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MEASURES TO STRENGTHEN INTERNATIONAL CO-OPERATION IN NUCLEAR, RADIATION AND WASTE SAFETY

OCCUPATIONAL RADIATION EXPOSURE

1. The purpose of this document is to inform Member States about a recent development (the adoption of new operating terms and conditions) regarding the Information System on Occupational Exposure (ISOE) operated jointly by the International Atomic Energy Agency (IAEA) and the Nuclear Energy Agency (NEA) of the Organisation for Economic Co-operation and Development (OECD).
2. Article III.A.6 of the IAEA's Statute authorizes the IAEA - inter alia - to establish standards of safety for "labour conditions" and to provide for the application of such standards. Consequently, the IAEA has a long-standing programme of work in the field of occupational radiation protection, conducted in co-operation with other interested organizations such as the International Labour Organization and NEA.
3. Within the framework of this programme, the IAEA has since 1993 been co-sponsoring ISOE under an agreement with NEA pursuant to which the IAEA invites those countries with operating nuclear power plants which are Member States of the IAEA but not of OECD to participate in ISOE cost-free (through the IAEA's ISOE Technical Centre). The programme has benefited greatly from the IAEA's involvement in ISOE.
4. The ISOE database is the world's largest database on occupational exposure to ionizing radiation. It contains occupational exposure data from 88% of the world's operating commercial nuclear power reactors.
5. ISOE is organized in a decentralized manner, being operated through four ISOE Technical Centres. It is directed by a Steering Group, which is responsible for policy decisions and overall programme direction. A Joint NEA-IAEA Secretariat supports the work of the Steering Group, handles communications with NEA and the IAEA, and organizes the transfer of information between the Steering Group, various working groups and the ISOE Technical Centres. The ISOE Technical Centres are responsible for the handling of data,

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serve as contact points for the transfer of information to the ISOE participants, prepare information sheets and organize topical meetings and annual workshops.

6. Last year, the Joint NEA-IAEA Secretariat prepared revised terms and conditions for the operation of ISOE. The revised ISOE terms and conditions (in the Attachment to this document), which have been approved by the ISOE Steering Group, entered into force on 1 November 1999 and will remain in force until 31 December 2003.

7. Participation in ISOE as of May 2000 is shown in Annex I to the Attachment to this document. Conditions for the supply of data to ISOE and for access to the information stored in the ISOE database are presented in Annex II to the Attachment. The membership of the ISOE Steering Group is shown in Annex III.¹

¹ As can be seen from Annex III, eleven countries are participating in ISOE by virtue of their membership of the IAEA (they are indicated by asterisks).

**TERMS AND CONDITIONS FOR THE OPERATION OF THE INFORMATION SYSTEM
ON OCCUPATIONAL EXPOSURE (ISOE)**

The national regulatory authorities, or institutions representing them, designated in Annex I to these Terms and Conditions (hereinafter referred to as “Participating Authorities”), the nuclear electricity utilities designated in Annex I to these Terms and Conditions (hereinafter referred to as “Participating Utilities”), the ISOE Technical Centres designated in Annex I to these Terms and Conditions;

CONSIDERING that, as recommended by the International Commission on Radiological Protection, the principle of optimisation of protection (also referred to as the ALARA principle) is of paramount importance in relation to the control of exposure of workers in nuclear installations;

CONSIDERING that the exchange and analysis of information on individual and collective radiation doses to the personnel of nuclear installations and to the employees of contractors, as well as on dose-reduction techniques, are essential to implement effective dose-control programmes and to apply the ALARA principle;

CONSIDERING that an international data base available on levels and trends of occupational exposure and on dose-reduction techniques in the nuclear installations in different countries, would enhance the protection of workers when designing nuclear power plants and equipment and planning operation and maintenance at nuclear installations;

CONSIDERING that it is in the interest of the protection of workers in nuclear installations that both regulatory authorities and electricity utilities co-operate in the field of occupational dose control;

RECOGNIZING the differences in the respective roles of regulatory authorities and electricity utilities in the field, and the utilities’ need to protect certain types of information;

CONSIDERING that the OECD Nuclear Energy Agency (OECD/NEA) is entrusted with encouraging the establishment between its Member countries of joint services for the protection of public health and the prevention of accidents in the nuclear industry;

