RADIATION IN EXPLOITING OF  
NUCLEAR ENERGY

Part One

General

Article 4

(1) Everyone or corporation which shall use Nuclear Energy is obliged to have permission of Exploiting of Nuclear Energy and fulfill conditions of Safety of Radiation.

(2) Licensing of Exploiting of Nuclear Energy as referred sentence 1 is arranged in separate Government Regulation.

(3) Conditions of Safety of Radiation as referred at sentence 1 covers:

- a. conditions of management;
- b. conditions of Radiation Protection;
- c. conditions of technique; and
- d. safety verification.

(4) Accomplishment to conditions as referred at sentence 3 shall have to be documented in Program of Best Quality.

(5) Furthermore provision regarding compilation of Program of Best Quality for the Exploiting of Nuclear Energy is arranged with Regulation of Head of BAPETEN.

Part Two

Condition of Management

Article 5

Conditions of management as referred in Article 4 sentence 3 letter a covers:

- a. underwriter of Safety of Radiation;
- b. Cultural of Safety;
- c. health monitoring;
- d. personnel;
- e. practice and education; and
- f. Record.

Article 6

(1) Underwriter of Safety of Radiation as referred in Article 5 letter a consist of:

- a. Licensee; and
- b. other party which is related to execution of Exploiting of Nuclear Energy.

(2) Licensee as referred at sentence 1 letter a is responsible for:

- a. realizing the target of Safety of Radiation as specified in this Regulation of Government;

b. compiling .....

- b. compiling, developing, executing, and documenting program of Protection and Safety of Radiation, are made pursuant to nature and risk to every execution of Exploiting of Nuclear Energy;
- c. forming and specifying organizer of Protection and Safety of Radiation in installation or facility as according to its duty and responsibility;
- d. determining action and resource which are needed to reach the target of as referred at letter a, and ensure that the resource is adequate and pilser shall be truly executed;
- e. re-evaluating every action and periodical resource and continual and to ascertain the target as referred at letter a, shall be reached;
- f. identifying every weakness and failure in resource and action which is needed to realize Safety of Radiation, and also do prevention and repair take action to occurred of situation;
- g. making procedure to facilitate consultation and cooperation between all related party to Safety of Radiation; and
- h. making and looking after Record which is related to Safety of Radiation.

(3) Responsibility of other party as referred at sentence 1 letter b is relied on each role and duty in Safety of Radiation.

(4) Licensee, in executing its responsibility as referred at sentence 2 can delegate to or appoint personnel who works in facility or its installation to conduct needed action which is in realizing of Safety of Radiation.

(5) Delegation or directing as referred at sentence 4 do not free Licensee from responsibility of law if situation happened which shall endanger safety of worker, society member, and environment.

(6) Further provision regarding responsibility in Safety of Radiation is regulated by a regulation of the Head of BAPETEN.

#### Article 7

(1) Underwriter of Safety of Radiation as referred in Ar-

ticle 6 sentence 1 is obliged to realize Culture of Safety as referred in Article 5 letter b in each Exploiting of Nuclear Energy by:

- a. making standard operate for policy and procedure which is placing Protection and Safety of Radiation at the highest priority;
- b. identifying and repairing factors which is influencing Protection and Safety of Radiation as according to level danger potency;
- c. clearly identifying responsibility of each personnel on Protection and Safety of Radiation;
- d. specifying clearly authority at each personnel in every execution of Protection and Safety of Radiation;
- e. developing good communications network at entire organizational level, to produce exact information regarding Protection and Safety of Radiation; and
- f. specifying adequate training and qualification to each personnel.

(2) Further provision regarding applying of Culture of Safety is regulated by a regulation of the of BAPETEN.

#### Article 8

(1) Licensee is obliged to carry out health monitoring as referred in Article 5 letter c to all Worker of Radiation.

(2) Licensee, in carrying out health monitoring as referred at sentence 1, shall have to:

- a. execute it pursuant to rule of public health of job;
- b. design assessment according to location of worker in executing his working which is assigned to him; and
- c. using result of monitoring as basis for information at:
  1. disease appearance case effect of job after the excessive happening of Presentation of Radiation.
  2. moment give certain counseling to worker concerning danger of Radiation which is possible got; and
  3. conducting of health of worker who is imposed excessive Low Presentation.

- (3) The health monitoring as referred at sentence 1 is executed to through:
  - a. inspection of health;
  - b. counseling; and/or
  - c. conducting of worker health who is getting excessive Presentation of Radiation.

(4) Licensee shall have to keep and look after the result of monitoring health of worker as referred at sentence 3 within 30 (thirteen) years commencing from date of cessation of pertinent worker.

Article 9

Licensee is obliged to conduct inspection of worker health as referred in Article 8 sentence 3 letter a, at the time of:

- a. before working;
- b. during working; and
- c. will drop the ball of job.

Article 10

Inspection of health as referred in Article 9 is conducted by doctor who owns competition who is appointed by Licensee, and agreed by authoritative institution in area of manpower.

Article 11

- (1) Inspection of health for worker as referred in Article 9 letter b is obliged to be conducted periodically at least once in 1 (one) year;
- (2) Inspection of health as referred at sentence 1 is adapted with work type.
- (3) If necessary, special inspection shall be conducted to a certain worker.

Article 12

Licensee is obliged to provide counseling as referred in Article 8 sentence 3 letter b to give complete information and consultancy regarding the danger of radiation to worker.

Article 13

Licensee is obliged to conduct the execution of

worker who is getting excessive Presentation of Radiation as referred in Article 8 sentence 3 letter c through health inspection and follow-up, counseling, and study of accepted Dose.

Article 14

Licensee is responsible to bear the expense on the health monitoring as referred in Article 8.

