



Recommendation of the Council
concerning the Operation of a
Nuclear Power Plant Incident
Reporting System

**OECD Legal
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Background Information

THE COUNCIL,

HAVING REGARD to Articles 5 b) and 6 of the Convention on the Organisation for Economic Co-operation and Development of 14 December 1960;

CONSIDERING that the OECD Nuclear Energy Agency (hereinafter referred to as "NEA"), established within the framework of the Organisation, is charged with promoting co-operation between Member countries for the development of the production and uses of nuclear energy for peaceful purposes;

CONSIDERING that exchange of information between Member countries on operating experience in nuclear power plants is important for improving their safe operation;

CONSIDERING that since 1980, on the initiative of the NEA Committee on the Safety of Nuclear Installations, arrangements for the reporting of information on safety-related incidents in nuclear power plants have been implemented on a trial basis through the NEA;

HAVING REGARD to the report by the Secretary-General on the Recommendation by the Steering Committee for Nuclear Energy of 18 October 1982 concerning the operation of the Incident Reporting System (IRS) [C(83)6 and Corrigendum 1];

RECOMMENDS that Member countries require that their competent authorities exchange, in accordance with their own rules, information on safety-related incidents occurring in nuclear power plants through the Incident Reporting System operated by NEA and that in doing so they comply with the Guidelines set forth in the Appendix to this Recommendation;

INSTRUCTS the Steering Committee for Nuclear Energy to review periodically the operation of the System and, if necessary, to revise the Guidelines on the basis of proposals made by the Committee on the Safety of Nuclear Installations.

APPENDIX

GUIDELINES FOR THE NEA INCIDENT REPORTING SYSTEM

1. Objectives

The NEA Incident Reporting System (IRS) has been established in order to exchange operating experience gained in the thermal nuclear power plants of the NEA countries, and to facilitate proper feedback of this experience, not only to benefit nuclear regulatory authorities, utilities and manufacturers, but also to provide additional guidance for safety research programmes. The purpose of the System is to collect and disseminate sufficiently detailed information on incidents of safety significance in nuclear power plants, as soon as practicable, and feed back appropriate conclusions from such incidents.

2. Reporting Commitment

Participants in the System should report on operating experience in their nuclear power plants, in conformity with the common reporting criteria attached to these guidelines (Attachment A).

3. Observers

A country with no nuclear power plant of its own may participate in the System as an observer and receive the reported information, providing that it agrees to enter into the reporting commitment should it possess a nuclear reactor in the future.

4. Reporting

An initial report should be sent to the NEA Secretariat as soon as practicable.

The initial report can take one of two forms:

- a) A short report consisting of a brief description and any preliminary assessment of the incident. This should be sent within one month after the incident occurred or was identified.
- b) A detailed report of the incident, covering the following information:
 1. Plant name, unit number and licensee.
 2. Date of occurrence.
 3. Type of reactor and manufacturer.
 4. Authorised electrical power output.
 5. Systems or components affected.
 6. Initial plant condition.
 7. Way in which the incident was detected.
 8. Radiation exposure or radioactivity release, if applicable.
 9. Incident description.
 10. Possible causes.
 11. Lessons learned or safety significance of incident.
 12. Actions taken or planned.

Information such as material specifications or descriptions of systems design should be included if it facilitates the understanding of the reported incident. This type of report should be sent as soon as it becomes available, as a rule within three months after the incident occurred or was identified.

In order to fulfil the objectives of the IRS, sufficiently detailed incident reports should be prepared. It is, therefore, expected that many reports will belong to category b) above. Where a report in category a) is submitted, a report in category b) should follow to give further details of the incident.

If necessary, follow-up reports may be sent to the NEA Secretariat, consisting of additional or revised information on the incident initially reported.

The reports should be forwarded to System participants within three working days after their receipt.

5. Reporting Format

A standard reporting format (Attachment B) for the initial and follow-up reports.

6. Classification of Information by Category

Unless otherwise specified, all IRS reports collected by the Secretariat will be distributed under the classification, "Restricted", which is the routine classification of OECD documents. Once a "restricted" document is transferred to a competent authority of a Member country, it is up to this authority to decide its further dissemination in the country, as far as it is used for "official purposes". If a reporting country requests a report to be classified, "Confidential", the report will be distributed as such. The recipients of this "confidential" report will be limited to the organisations or persons named in the list of recipients of "confidential" reports¹. Prior authorisation of the reporting country should be obtained for further distribution of the report.

7. Reactor Types Covered

The IRS should cover all types of thermal reactors; i.e. Heavy Water Reactors, Boiling Water Reactors, Pressurised Water Reactors, and Gas-Cooled Reactors.

8. Incidents to be Reported

Any incident meeting the reporting criteria given in Attachment A should be reported and disseminated under the System.

9. Co-ordinators

Each participating country should appoint a co-ordinator who will collect and transmit the information from his country to the NEA Secretariat and also disseminate in his country the information received from the NEA Secretariat.

The co-ordinators may meet, after approval of CSNI, to review the activities of the System and propose any necessary modifications to these guidelines to the Committee on the Safety of Nuclear Installations.

10. NEA Secretariat

The OECD Nuclear Energy Agency will provide the central mechanism, serving as a clearing house to compile, collate and disseminate all information on the incidents reported by the participants in the System, as defined in these guidelines. The NEA Secretariat may approach Member countries to obtain information on an incident reported elsewhere which appears to meet the IRS reporting criteria.