CONSIDERING that the OECD/NEA Committee on Radiation Protection and Public Health supported the development of an international system for the exchange of information on occupational exposure within its Member countries and that the OECD Steering Committee for Nuclear Energy endorsed its setting up on 2nd October 1991;

CONSIDERING that the European Commission (EC) operates a System of collection and analysis of Job related Doses from nuclear power reactors in Europe;

CONSIDERING that an exchange of letters between the OECD/NEA and the EC constitutes the basis for the liaison and collaboration between the Information System on Occupational Exposure and the EC System;

CONSIDERING that the International Atomic Energy Agency (IAEA) is authorised, under Article III, 6 of its Statute, to establish standards of safety for protection of health, including such standards for labour conditions, and to provide for the application of these standards at the request of a State;

CONSIDERING that, based on the general Co-operation Agreement of 30 September 1960 between the OECD/NEA and the IAEA on matters of nuclear energy, and the value of including participants from non-OECD/NEA Member States, the IAEA has agreed to co-sponsor this Information System on Occupational Exposure and to perform the functions of Technical Centre for designated IAEA Member countries, which are not Member countries of the OECD/NEA, under these Terms and Conditions;

CONSIDERING that the ISOE Steering Group agreed in October 1997 that the IAEA and the OECD/NEA form a Joint Secretariat (NEA/ISOE/DOC(97)13), the detailed functions of which are defined in Article 8;

AGREE to set up and participate in the operation of an Information System on Occupational Exposure (hereinafter referred to as "ISOE") under the Terms and Conditions set out below:

ARTICLE 1

Objectives and scope of ISOE

- a. All Parties referred to in the first paragraph of the Preamble, in accordance with these Terms and Conditions, shall co-operate in the setting up and operation of a System (ISOE) for the exchange of information on occupational exposure in the operation of nuclear power plants, and for the compilation and analysis of the information collected. The objective of ISOE is to make available to the Participants:
 - broad and regularly updated information on methods to improve the protection of workers and on occupational exposure in nuclear power plants;
 - mechanism for dissemination of information on these issues, including evaluation and analysis of the data assembled, as a contribution to the optimisation of radiation protection.
- b. The conditions for the supply of data to ISOE and for access to the information stored therein are described in Article 3 with respect to Participating Utilities and in Article 5 with respect to Participating Authorities, as well as in Annex II hereto.

ARTICLE 2

Technical Centres

- a. ISOE shall be organised in a decentralised form. It shall be operated by ISOE Technical Centres, each of which shall be responsible for providing the services defined in paragraph (b) of this Article.
- b. The Technical Centres shall collect, input, quality control, store, and provide retrieval services for data on occupational exposure and dose reduction techniques, as well as manage and analyse such data, as defined in Annex II hereto.
- c. The Centres shall be so organised as to ensure that all the data collected by ISOE in the various regions are transferred between them and accessible at each Centre,
- d. These Centres shall be as designated by Annex I to these Terms and Conditions.

ARTICLE 3

Participating utilities

- a. Each Participating Utility shall supply to the Technical Centre concerned the relevant data on occupational exposure and dose reduction techniques needed for the operation of ISOE, as defined in Annex II hereto, which are freely at its disposal and the transmission of which is not subject to any contractual and/or legal restrictions.
- b. Participating Utilities shall have access to the data contained in the data base, as defined in Annex II hereto.
- c. Participating Utilities shall also receive all analysis reports prepared on the basis of the data available within ISOE and any other study, compilation or review prepared under the instruction of the Steering Group set up under Article 6 of these Terms and Conditions.

ARTICLE 4

National and regional co-ordinators

- a. Participating Utilities in each Region/Country may jointly designate an organisation acting as Regional/National Co-ordinator in order to facilitate their participation in the ISOE.
- b. The task of Regional/National Co-ordinators shall be to serve as a channel for the relationship of the Participating Utilities with ISOE in the respective regions/countries, and in particular to:
 - represent the Participating Utilities in the Steering Group;
 - assist the Participating Utilities in their operational relationship with the relevant Technical Centre;
 - facilitate the transfer of the financial contributions to be provided by the Participating Utilities to the relevant Technical Centre.