Article 15

Furthermore provision regarding health monitoring as referred in Article 8 is arranged with Regulation of Head of BAPETEN.

Article 16

- (1) Licensee is obliged to provide personnel as referred in Article 5 letter d who is owning interest and qualification as according to type of Exploiting of Nuclear Energy.
- (2) Personnel as referred at sentence 1 at least consist of:
  - a. Officer of Radiation Protection;
  - b. Worker of Radiation;
  - c. expert staff;
  - d. operator; and/or
  - e. medic staff or paramedic.
- (3) Furthermore provision regarding personnel interest and qualification are arranged with Regulation of Head of BAPETEN.

Article 17

- (1) Licensee is obliged to improve ability of laboring personnel in installation or facility through training and education as referred in Article 5 letter e to grow the understanding of adequate regarding:
  - a. responsibility in Protection and Safety of Radiation; and
  - b. important of him applying Protection and Safety of Radiation during executed working which is related to Radiation.
- (2) Education and training as referred to at sentence 1 at least shall have to be adapted with:

- a. potency of Working Presentation;
- b. needed observation level;
- c. complication of work which shall to be executed; and
- d. training level which have been followed by personnel as referred in Article 16.

(3) Furthermore provision regarding training and education are arranged with Regulation of Head of BAPETEN.

#### Article 18

- (1) Licensee is obliged to make, looking after, and keep Record as referred in Article 5 letter f.
- (2) Record as referred at sentence 1 covers quality Record and technical Record.
- (3) Record as referred at sentence 2 shall have to be shown at the time of BAPETEN inspection.

#### Article 19

- (1) Licensee is obliged to make Record of Presentation Radiation resulting the happening of Dose which is exceeding Dose Boundary Value and verbally report immediately to BAPETEN.
- (2) Licensee is obliged to submit the written report regarding the happening of Presentation of Radiation exceeding the Dose Boundary Dose Value as referred at sentence 1 to BAPETEN at least 3 (three) work-days commencing from accepting of verbally notification.

#### Article 20

Further provision regarding Record is stipulated by a regulation of the Head of BAPETEN.

#### Part Three

#### Conditions of Radiation Protection

#### Article 21

Licensee in exploiting Nuclear Energy, is obliged to fulfill conditions of Radiation Protection as referred in Article 4 sentence 3 letter b, covering:

- a. justification of Exploiting of Nuclear Energy;
- b. Dose limitation; and
- c. optimization of Protection and Safety of Radiation.

#### Article 22

- (1) Licensee, in executing Exploiting of Nuclear Energy, is obliged to fulfill principle of justification of Exploiting of Nuclear Energy as referred in Article 21 letter a.
- (2) Justification of Exploiting of Nuclear Energy as referred at sentence 1 shall have to be relied on bigger obtained benefit than generated risk.
- (3) Further provision regarding justification is arranged with Regulation of Head of BAPETEN.

#### Article 23

- (1) Dose Limitation as referred in Article 21 letter b is obliged to take effect for Work Presentation and Society Presentation through applying of Dose Boundary Value.
- (2) Dose Limitation as referred at sentence 1 is not applicable for:
  - a. Medic Presentation; and
  - b. Presentation which is coming from nature.
- (3) Dose Boundary Value as referred at sentence 1 is specified by BAPETEN and may not skip over, except for special condition.
- (4) Furthermore provision regarding Dose limitation is arranged with Regulation of Head of BAPETEN.

#### Article 24

- (1) Licensee, to ascertain Dose Boundary Value to society and worker shall not skip over, is obliged to conduct:
  - a. division of working area;
  - b. Presentation monitoring of Radiation and/or radioactive contamination in working area;
  - c. environmental radioactivity monitoring outside installation or facility; and
  - d. monitoring Dose which is accepted by worker.

## Article 25

- (1) The division of working area as referred in Article 24 letter a shall have to be relied on Radiation level and/or radioactive contamination.
- (2) The division of working area as referred at sentence 1 shall have to be clearly mentioned in Program of Radiation Protection which is going into effect in installation or facility of Licensee.
- (3) Further provision regarding the division of working area is stipulated by a regulation of the Head of BAPETEN.

## Article 26

Licensee is obliged to execute monitoring of Radiation Presentation and/or of radioactive contamination in working area as referred in Article 24 letter b as continually, periodic and/or at any times as according to type of Source which is used.

## Article 27

- (1) Licensee is obliged to execute monitoring of environmental radioactivity as referred in Article 24 letter c as continually, periodic, and/or at any times.
- (2) Level of environmental radioactivity may not exceed boundary value of environmental radioactivity which is determined by BAPETEN.
- (3) Further provision regarding boundary value of environmental radioactivity is arranged by a regulation of the Head of BAPETEN.

## Article 28

- (1) Licensee shall direct release substance of radioactive which comes from facility or its installation to environment, if it has reached the have reached level of clearance.
- (2) Further provision regarding level of clearance is arranged by a regulation of the Head of BAPETEN.

## Article 29

- (1) Licensee is obliged to execute monitoring of worker Dose as referred in Article 24 letter d.

- (2) Result of monitoring of worker Dose as referred at sentence 1 shall be analyzed by dosimetric laboratory which is accredited.
- (3) Result of evaluation of monitoring of accepted Dose by worker as referred at sentence 2 shall have to be submitted by dosimetric laboratory to Licensee from BAPETEN.
- (4) Licensee is obliged to advise to worker regarding evaluation result of monitoring Dose as referred at sentence 2.
- (5) Result of monitoring of Dose which is accepted by worker shall have to be kept and looked after by Licensee briefest 30 (thirty) years commencing from pertinent worker quit.
- (6) In the case of result of monitoring of Dose which is accepted by worker as referred at sentence 3 is shown significant Dose or exceed Dose Boundary Value, Licensee is obliged to conduct follow-up action.
- (7) BAPETEN shall conduct remarks seeking if result of evaluation shown Dose which is exceed Dose Boundary Value.