11. Analysis of Reported Incidents

The information obtained under the IRS may be used for review and analysis by the CSNI Incident Analysis Group.

With the approval of CSNI, particular issues arising from operating experience reported under this System may be referred to the appropriate CSNI Working Group for further analysis.

12. Requests for Further Information

A participant in the IRS may request further information about a particular incident through the NEA Secretariat. Any such information obtained will also be disseminated to the other participants in the System.

13. Working Language

Information exchanged through the IRS may be in either of the official languages of the OECD, i.e. English or French.

Attachment A

Reporting Criteria for the NEA Incident Reporting System

1. Significant Release of, or Exposure to, Radioactive Material

Examples include:

- An incident that results in release of radioactive materials to the environment exceeding authorised limits;
- An incident that results in a member of the public receiving a radiation dose exceeding authorised limits;
- An incident that results in facility personnel receiving a radiation dose exceeding authorised limits.

2. Significant Degradation of Safety-related Systems

2.1 Fuel cladding failure

Examples include:

- Fuel cladding failures requiring plant shutdown;
- Cladding failures in spent fuel in the storage pond.

2.2 Degradation of the primary coolant pressure boundary, main steam line or feedwater line

Examples include:

- Through-wall failures of the piping or the significant components of the primary coolant circuit;
- Welding defects or material defects in the primary coolant circuit;
- Rapid temperature or pressure transient exceeding the authorised limits;
- Loss of relief and/or safety valve functions during tests or operation.

2.3 Loss of containment function or integrity

Examples include:

- Containment leakage rates exceeding the authorised limits;
- Loss of containment isolation valve functions during tests or operation;
- Loss of Main Steam Isolation Valve functions during tests or operation;
- Loss of containment cooling capability.

2.4 Degradation of systems required to control criticality

Examples include:

- Failures of the Control Rod System;
- Accidental criticality;
- Failures of the Boron Injection System.

2.5 Degradation of systems required to control the system pressure or temperature

Examples include:

- Failures of the Emergency Core Cooling Systems such as the High/Low Pressure Core Injection System and the Core Spray System;
- Loss of core cooling ability including failures of the Residual Heat Removal System;
- Loss of auxiliary feedwater system.

2.6 Loss of essential support system

Examples include:

- Loss of AC/DC power;
- Failures of the Emergency Generator System;
- Loss of service water, air, gas, etc.

3. Significant Deficiencies in Design, Construction, Operation or Safety Evaluation

Examples include:

- Deficiencies in design or construction which if uncorrected could result in the loss of a required safety function;
- Personnel errors or procedural deficiencies which result in loss of plant capability to perform essential safety functions;
- Discovery of a major condition not specifically considered in the authorised limited or previously analysed.

4. Significant Generic Problems

Examples include:

- Series of incidents where individual incidents are not of significant importance;
- Recurring incidents;
- Incidents with implications for similar facilities.

5. Significant Consequential Actions

Significant consequential actions resulting from reported incidents taken by the competent safety authority on licensing, design or operation.

6. Incidents of Potential Safety Significance

Incidents which have no significant consequences but may be considered as approaching "near-misses".

7. Effects of Unusual External Incident .Either of Man-made or Natural Origin

Examples include:

- An earthquake exceeding the safe shutdown earthquake;
- A flood exceeding the safe shutdown flood;
- An aircraft crash on a nuclear facility.

8. Incidents which Attract Significant Public Interest

This covers only those incidents which have direct relevance for plant safety.

Attachment B

Reporting Format for the Incident Reporting System

No. IRS

RESTRICTED

Title	Date of Incident
Country	Type of Reactor and Manufacturer
Plant	Licensee
	Power
Unit No.	MWe (net)
	First Commercial Operation

Systems or Components Affected
Initial Plant Condition
Way in which Incident was Detected
Radiation Exposure or Radioactivity Release

Date of Receipt
Date of Distribution

Incident description, possible causes, actions taken or planned and lessons learned (safety significance of incident) should be included in the following pages.

¹ This list is reproduced in document SEN/SIN(81)40 and its Appendices.

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The OECD is a unique forum where governments work together to address the economic, social and environmental challenges of globalisation. The OECD is also at the forefront of efforts to understand and to help governments respond to new developments and concerns, such as corporate governance, the information economy and the challenges of an ageing population. The Organisation provides a setting where governments can compare policy experiences, seek answers to common problems, identify good practice and work to co-ordinate domestic and international policies.

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- **Recommendations** are adopted by Council and are not legally binding. They represent a political commitment to the principles they contain and entail an expectation that Adherents will do their best to implement them.
- **Substantive Outcome Documents** are adopted by the individual listed Adherents rather than by an OECD body, as the outcome of a ministerial, high-level or other meeting within the framework of the Organisation. They usually set general principles or long-term goals and have a solemn character.
- **International Agreements** are negotiated and concluded within the framework of the Organisation. They are legally binding on the Parties.
- **Arrangement, Understanding and Others:** several other types of substantive legal instruments have been developed within the OECD framework over time, such as the Arrangement on Officially Supported Export Credits, the International Understanding on Maritime Transport Principles and the Development Assistance Committee (DAC) Recommendations.