ARTICLE 5

Participating authorities

- a. Each Participating Authority shall supply to the Technical Centre concerned relevant information on occupational exposure and dose reduction techniques resulting from compilations, studies, reviews and research at its disposal, which is considered useful to the operation of ISOE as determined by the Steering Group and the transmission of which is not subject to any contractual and/or legal restrictions.
- b. Participating Authorities shall have access to the information available within ISOE as defined in Annex II hereto.
- c. Participating Authorities shall also receive analysis reports prepared on the basis of the data available within ISOE and other studies, compilations or reviews prepared within ISOE, as determined by the Steering Group.

ARTICLE 6

ISOE Steering Group

- a. ISOE shall be operated under the control of a Steering Group constituted under this Article.

- b. The Steering Group shall consist of members from each participating country designated by the Participating Utilities and by the Participating Authorities according to the distribution indicated in Annex III hereto. A representative of each Technical Centre will participate in the Steering Group in an advisory capacity. The OECD/NEA and the IAEA shall also be invited to be represented in an advisory capacity in the Steering Group and to perform Joint Secretariat functions for its meetings. A Representative of the European Commission may be invited to the meetings of the Steering Group in an observer capacity. Each member or representative may be replaced by an alternate if he or she is unable to attend a meeting of the Steering Group. The names of the designated members and representatives shall be communicated in writing to the OECD/NEA by their respective organisations. The OECD/NEA shall communicate to the Participants the list of the members of the Steering Group.
- c. The Steering Group shall in particular:
 - i) adopt for each year the programme of work of ISOE and approve the annual activity report;
 - ii) establish the policy for publication or any other form of dissemination of the results of the work of ISOE and define the formats used for the collection of data;
 - iii) create such subgroups and/or ad hoc technical working groups as may be required for the operation of ISOE;
 - iv) make such rules, directives and regulations, consistent with the objectives and provisions of these Terms and Conditions, as may be required for the sound management of ISOE;
 - v) Consider any matters submitted to it by the Participants, the OECD/NEA or the IAEA;
 - vi) Carry out the other functions conferred upon it by these Terms and Conditions.
- d. The Steering Group shall elect a Chairperson and a Chairperson-Elect from amongst its Utility Participant members, and a Vice-Chairperson from its Participating Authority members. The Steering Group shall meet in regular session at least once a year and shall be convened by the Joint Secretariat after consultation with the Chairperson. A special session shall be convened by the Joint Secretariat within a reasonable time after the Chairperson has received a written request from a member having demonstrated to his/her satisfaction the need therefor.
- e. The Steering Group shall operate and reach its decisions to the greatest possible extent on a mutually-agreed basis. Where a formal vote is required, decisions shall be adopted by a two-thirds majority of the votes cast, unless otherwise provided under these Terms and Conditions. The presence of half the number of the members of the Steering Group shall be required to constitute a quorum for transactions of business in its meetings.
- f. Subject to any additional rules which may be adopted by the Steering Group in consultation with the Joint Secretariat, the Steering Group shall apply the rules of procedure of the OECD.
- g. The Steering Group shall keep the OECD Steering Committee for Nuclear Energy regularly informed of the general progress of work, through the OECD/NEA Committee on Radiation Protection and Public Health.
- h. The Steering Group shall keep the IAEA Director General regularly informed of the general progress of work.

ARTICLE 7

ISOE Steering Group Bureau

- a. The ISOE Steering Group Bureau (hereinafter referred to as the ISOE Bureau) shall act, as appropriate, on behalf of the ISOE Steering Group, through the Joint Secretariat, between Steering group meetings.
- b. The ISOE Bureau shall be appointed by the ISOE Steering Group, and shall consist at all times, as a minimum, of the Chairperson, the Chairperson-Elect and the Vice-Chairperson, as defined in Article 6 d.
- c. The Chairperson of ongoing ISOE Working Groups and the ISOE Technical Centres should generally be invited to attend meetings of the ISOE Bureau.