## Article 30

In the case of there is no laboratory of dosimetry as referred in Article 29 sentence 2 which is accredited by Committee of National Accreditation, BAPETEN can show laboratory of dosimetry which is assumed to evaluate result of monitoring of Dose which is accepted by worker.

## Article 31

- (1) Licensee, in executing obligation as referred in Article 24, is obliged to provide supply of Radiation Protection.
- (2) Supply of Radiation Protection as referred at sentence 1 covers:
  - a. equipments of monitoring of Radiation level and/or radioactive contamination in working area;
  - b. equipments of watcher of individual Dose;

- c. equipments of watcher of environmental radioactivity; and/or
  - d. equipments of Radiation protective.
- (3) Supply of Radiation Protection as referred at sentence 2 shall have to well function as according to type of Source and used energy.
- (4) Further provision regarding supply of Radiation Protection is arranged by a regulation of the Head of BAPETEN.

#### Article 32

Every worker, patient, counterpart of patient, and/or others who is relating with Radiation is obliged to wear Dose individual watcher and equipments of protective Radiation as referred in Article 31 sentence 2 letter b letter and d.

#### Article 33

- (1) Licensee is obliged to calibrate to:
- a. supply of Radiation Protection as referred in Article 31 sentence 2 letter a, letter b, letter c; and
  - b. equipments of radiotherapy.
- (2) Calibrating equipments of radiotherapy as referred at sentence 1 letter b covers:
- a. output of teletherapy;
  - b. activity of breaktherapy;
  - c. open source of activity; and
  - d. measuring instrument of Radiation therapy.
- (3) The calibration as referred at sentence 1 is executed periodically and/or at any times.
- (4) The calibration as referred at sentence 1 is conducted by calibrate laboratory which is accredited.
- (5) Further provision regarding calibration is arranged by a regulation of the Head of BAPETEN.

#### Article 34

- (1) Optimization of Protection and Radiation Safety as referred in Article 21 letter c shall have to be strived

so that level of accepted Dose as low as possible is able to be reached by considering social and economic factor.

- (2) Level of Dose as referred at sentence 1 shall have to under Dose Boundary Value.

#### Article 35

Applying of optimization as referred in Article 34 is executed through:

- a. constrictor of Dose; and
- b. Guidance Level for Medic Presentation.

#### Article 36

- (1) Constrictor of Dose as referred in Article 35 letter a is determined by Licensee after getting approval from Head of BAPETEN.
- (2) Determination of Dose constrictor as referred at sentence 1 may not exceed of Dose Boundary Value.
- (3) In the case of there are more than one installation or facility in one area, constrictor of Dose is obliged to be specified by considering Dose contribution from each installation or facility.
- (4) In the case of personnel works more than one installation or facility, constrictor of Dose as referred at sentence 3 is obliged to take effect.

#### Article 37

- (1) Guidance Level for the Medic Presentation of as referred in Article 35 letter b is only destined to Medic Presentation in diagnostic radiology and interventional and medical nuclear.
- (2) Guidance Level for the Medic Presentation as referred at sentence 1 do not be destined to Medic Presentation in radiotherapy.

#### Article 38

- (1) Guidance Level for the Medic Presentation as referred in Article 37 sentence 1 is specified by the Head of BAPETEN pursuant to take effect of Indonesia Standard National.



(2) In the case of Indonesia National Standard being not yet available, BAPETEN can specify Guidance Level pursuant to international standard.

Article 39

(1) Medical practitioner is obliged to use Guidance Level for the Medic Presentation as referred in Article 37 at the time of executing diagnostic radiology procedure and interventional, and medical nuclear to optimize the protection of patient.

(2) Medical practitioner pursuant to correct assessment of clinic can give presentation which is not applicable with Guidance Level for the Medic Presentation as referred in Article 37.

(3) Guidance Level for the Medical Presentation can renew as according to growth of technology and science which is related to Protection and Radiation Safety.

Article 40

(1) To ensure Guidance Level for Medic Presentation as referred in Article 37 up to Article 39 is obeyed, test of conformance is obliged to be conducted to x-ray for diagnostic radiology and interventional.

(2) The conformance test as referred at sentence 1 shall have to be executed by tester which is qualified.

(3) Result of examination which is conducted by tester who is qualified as referred at sentence 2 shall have to evaluate by expert staff to determine reliability of x-ray.

(4) The conformance test as referred at sentence 1 is relied on operation parameter and safety.

(5) Further provision regarding the conformance test is stipulated by a regulation of the Head of BAPETEN.

Part Four  
 Technical Condition  
 Article 41

(1) Licensee, in exploiting Nuclear Energy as according

to level of danger potency of Source which is used is obliged to fulfill technical conditions as referred in Article 4 sentence 3 letter c.

(2) Technical conditions as referred at sentence 1 covers:  
 a. laminated defense system; and  
 b. tested engineering practice.

Article 42

(1) Laminated defense system as referred in Article 41 sentence 2 letter a is obliged to be specified in safety design system.

(2) Furthermore provision regarding laminated defense system to each type of Source which is used in Exploiting of Nuclear Energy is arranged with Regulation of Head of BAPETEN.

Article 43

(1) The tested practice as referred in Article 41 sentence 2 letter b is obliged to be applied to Source as according to its danger potency.

(2) Licensee, in applying of tested practice as referred at sentence 1, is obliged to:  
 a. consider conditions, standard, and other documentation instruments which have been specified;  
 b. getting support of management which is capable to guarantee Protection and Radiation Safety during used of Source.  
 c. including adequate safety tolerance to design, construction, and operation of Source; and  
 d. considering growth of relevant technical criteria, result of research concerning Protection and Safety of relevant Radiation, and obtained Lesson from experience.