ARTICLE 8

ISOE Joint Secretariat

- a. The objective of the ISOE Joint Secretariat is to assure the smooth operation of the ISOE Programme as per the agreements laid out in these Terms and Conditions, and as per instructions from the ISOE Steering Group and the ISOE Bureau.
- b. The OECD/NEA and the IAEA shall set forth a common understanding for the conduct of the day to day Joint Secretariat tasks;
- c. For all Steering Group and Bureau meetings, agendas and documents will be prepared jointly by both Secretariats, in collaboration with the Bureau, and will be distributed by the OECD/NEA Secretariat, at the same time providing for a sufficient delay for the notification of meetings and for the circulation of documents related thereto;
- d. Both the OECD/NEA and the IAEA Secretariats shall attend all Steering Group and Bureau meetings, as provided under Article 6 b;
- e. The ISOE Annual Report will be prepared jointly by both Secretariats for approval by the ISOE Steering Group.

ARTICLE 9

OECD Nuclear Energy Agency

- a. The OECD/NEA shall encourage the broadest possible participation in ISOE by its Member countries, and shall endeavour to co-ordinate it with other OECD/NEA activities in this field.
- b. The OECD/NEA is invited to perform Joint Secretariat functions with the IAEA for the meetings of the Steering Group and provide the co-ordinating services necessary for an effective operation of ISOE as established in Article 8. It is invited in particular:
 - to advise the Steering Group with a view to ensuring that ISOE is administered in accordance with these Terms and Conditions;
 - to foster effective co-ordination of activities between the Technical Centres;

- to assist in the preparation each year of a draft programme of work and an activity report.

ARTICLE 10

International Atomic Energy Agency

- a. The IAEA shall encourage the broadest possible participation in ISOE by its Member States, and shall endeavour to co-ordinate it with other IAEA activities in this field.
- b. The IAEA is invited to perform Joint Secretariat functions with the OECD/NEA for the meetings of the Steering Group and provide the co-ordinating services necessary for an effective operation of ISOE as established in Article 8. It is invited in particular:
 - i) to advise the Steering Group with a view to ensuring that ISOE is administered in accordance with these Terms and Conditions;
 - ii) to foster effective co-ordination of activities between the Technical Centres;
 - iii) to assist in the preparation each year of a draft programme of work and an activity report.

ARTICLE 11

Finance

- a. The activities of ISOE shall be financed on a decentralised basis. Therefore, except for the Technical Centre of the IAEA, the expenditure resulting from the operation of ISOE by each Technical Centre, shall be borne by the Participating Utilities and the Participating Authorities in that Technical Centre.
- b. The expenditure resulting from the operation of ISOE by the Technical Centre of the IAEA shall be financed in the manner deemed appropriate by the IAEA, as it may also agree with its Member States.
- c. Subject to paragraph (b) of this Article, the apportionment of this expenditure between Participants in each Technical Centre shall be established on a country by country basis by direct arrangements between the Participating Utilities and the Participating Authorities within each country in that Technical Centre.
- d. Subject to paragraph (b) of this Article, each Participant shall bear all the costs of its own activities for the participation in ISOE besides the contribution it will provide to the respective Technical Centre for the operation of ISOE according to paragraphs (a) and (c) above.

ARTICLE 12

Information management

- a. This Article sets forth the general provisions applicable to the collection, handling, protection and dissemination of information under these Terms and Conditions. Additional rules and procedures shall, where necessary, be adopted by the Steering Group acting by unanimity and in conformity with this Article.
- b. No information arising from the System may be published or otherwise released unless authorised by the Steering Group; this excludes publication of proprietary information which may be contained in the data base.

- c. For the purposes of this Article, proprietary information shall mean information acquired, prior to or outside the ISOE, of a confidential nature such as trade secrets and know-how which is appropriately marked, provided such information:
 - i) is not generally known or publicly available from other sources;
 - ii) has not previously been made available by the owner to others without obligation concerning its confidentiality; and
 - iii) is not already in the possession of the recipient Participant without any obligation concerning its confidentiality. The Technical Centres and the other Participants shall take all necessary measures in accordance with this Article, the laws of their respective countries and international law to protect proprietary information provided to ISOE. It shall be the responsibility of the Participating Utilities supplying proprietary information to identify the information as such and to ensure that it is appropriately marked.
- d. Reports of all work performed under these Terms and Conditions and the results thereof, including studies, assessments, analyses, evaluations, compiled in the manner and format decided by the Steering Group shall be prepared and regularly disseminated to all Participants and other interested organisations according to the rules and within the limits established by the Steering Group.
- e. In particular the IAEA and the OECD/NEA should in no way be held liable in this respect neither for an error from a Technical centre or from the Steering Group nor for failure of a Participant (original provider of information) to appropriately identify proprietary information or any protected information, as requested under paragraph (c) of this Article.

ARTICLE 13

Accession to ISOE

- a. Each Participant shall notify the Directors General of the OECD/NEA and the IAEA, through the relevant Regional/National Co-ordinator, if appropriate, that it accepts these Terms and Conditions for the operation of ISOE. On accession of a new Participant, the proportional shares in the contribution to the operational costs incurred by the relevant Technical Centre may need to be adjusted to take account of such accession.
- b. The Directors General of the OECD/NEA and the IAEA shall inform through the Joint Secretariat all other Participants of the notifications of acceptance so received.

ARTICLE 14

Withdrawal of participants

- a. Any Participant may withdraw from these Terms and Conditions at any time by giving three months' written notice to the Directors General of the OECD/NEA and the IAEA and the relevant Regional/National Co-ordinator. The withdrawal of a Participant shall not affect the rights and obligations of other Participants (including access to information already provided to ISOE by the withdrawing Participant), except that the proportional shares in the contribution to the operational costs incurred by the relevant Technical Centre may need to be adjusted to take account of such withdrawal.

- b. The Directors General of the OECD/NEA and IAEA shall inform all other Participants of the notifications of withdrawal so received.

ARTICLE 15

Final provisions

- a. These Terms and Conditions shall enter into force on 1st November 1999 and shall remain in force for a period of four (4) years from that date. They may be extended thereafter by agreement of the Participants acting through the Steering Group.
- b. These Terms and Conditions and their Annexes may be amended at any time in writing by the Participants acting by unanimity through the Steering Group.

PARTICIPATING UTILITIES

Operating Reactors

Country	Utility	Plant Name
Armenia	Armenian (Medzamor) NPP	Armenia 2
Belgium	Electrabel	Doel 1, 2, 3, 4 Tihange 1, 2, 3
Brazil	Electronuclear A/S	Angra 1
Canada	Ontario Power Generation Hydro Quebec New Brunswick Electric Power Company	Bruce A1, A2, A3, A4, Bruce B5, B6, B7, B8 Pickering A1, A2, A3, A4 Pickering B1, B2, B3, B4 Darlington 1, 2, 3, 4 Gentilly 2 Point Lepreau
China	Guangdong Nuclear Power Joint Venture Co., Ltd Qin Shan Nuclear Power Co	Guangdong 1, 2 Qin Shan 1
Czech Republic	CEZ	Dukovany 1, 2, 3, 4
Finland	Imatran Voima Oy Teollisuuden Voima Oy	Loviisa 1, 2 Olkiluoto 1, 2
France	Électricité de France	Belleville 1, 2 Blayais 1, 2, 3, 4 Bugey 2, 3, 4, 5 Cattenom 1, 2, 3, 4 Chinon B1, B2, B3, B4 Chooz B1, B2 Civaux 1 Cruas 1, 2, 3, 4 Dampierre 1, 2, 3, 4 Fessenheim 1, 2 Flamanville 1, 2 Golfech 1, 2 Gravelines 1, 2, 3, 4, 5, 6 Nogent 1, 2 Paluel 1, 2, 3, 4 Penly 1, 2 Saint-Alban 1, 2 Saint Laurent B1, B2 Tricastin 1, 2, 3, 4