(3) Further provision regarding the engineering practice which is tested to each type of Exploiting of Nuclear Energy is stipulated by a regulation of the Head of BAPETEN.

ARTICLE 44 . . . . . ( TO BE CONTINUED )

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**SAFETY OF IONIZING RADIATION AND SECURITY OF RADIOACTIVE SOURCE**  
(Government Regulation Number 33 Year 2007 dated June 8, 2007)  
*[ Continued from Business News No. 7567 pages 16A - 24A ]*

Part Five  
Safety Verification  
Article 44

- (1) In a bid to guarantee safety of source, licensee is obliged to conduct safety verification as referred to in Article 4 paragraph 3 letter d.
- (2) Safety verification as referred at paragraph 1 covers:
- a. study of Source safety;
  - b. monitoring and measurement of safety parameter; and
  - c. Result record of safety verification.

Article 45

- (1) Licensee, starting phases of determination of tread, design, making, construction, installation, commissioning, operation, treatment, and/or decommissioning, is obliged to conduct study safety of Source as referred to in Article 44 paragraph 2 letter a.
- (2) The study on safety of Source as referred to in paragraph (1) is conducted for the need of:
- a. identifying the happening of Normal Presentation and Potential Presentation;
  - b. determining Normal Presentation level and estimating Potential Presentation level and possibility; and/or
  - c. studying reliability and quality equipments of Protection and Radiation Safety.
- (3) Further provision regarding study on safety of Source is arranged by a regulation of Head of BAPETEN.

Article 46

- (1) Licensee is obliged to execute monitoring and measurement of parameter safety of referred to in Article 44 paragraph 2 letter b.

- (2) Licensee, in executing monitoring and measurement of safety parameter as referred at paragraph 1, is obliged to provide adequate procedures and equipments.
- (3) Equipments as referred at paragraph 2 shall have to:
  - a. be looked after and truly tested;
  - b. calibrated by calibrate laboratory which is accredited.
- (4) Furthermore provision regarding monitoring and measurement of safety parameter is arranged with a regulation of the Head of BAPETEN.

#### Article 47

- (1) Licensee is obliged to make, looking after, and keep *Record of safety result verification as referred to in Article 44 paragraph 2 letter c.*
- (2) Record of safety result of verification can represent the part of technical Record as referred to in Article 18 paragraph 2.
- (3) Further provision regarding Record o safety result of verification is arranged with a regulation of the Head of BAPETEN.

### CHAPTER IV INTERVENTION

#### Part One General Article 48

- (1) Intervention is applied in situation:
  - a. chronic presentation; and
  - b. emergency presentation.
- (2) Presentation situation of chronic as referred at paragraph 1 letter a cover:
  - a. presentation which is coming from NORM;
  - b. presentation which is coming from TENORM;
  - c. presentation which is coming from rest of radioactive substance at previous occurrence; and
  - d. presentation which is coming from Source of unknown of its owner.

- (3) Situation of Emergency Presentation as referred at paragraph 1 letter b is only covering the condition of accident.

#### Article 49

- (1) Intervention in chronic presentation situation as referred to in Article 48 paragraph 1 letter a is executed through action of remedial.
- (2) Intervention to Emergency Presentation situation as referred to in Article 48 paragraph 1 letter b is executed through of protection and remedial action.
- (3) Further provision regarding intervention in chronic presentation as referred at paragraph 1 is arranged with Regulation of Head of BAPETEN.

#### Part Two Intervention Execution Article 50

- (1) Everyone or corporation which because of its activity can produce mineral which is followed in the form of TENORM shall have to execute intervention to the happening of presentation which is coming from TENORM through remedial action as referred to in Article 49 paragraph 1.
- (2) Execution of intervention as referred at paragraph 1 shall be reported to BAPETEN.
- (3) BAPETEN evaluates the intervention execution as referred at paragraph 2.

#### Article 51

BAPETEN is obliged to execute the intervention to the chronic presentation except TENORM through remedial action as referred to in Article 49 paragraph 1.

#### Article 52

The intervention execution as referred to in Article 50 and Article 51 is only took effect for TENORM and NORM with radioactive concentrate exceed Intervention Level.

h. guarantying the secret of information related to Source of Radioactive.

#### Article 69

(1) Organization of Security of Radioactive Source as referred to in Article 68 letter e can represent the part of organizer of Radiation Security as referred to in Article 6 paragraph 2 letter c.

(2) Further provision regarding form and responsibility of Security of Radioactive Source organization is arranged with Regulation of Head of BAPETEN.

#### Article 70

(1) Licensee is obliged to conduct Record of Radioactive Source and stocktaking.

(2) Record Radioactive Source as referred at paragraph 1 can represent the part of technical record as referred to in Article 18 paragraph 2.

(3) Stocktaking and Record Radioactive Source as referred at paragraph 1 shall have to be reported periodically to BAPETEN.

(4) Further provision regarding conditions of stocktaking, Record, and reporting of Radioactive Source is arranged by a regulation of the Head of BAPETEN.

#### Article 71

In the case of emergency condition of Radioactive Source in transportation and also usage, Licensee is obliged to report immediately to BAPETEN.

#### Article 72

(1) Licensee is obliged to conduct security action to Radioactive Source if happened emergency condition.

(2) Further provision regarding security action is arranged with Regulation of Head of BAPETEN.

#### Article 73

(1) BAPETEN conducts security to unknown of owner of Radioactive Source.

(2) BAPETEN conducts seeking of information regarding the ownership of Radioactive Source as referred to in paragraph 1.