Country	Utility	Plant Name
Germany	Energie-Versorgung Schwaben AG (EVS)	Obrigheim
	Badenwerk AG (BW)/EVS	Philippsburg 1, 2
	Bayernwerk AG (BAG)	Grafenrheinfeld
	BAG/Isar-Amperwerk AG (IAW)	Isar 1
	Ostbayerische Energieversorgungs-AG	Isar 2
	Stadtwerke München (BAG/IAW/OBAG/SWM)	
	PreussenElektra AG (PE)	Unterweser Brokdorf Stade
	Neckarwerke AG, TWS Stuttgart	Gemeinschafts- Kernkraftwerk Neckar, Neckarwestheim (GKN) 1, 2
	Hamburgische Elektrizitäts-Werke AG (HEW)	Brunsbüttel
	HEW and PE RWE Energie AG	Krümmel Biblis A, B Mülheim-Kärlich
Kernkraftwerke Gundremmingen Betriebsgesellschaft mbH (KGB)	Gundremmingen B, C	
Vereinigte Elektrizitätswerke Westfalen AG (VEW)	Emsland	
Gemeinschaftskernkraftwerk Grohnde GmbH	Grohnde	
Hungary	Magyar Vilamos Muvek Rt	Paks 1, 2, 3, 4
Japan	Hokkaido Electric Power Co.	Tomari 1, 2
	Touhoku Electric Power Co.	Onagawa 1, 2
	Tokyo Electric Power Co.	Fukushima Daiichi 1,2,3,4,5,6 Fukushima Daini 1,2,3,4 Kashiwazaki Kariwa 1,2,3,4,5,6,7
	Chubu Electric Power Co.	Hamaoka 1, 2, 3, 4
	Hokuriku Electric Power Co.	Shika
	Kansai Electric Power Co.	Mihama 1, 2, 3 Takahama 1, 2, 3, 4 Ohi 1, 2, 3, 4
	Chugoku Electric Power Co.	Shimane 1, 2
	Shikoku Electric Power Co.	Ikata 1, 2, 3
	Kyushu Electric Power Co.	Genkai 1, 2, 3, 4 Sendai 1, 2
	Japan Atomic Power Co.	Tokai 2 Tsuruga 1, 2
	Japan Nuclear Cycle Development Institute (JNC)	Fugen ATR

Country	Utility	Plant Name
Korea	Korean Electric Power Corp.	Wolsong 1, 2 Kori 1, 2, 3, 4 Uljin 1, 2 Yonggwang 1, 2, 3, 4
Lithuania	Ignalina State Nuclear Power Plant	Ignalina 1, 2
Mexico	Comisión Federal de Electricidad	Laguna Verde 1, 2
Netherlands	N.V. EPZ	Borssele
Romania	National Electricity Company	Cernavoda 1
Slovakia	Jaslovské Bohunice NPP	Bohunice 1, 2, 3, 4
Slovenia	Krško Nuclear Power Plant	Krško 1
South Africa	ESKOM	Koeberg 1, 2
Spain	UNESA	Almaraz 1, 2 Asco 1, 2 Cofrentes Santa Maria de Garona Trillo Vandellos 2 Jose Cabrera
Sweden	Barsebäck Kraft AB Forsmarks Kraftgrupp AB OKG AB Vattenfall AB	Barsebäck 1, 2 Forsmark 1, 2, 3 Oskarshamn 1, 2, 3 Ringhals 1, 2, 3, 4
Switzerland	Kernkraftwerk Leibstadt AG (KKL) Forces Motrices Bernoises (FMB) Nordostschweizerische Kraftwerke AG (NOK) Kernkraftwerk Gosgen-Daniken (KGD)	Leibstadt Muhleberg Beznau 1, 2 Gosgen
Ukraine	Department of Nuclear Energy of the Ministry of Energy	Chernobyl 1,2,3 Khmelnitski 1 Rovno 1,2,3 South Ukraine 1,2,3 Zaporozhe 1,2,3,4,5,6
United Kingdom	Nuclear Electric	Sizewell B

Country	Utility	Plant Name
United States	Arizona Public Service Co	Palo Verde 1, 2, 3
	Baltimore Gas & Electric	Calvert Cliffs 1, 2
	Boston Edison Company	Pilgrim 1
	Carolina Power and Light	H. B. Robinson 2
	Commonwealth Edison Co.	Braidwood 1, 2
		Byron 1, 2
		Dresden 2, 3
		LaSalle County 1, 2
		Quad Cities 1, 2
		Zion 1, 2
	Consumers Energy Company	Palisades 1
	General Public Utilities	TMI 1
		Oyster Creek 1
	Illinois Power Co.	Clinton 1
	Indiana and Michigan Power Company	D.C. Cook 1, 2
	New York Power Authority	Indian Point 3
	Pacific Gas and Electric Company	Diablo Canyon 1, 2
	Pennsylvania Power & Light	Susquehanna 1, 2
	PECo Energy	Limerick 1, 2
		Peach Bottom 2, 3
South Carolina Electric & Gas	Virgil C. Summer 1	
Southern California Edison	San Onofre 2, 3	
Texas Utilities	Comanche Peak 1, 2	
Wisconsin Electric Power Co	Point Beach 1, 2	