(3) Seeking of information as referred to in paragraph 2 can be conducted with in charge of other institution.

#### Article 74

If the result of seeking of information as referred to in Article 73 paragraphs (2) and (3), owner of Radioactive Source:

- a. found, therefore all effect of which is generated it becomes owner responsibility; or
- b. do not found, therefore it is expressed as radioactive waste by BAPETEN.

#### Article 75

Radioactive waste as referred to in Article 74 letter b is obliged to be kept and managed by National Nuclear Energy Corporation as according to conditions of Security of Radioactive Source.

#### Article 76

Further provision regarding Conditions of Security of Radioactive Source as referred to in Article 64, Article 68 letter b and Article 75 is regulated with Regulation of Head of BAPETEN.

### CHAPTER VI INSPECTION

#### Article 77

(1) To ascertain obeying of conditions of Radiation Safety and Security of Radioactive Source, BAPETEN Inspects to installation or facility this is exploiting Nuclear Energy.

(2) The inspection as referred at paragraph 1 is executed by the Inspector of Nuclear Safety.

(3) The inspector of Nuclear Safety as referred to in paragraph 2 is appointed and dismissed by BAPETEN.

(4) Provisions on the appointment and dismissal of the Inspector of Nuclear Safety are ruled by a regulation of the Head of BAPETEN.

## Article 78

- (1) The inspection as referred to in Article 77 covers technical and administrative inspection.
- (2) The inspection as referred to in paragraph 1 is executed periodically or at any times, with or without announcement.

## Article 79

- (1) Inspector of Nuclear Safety has the authority to:
- a. conduct inspection during licensing process;
  - b. enter and check every installation or facility, location or institution of Exploiting of Nuclear Energy;
  - c. conduct monitoring of Radiation in installation and outside installation;
  - d. inspect directly or inspect with notification in a shorten gap time in the case of emergency condition or abnormal occurrence; and
  - e. discontinue activity of Exploiting of Nuclear Energy if happened situation that endanger to:
    1. safety of worker, society, and environment; and
    2. Security of Radioactive Source.
- (2) Inspector of Nuclear Security can only discontinue the activity of Exploiting of Nuclear Energy as referred to in paragraph 1 letter e after reporting at the time to and direct get command to stop from Head of BAPETEN.

## CHAPTER VII

## ADMINISTRATIVE SANCTION

## Article 80

Every Licensee and other party which is related to execution of Exploiting of Nuclear Energy that violates criminal code as stipulated in Article 41 up to Article 44 Law Number 10 Year 1997 regarding Nuclear Energy, is subject to administrative sanction.

## Article 81

The administrative sanction as referred to in Article 80 shall in the form of:

- a. written warning;

- b. suspension of operation; and/or
- c. revocation of permission.

## Article 82

- (1) The Head of BAPETEN issues written warning 3 (three) times to Licensee violating the provisions as referred to in Article 6 paragraph 2 and paragraph 5, Article 7 paragraph 1, Article 8, Article 9, Article 10, Article 12, Article 13, Article 14, Article 16 paragraph 1, Article 17 paragraph 1, Article 18 paragraph 1 and 3, Article 22 paragraph 1, Article 23 paragraph 1 and 3, Article 24, Article 26, Article 29 paragraph 1 up to 6, Article 31 paragraph 1 up to 3d, Article 32, Article 33 paragraph 1 up to 4, Article 34 paragraph 1, Article 36, Article 39, Article 40, Article 41 paragraph 1, Article 42 paragraph 1, Article 43 paragraph 1 and 2, Article 44 paragraph 1, Article 45 paragraph 1, Article 46 paragraph 1 up to paragraph 3, Article 47 paragraph 1 and 2, Article 60 paragraph 1, Article 62 paragraph 2 up to paragraph 4, Article 64, Article 68, and Article 70.
- (2) The licensee is obliged to follow up first written commemoration during at longest 10 (ten) working days, as from the date of issuance of the first written warning.
- (3) If during the period as referred to in paragraph (2) the licensee has not yet obeyed the first written warning, the Head of BAPETEN issues the second written warning which must be fulfilled in 10 (ten) working days as from the date of issuance of the second written warning.
- (4) If Licensee does not obey the second warning as referred to in paragraph (3), the Head of BAPETEN issues the third warning which must be fulfilled in 10 (ten) working day as from the date of issuance of the third written warning.
- (5) If Licensee still does not obey the warning as referred to in paragraph 4, the Head of BAPETEN revokes the license to exploit nuclear energy of the Licensee.

## Article 83

- (1) In the case of the provisions as referred to in Article 20, Article 27 paragraph 1 and 2, Article 28 paragraph 1, Article 53 paragraph 1, Article 54, Article 71, and Article 72 paragraph 1 being violated, the Head of BAPETEN directly suspends the operation of facility or installation of licensee, which can endanger safety of worker, society member and environment.
- (2) The suspension as referred to in paragraph 1 shall go into effect until it is fulfilled by conditions of Safety of Radiation and Security of Radioactive Source.
- (3) If during the suspension as referred to in paragraph 1 the licensee does not fulfill conditions of safety of Radiation and Security of Radioactive Source, and still operates its facility or installation, the Head of BAPETEN shall revoke directly license to exploit Nuclear Energy.
- (4) The suspension as referred to paragraph 1 is conducted pursuant to assessment by the Head of BAPETEN.

## Article 84

In the case of the license as meant in Article 82 paragraph 5 and Article 83 paragraph 3 being revoked, the licensee remains responsible to protect source which exploits it.