Definitively Shutdown Reactors

Country	Utility	Plant Name
France	Électricité de France	Bugey 1 Chinon A1, A2, A3 Chooz A St. Laurent A1, A2
Germany	PreussenElektra AG (PE) Arbeitsgemeinschaft Versuchsreaktor AVR	Würgassen Jülich
Italy	Ente Nazionale per l'Energia Elettrica	Caorso Garigliano Latina (GCR) Trino
Japan	Japan Atomic Power Co.	Tokai 1
Netherlands	NCGKN	Dodewaard
Spain	UNESA	Vandellos 1
United States	Southern California Edison General Public Utilities Commonwealth Edison Co. Pacific Gas and Electric Company PECo Energy Consumers Power Company	San Onofre 1 TMI 2 Dresden 1 Humboldt Bay 1 Peach Bottom 1 Big Rock Point 1

PARTICIPATING AUTHORITIES

Country	Authority
Armenia	Armenian Nuclear Regulatory Authority (ANRA)
Belgium	Service de la sécurité technique des installations nucléaires
Bulgaria	Committee on the Use of Atomic Energy for Peaceful Purposes
Canada	Atomic Energy Control Board (AECB)
China	China National Nuclear Corporation (CNNC)
Czech Republic	State Office for Nuclear Safety
Finland	Säteilyturvakeskus (STUK)
France	Ministère du travail, et des affaires sociales, Represented by the Office de Protection contre les Rayonnements Ionisants (OPRI)
Germany	Bundesministerium für Umwelt, Naturschutz und Reaktorsicherheit
Italy	Agenzia Nazionale per la Protezione dell'Ambiente (ANPA)
Japan	Science and Technology Agency (STA), and Agency of Natural Resources and Energy of the Ministry of International Trade and Industry (MITI)
Korea, Republic of	Ministry of Science and Technology (MOST) Korea Institute of Nuclear Safety (KINS)
Lithuania	Radiation Protection Centre (RSC)
Mexico	Comission Nacional de Seguridad Nuclear y Salvaguardas
Netherlands	Ministerie van Sociale Zaken en Werkgelegenheid
Pakistan	Pakistan Atomic Energy Commission
Romania	National Commission for Nuclear Activities Control
Slovakia	State Health Institute
Slovenia	Slovenian Nuclear Safety Administration (SNSA)
South Africa	Council for Nuclear Safety
Spain	Consejo de Seguridad Nuclear
Sweden	Statens strålskyddsinstitut (SSI)
Switzerland	Office Fédéral de l'Énergie, Division principale de la Sécurité des Installations Nucléaires, DSN
United Kingdom	Nuclear Installations Inspectorate
United States	Nuclear Regulatory Commission (NRC)

ISOE TECHNICAL CENTRES

Europe (ETC)	Centre d'étude sur l'évaluation de la protection dans le domaine nucléaire (CEPN), Fontenay-aux-Roses, France
Asia (ATC)	Nuclear Power Engineering Corporation (NUPEC), Tokyo, Japan
IAEA Countries (IAEATC)	International Atomic Energy Agency (IAEA), Vienna, Austria
North America (NATC)	University of Illinois, Champagne-Urbanna, Illinois, U.S.A.

CONDITIONS FOR THE SUPPLY OF DATA AND FOR ACCESS TO STORED INFORMATION

Four levels of information shall be included in ISOE. They correspond to the following databases:

ISOE 1: General information, concerning operating nuclear power plants, describing the overall plant performance in relation to radiation protection and dosimetric information related to operational phases and/or occupational categories, including plant personnel and contractors.

ISOE 2: Operational and static indicators useful for dose assessments and comparisons.

ISOE 3: Radiation protection-related information for specific operations or tasks.

ISOE D: General information, concerning nuclear power plants which are definitely shut down or in the process of decommissioning, describing the overall plant performance in relation to radiation protection and dosimetric information related to operational phases and/or occupational categories, including plant personnel and contractors.

Functions of ISOE

The technical operation of ISOE shall be carried out by Technical Centres (hereinafter referred to as "Centres"). They shall be responsible for providing the two distinct and complementary functions of ISOE, respectively defined as the Data Bank function and the Data Management and Analysis function.