CHAPTER VIII  
TRANSITIONAL PROVISION

## Article 85

- (1) Following the enforcement of this government regulation, the whole exploitation of Nuclear Energy executed by fulfilling conditions of safety as specified in Government Regulation Number 63 Year 2000 regarding Safety and Health to Exploiting of Ionizing Radiation is obliged to fulfill rule of Safety of Radiation and Security of Radioactive Source as according to this government regulation.
- (2) Rule of Safety of Radiation to conformance test according to X-ray of diagnostic radiology and inter-

vention as referred to in Article 40 must be fulfilled at least 5 (five) years as from the date of enforcement of this government regulation.

- (3) Rule of Security of Radioactive Source as referred to in Article 60 up to Article 75 must be fulfilled at least 3 (three) years as from the date of enforcement of this government regulation.

CHAPTER IX  
CONCLUSION

## Article 86

Following the enforcement of this government regulation, Government Regulation Number 63 Year 2000 regarding Safety and Health to Exploiting of Ionizing Radiation (Statute Book Republic of Indonesia Year 2000 Number 136, Supplement to Statute Book Number 3992) is revoked and declared null and void.

## Article 87

With the enforcement of this government regulation, all legislation representing regulation of execution of Government Regulation Number 63 Year 2000 regarding Safety and Health to Exploiting of Ionizing Radiation (Statutes Book Republic of Indonesia Year 2000 Number 136, Supplement to Statute Book Number 3992) expresses remains effective as long as they do not contravene this government regulation.

## Article 88

This government regulation shall come into force on the promulgated date.

For public cognizance, the government regulation shall be promulgated by placing it Statute Book of Republic of Indonesia.

Ratified in Jakarta

On June 8, 2007

THE PRESIDENT OF THE REPUBLIC OF INDONESIA  
sgd.

DR. H. SUSILO BAMBANG YUDHOYONO

Promulgated in Jakarta

On June 8, 2007

## THE MINISTER OF LAW AND HUMAN RIGHTS

sgd.

ANDI MATTALATTA

STATUE BOOK REPUBLIC OF INDONESIA YEAR 2007  
NUMBER 74

## ELUCIDATION

ON

GOVERNMENT REGULATION NUMBER 33 YEAR 2007  
REGARDING  
SAFETY OF IONIZING RADIATION AND SECURITY OF  
RADIOACTIVE SOURCE

## I. GENERAL

Exploiting of nuclear energy shall be executed by paying attention on safety aspect and security to protect worker, society member, and environment, so that clearer arrangement, effective, and consistent regarding conditions of Safety of Ionizing Radiation and Security of Radioactive Source is very needed. Previous arrangement concerning safety of Ionizing Radiation was specified with Regulation of Government Number 63 Year 2000 regarding Safety and Health to Exploiting of Ionizing Radiation.

But, with existence of growth of science, international standard, and the wide-spreading of adjustment of technology of Nuclear Energy, there are things required to be arranged furthermore with regulation of government, for example covering addition of presentation of natural radiation effect of adjustment of technology, optimization of Exploiting of Nuclear Energy in medic area, and Security of Radioactive Source.

Compilation of this regulation of government is harmonized with Safety Series Number 115 Year 1996 regarding compiled International Basic Safety Standards for Protection against Ionizing Radiation and for the Safety of Radiation Sources which is compiled according to International Commission on Radiological Protection (ICRP) Number 60 Year 1990. Regulation of Government Number 63 Year 2000 regarding Safety and Health to Exploiting of Ionizing Radiation, covering:

- a. conditions of Radiation Protection, especially for applying of optimization in medic area with existence

of arrangement concerning constrictor of Dose and Guidance Level;

- b. Dose limitation, including determination of working area and its tighter implementation;
- c. safety verification and conditions of technique, besides management condition and previous Radiation Protection which do not arrange clearly in Regulation of Government Number 63 Year 2000 regarding Safety and Health to Exploiting of Ionizing Radiation;
- d. scope of arranged broader source, than the source which is owning low risk like radioactive source comes from nature, till high risk like nuclear reactor;
- e. detailed monitoring of worker health, Culture of Safety, and other party in charge in Exploiting of Nuclear Energy; and
- f. intervention in situation of chronic and emergency. Intervention in chronic condition covers Naturally Occurring Radioactive Material (NORM) and Technologically Enhanced Naturally Occurring Radioactive Material (TENORM).

Something else which is arranged in regulation of this government is Security of Radioactive Source. To show commitment in the case of Security of Radioactive Source, Indonesia as a member state of International Atomic Energy Agency (IAEA) has signed statement of readiness to apply Code of Conduct on The Safety and Security of Radioactive Sources. Security of Radioactive Source is needed especially during import and exporting activity, usage, depository, and transportation of Radioactive Source. Beside those activities, security is needed to handle unknown owner of Radioactive Source, considering unknown owner of Radioactive Source, considering Radioactive Source like this also have potency which is able to generate danger and impact of Radiation which is enough significant. Completion of arrangement which through this regulation of government is more guarantying worker safety, society member, environment, and Security of Radioactive Source.

## II. ARTICLE TO ARTICLE

Article 1 up to Article 3  
Sufficiently clear.

Article 4  
 Paragraph 1  
 Means with "corporation" is legal corporation and business corporation.

Paragraph 2 up to Paragraph 5  
 Sufficiently clear.

Article 5  
 Sufficiently clear.

Article 6  
 Paragraph 1  
 Letter a  
 Ownership of Permission is a priority responsible of Radiation Safety. Besides Ownership of Permission, there is another related party which is shall be asked for responsibility in case of Radiation Safety accordance with its duty and function at facility or installation.

Letter b  
 Means with "another related party with Execution of Nuclear Energy" is:  
 a. Radiation Protection Officer;  
 b. Radiation Worker;  
 c. Security of Radioactive Source Officer;  
 d. Medic and paramedic staff;  
 e. Expert Staff;  
 f. Party who is related with design, fabrication, Source construction, and/or party who gets special responsibility from Ownership of Permission.

Paragraph 2  
 Letter a and Letter b  
 Sufficiently clear.

Letter c  
 Protection administrator and Radiation Safety representing the place which is consisting from each personnel who exists in installation or facility which is exploiting Nuclear Energy. Organizer of Protection and Safety of Radiation is undertaken to assist Licensee in executing its responsibility at area Protection and Safety of Radiation. Organizer of Protection and Safety of Radiation which is form and specified by Licensee shall consist with individual people, committee, or organization.

Letter d up to Letter h  
 Sufficiently clear.

Paragraph 3 up to Paragraph 6  
 Sufficiently clear.

Article 7 and Article 8  
 Sufficiently clear.

Article 9  
 Inspection of health to worker who is possible imposed by presentation of radiation during executing certain duty that is related with radiation which is executed pursuant to public principle of job health of medication.

Execution of health inspection is conducted before work which is using radiation is started, and periodical inspection during working.

- a. Beginning of health inspection before working shall be conducted to assess health of worker and its work which is assigned to him, as well as to identify which worker is having the possible condition which is needed safety action during working.
- b. Periodically inspection of health during working meant to ensure that there no clinic condition which is able to influence of worker health that is arising out at the time of working with radiation. Nature of this periodic inspection is also relied on type of executed work, health status, age, and behavior of worker health. Span time in executing of inspection of health like this is generally same with its frequency with other health monitoring program. Besides, frequency of health inspection is relied on the condition of health and type of health. If work character generates potential of skin damage because of radiation, especially on-hand, so that skin area shall be checked periodically.
- c. Inspection of health at the time of work relation is meant to know the condition of last health of worker, which can used as judicial evidence or health reference to execute related work with next radiation.

ARTICLE 10 . . . . ( TO BE CONTINUED )

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## SAFETY OF IONIZING RADIATION AND SECURITY OF RADIOACTIVE SOURCE

(Government Regulation Number 33 Year 2007 dated June 8, 2007)

*[ Continued from Business News No. 7568 - 7569 pages 7A - 15A ]*

### Article 10

Sufficiently clear

### Article 11

#### Paragraph (1)

Sufficiently clear

#### Paragraph 2

Conducted work type means work using open source, which have danger of internal radiation or radioactive substance comes into body through respiration, digestive, or hurt. Besides that there are work type using repacked source which have danger of external radiation or body hit by Presentation of Radiation which is coming from source of beyond body.

#### Paragraph (3)

Inspection of special health is conducted if happened excessive abysmal of presentation of Dose Boundary Value or at the time of accident happened, both coming from Source of internal and external radiation. Inspection of special health, for example, covers inspection of detail to certain organ which hit by presentation, chromosome abrasion, leukocyte, and thrombosis.

### Article 12 up to Article 14

Sufficiently clear

### Article 15

In compilation of regulation of Head of BAPETEN concerning health monitoring, BAPETEN coordinates with in charge institution of research area and development of nuclear energy, manpower, and health.

### Article 16 and Article 17

Sufficiently clear

### Article 18

#### Paragraph (1)

Sufficiently clear

#### Paragraph (2)

Quality record covers, for example, record concerning training and education which have been followed by personnel in installation or facility, and record as result of examination and calibration.

Technical record covers Record regarding various result of monitoring which qualify in this regulation of government for example:

- a. result of safety verification;
- b. monitoring health of worker;
- c. monitoring of accepted dose worker;
- d. environmental radioactivity;
- e. level of radiation and/or contamination of working area; and/or
- f. Radioactive Source stocktaking.

#### Paragraph (3)

Sufficiently clear

### Article 19

Sufficiently clear

### Article 20

#### Paragraph (1)

"Immediately" means during 24 (twenty four) hours verbally report has been submitted to BAPETEN through for example telephone, electronic letter (e-mail), courier, or facsimile.

#### Paragraph (2)

Sufficiently clear

### Article 21

Sufficiently clear

### Article 22

#### Paragraph (1)

"Justification in Exploiting of Nuclear Energy" means the activity that gives larger benefit either to individual who is affected presentation or society,

compared to the danger of radiation which its generated. In the process of justification is considered the possibility and level of presentation. Justification in exploiting of nuclear energy does not only consider aspect of protection and safety of Radiation, but also consideration of social and economics. Consideration of the social and economics are also give major effect to a decision regarding is an Exploiting of Nuclear Energy should earn justification. For example, principle of justification is applied at Medic Presentation by considering diagnostic benefit and produced therapy, to be compared to danger of generated radiation. Despitefully, benefit and risk of usage of diagnostic technique or available of other therapy proper to be considered before setting mind on to use Medic Presentation.

Paragraphs (2) and (3)  
Sufficiently clear

Article 23  
Paragraph (1)  
Sufficiently clear

Paragraph (2)  
Example of presentation coming from nature is, among others, cosmic rays, radioactive in body, and radionuclide which implied of dig materials that has not been processed.

Paragraph (3)  
"Special condition" means the condition when emergency condition, causes worker of radiation as volunteer who is handling emergency condition for certain and plan purpose, getting excessive dose.

Paragraph (4)  
Sufficiently clear

Article 24 up to Article 27  
Sufficiently clear

Article 28  
Paragraph (1)  
"Level of clearance " is value specified by BAPETEN and expressed in activity of bigger concentra-

tion and/or total activity at or under value, thereby the Source of used Radiation can be struck from observation. Allowed of release of direct radioactive substance to environment do not become free Owner of Permission to fulfill related responsibility to impact or effect which is possible arisen from existence of release, as arranged in rule besides law and regulation of nuclear energy.