1. The Data Bank function

This function shall comprise setting up and maintaining an up-to-date database on the various levels of information defined above. This function includes data collection, quality control of data collected, storage and retrieval service. It is up to the Centres, in agreement with the participants in the respective regions, to decide on the details concerning computer programmes used for the data management, the type of access service to be provided, etc. However, the following shall apply for all Centres:

Data will come from two principal sources, first, from the Participating Utilities (operational data) and Authorities (results of studies and research projects), and second, from outside sources, such as technical/scientific journals and meetings. It is up to the Centres to collect such information and to make sure that information put into the database is quality controlled by professionals in radiation protection.

The storage of information at each Centre shall be secured according to local rules and practices concerning safe storage, including protection against unauthorised access and accidental destruction. The Centres shall periodically exchange between themselves the information they have collected in their respective regions to ensure that the entire ISOE database is available at all Centres. For this purpose, electronic transfer of data shall be possible between the Centres using international standards for data transfer, such as the DIF data format.

The retrieval service to be provided to participants will be either by on-line or by off-line interrogation of the data base.

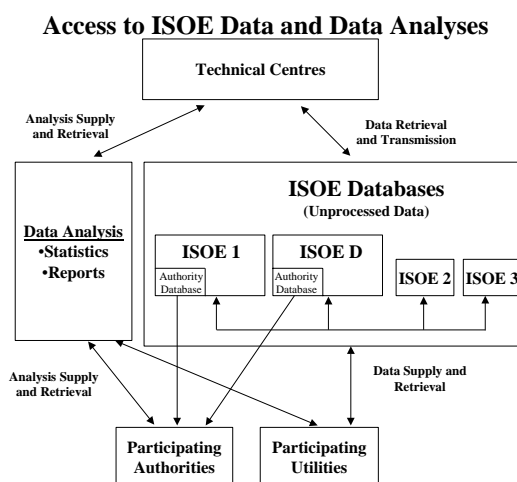
2. The Data Management and Analysis function

This function includes the preparation and dissemination of reports and studies on levels and trends, statistics, correlations, compilations and reviews of methods resulting from the information stored in the above-mentioned data base. This work is carried out by the Centres upon request and as established by the Steering Group. This function also includes the possibility of providing individual participants with a computer software for data management for their own purposes within their own organisations.

Additionally, specific information exchange meetings to discuss technical aspects of occupational dose control are a component of the ISOE programme. The discussion at such meetings is based on information in the ISOE data base and any additional information participants wish to exchange on a specific topic.

Participation and access to information

Considering that it is in the interest of the protection of workers in nuclear installations, staff as well as contractors, that both regulatory authorities and utilities co-operate in the field of occupational exposure, it has been found justified that both types of organisations participate in ISOE. Recognising, however, the differences in their respective roles and functions and the exchange between utilities in ISOE of specific, preliminary and sometimes sensitive information, their participation has a different scope and is under different conditions. These considerations are taken care of in ISOE by regulating the access to and the flow of information produced as indicated in the figure below.



Simplified Scheme of the Flow of Information in ISOE

Finally, participating utilities are strongly encouraged to actively participate in the ISOE 1, ISOE 2, ISOE 3 and ISOE D data bases by fully completing the questionnaires in a timely fashion, and by updating ISOE 2 data and supplying ISOE 3 data as often as interesting or new information

MEMBERSHIP OF THE ISOE STEERING GROUP

Country	Maximum number of members	Distribution of Members	
		<i>Authorities</i>	<i>Utilities</i>
Canada	3	1	2
France	3	1	2
Germany	3	1	2
Japan	3	1	2
United States	3	1	2
Armenia*	2	1	1
Belgium	2	1	1
Brazil*	2	1	1
Bulgaria*	2	1	1
China*	2	1	1
Czech Republic	2	1	1
Finland	2	1	1
Hungary	2	1	1
Italy	2	1	1
Lithuania*	2	1	1
Mexico	2	1	1
Netherlands	2	1	1
Pakistan*	2	1	1
Republic of Korea	2	1	1
Romania*	2	1	1
Slovak Republic*	2	1	1
Slovenia*	2	1	1
South Africa*	2	1	1
Spain	2	1	1
Sweden	2	1	1
Switzerland	2	1	1
Ukraine*	2	1	1
United Kingdom	2	1	1

* The countries marked with an asterisk are Member States of the IAEA but not of NEA.