Paragraph (2)  
Sufficiently clear

Article 29 up to Article 32  
Sufficiently clear

Article 33  
Paragraph (1)  
Rule to conduct calibration for radiotherapy do not only go into effect to its equipments, but also to its output.

Paragraph (2 ) up to paragraph (5)  
Sufficiently clear

Article 34 up to Article 36  
Sufficiently clear

Article 37  
Paragraph (1)  
"Guidance Level" (Guidance Level) means guidance value which shall reach through execution of medic activity with tested method. Guidance value for the activity of diagnostic radiology is expressed in dose value or speed of dose, while for the activity of nuclear doctor is expressed in radioactive source activity.

Paragraph (2)  
Sufficiently clear

Article 38  
Sufficiently clear

Article 39  
Paragraph (1)  
Sufficiently clear

## Paragraph (2)

"Not appropriate with Guidance Level" means presentation to patient represents lower or higher level presentation from value specified by Guidance Level (Guidance Level).

## Paragraph (3)

Sufficiently clear

## Article 40

## Paragraph (1)

Test of compatibility is meant to:

- a. ensure that equipments which are used in diagnostic radiology procedure is truly functioning so that patient do not get presentation which do not be needed; and
- b. apply Quality Guarantee Program for diagnostic radiology.

## Paragraphs (2) and (3)

Sufficiently clear

## Paragraph (4)

Parameter of operation and safety is, for example kilovolt (kv), milli ampere (mA) second (s), wide of presentation field, and distance of focus to film (film focus of distance).

## Paragraph 5

Sufficiently clear.

## Article 41

Sufficiently clear.

## Article 42

## Paragraph (1)

Laminated Defense system is meant to:

- a. prevent the happening of abnormal situation;
- b. prevent abnormal situation as referred at letter a do not continue to become accident and return radioactive source to safe condition if abnormal situation is still happened; and
- c. mitigate effect of accident so that do not endanger safety of worker, society and protection of environment if accident is still happened.

## Paragraph (2)

Sufficiently clear.

## Article 43

## Paragraph (1)

Sufficiently clear.

## Paragraph (2)

## Letter a

Documented instrument in this sentence covers for example guide of execution, technical guide and guidance.

## Letter b up to Letter d

Sufficiently clear.

## Paragraph (3)

Sufficiently clear.

## Article 44

Sufficiently clear.

## Article 45

## Paragraph (1)

Sufficiently clear.

## Paragraph (2)

## Letter a

Identification of the happening of Normal Presentation and Potential Presentation is conducted by considering influence of external occurrence to Source and also occurrence entangling Source and its equipments.

## Letter b and Letter c

Sufficiently clear

## Sentence 3

Sufficiently clear

## Article 46

## Sentence 1

Execution of "monitoring and measurement of safety parameter" is meant for the verification of compliance to be fulfilled of conditions of safety during Source operated.

Safety parameter which is measured and observed covering:

- a. nuclear fuel temperature for the nuclear reactor of; and
- b. mA, time, and kV for the plane of X-ray.

Sentence 2 up to Sentence 5  
Sufficiently clear.

Article 47 and Article 48  
Sufficiently clear

Article 49

Paragraph (1)

Means with "action of remedial" is to return the situation in initially so that radioactive concentration under *Level of Intervention*. Example of action of remedial is in the form of area decontamination.

Paragraph (2)

Action of protective is addressed to society and worker residing around natural installation or facility of accident of radiation. This action of protective for example in the form of:

- a. protection, like underground bunker;
- b. evacuate; and
- c. giving of iodine of prophylaxis or other substance which of a kind.

Paragraph (3)  
Sufficiently clear

Article 50

Paragraph (1)

"Corporation" means legal and business corporation.

TENORM generally represents of followed mineral coming from activity of industry and mining. Since entrepreneur having its activity producing TENORM is not Owner of Permission in exploiting of nuclear energy, so that for the implementation of this rule is needed coordination with in charge institution in mining area and industry.

Paragraphs (2) and (3)  
Sufficiently clear

Article 51 up to Article 55  
Sufficiently clear

Article 56  
Letter a  
Sufficiently clear

Letter b

"Action of mitigation" is an action to limit and lessen presentation if happened event which shall cause or increase presentation of radiation. The action cover for example usage of tested safety feature and operational procedure to control every event network so that decreasing its impact.

Provision concerning mitigation do not limit at plan for intervention, but can be executed at phase of design and operation to lessen accident network impact, so that intervention do not need be conducted.

Letter c up to Letter e  
Sufficiently clear

Article 57

Letter a up to Letter c  
Sufficiently clear

Letter d

Procedure for prevention covers for example protective action and of remedial.

Letter e

Training program of prevention of emergency condition covers test-drive of prevention and practice in and also outside of area which is carried out by Owner of Permission as periodically.

Article 58 and Article 59  
Sufficiently clear

Article 60  
Paragraphs (1) and (2)  
Sufficiently clear

Paragraph (3)

Category of Radioactive Source is relied on Radioactive Source potential which is able to generate effect of Radiation which immediately happened after skipped over of dose (deterministic effect).

Paragraph (4)

Sufficiently clear

Article 61 up to Article 63

Sufficiently clear

Article 64

"Target location" means facility place or consumer installation.

"Providing" means Owner of Permission own the medium or rent it.

If delivery is directly conducted, the depository as arranged in this article is not needed.

Article 65

"Customs Area" is as referred to in the customs law that is area with certain boundary in port of sea, airport, or specified of other place for the traffic of goods which is fully under observation of Directorate General of Customs and Duty.

Article 66 up to Article 70

Sufficiently clear

Article 71

Emergency condition covers for example loss, sabotage, attack to Radioactive Source, and emergency condition.

Article 72 up to Article 88

Sufficiently clear

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