**DRAFT ABNORMAL OCCURRENCE CRITERIA AND GUIDELINES FOR OTHER EVENTS OF INTEREST**

Criteria by types of events used to determine which events will be considered for reporting as AOs are as follows:

I. For All Licensees.

A. Human Exposure to Radiation from Licensed Material

1. Any unintended radiation exposure to an adult (any individual 18 years of age or older) resulting in an annual total effective dose equivalent (TEDE) of 250 mSv (25 rem) or more; or an annual sum of the deep dose equivalent (external dose) and committed dose equivalent (intake of radioactive material) to any individual organ other than the lens of the eye, bone marrow, and the gonads, of 2,500 mSv (250 rem) or more; or an annual dose equivalent to the lens of the eye, of 1 Sv (100 rem) or more; or an annual sum of the deep dose equivalent and committed dose equivalent to the bone marrow, and the gonads, of 1 Sv (100 rem) or more; or an annual shallow-dose equivalent to the skin or extremities of 2,500 mSv (250 rem) or more.

2. Any unintended radiation exposure to any minor (an individual less than 18 years of age) resulting in an annual TEDE of 50 mSv (5 rem) or more, or to an embryo/fetus resulting in a dose equivalent of 50 mSv (5 rem) or more.

3. Any radiation exposure that has resulted in unintended permanent functional damage to an organ or a physiological system as determined by a physician.

B. Discharge or dispersal of radioactive material from its intended place of confinement which results in the release of radioactive material to an unrestricted area in concentrations which, if averaged over a period of 24 hours, exceeds 5,000 times the values specified in Table 2 of Appendix B to 10 CFR Part 20, unless the licensee has demonstrated compliance with § 20.1301 using § 20.1302 (b) (1) or § 20.1302 (b) (2) (ii). This does not include transportation events.

C. Theft, Diversion, or Loss of Licensed Material, or Sabotage or Security Breach[1]

1. Any unrecovered lost, stolen, or abandoned sources that the Commission has determined to be risk significant (exceeds the values listed in Appendix P to Part 110, “High Risk Radioactive Material, Category 2"). Excluded from

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1 Information pertaining to certain incidents may be either classified information or material or safeguards information or material under consideration for classification because of national security implications. Classified information will be withheld when formally reporting these incidents in accordance with Section 208 of the ERA of 1974, as amended. Any classified or safeguards information details regarding these incidents would be available to the Congress, upon request, under appropriate security arrangements.

reporting under this criterion are those events involving sources that are lost, stolen, or abandoned under the following conditions: sources abandoned in accordance with the requirements of 10 CFR 39.77(c); sealed sources contained in labeled, rugged source housings; recovered sources with sufficient indication that doses in excess of the reporting thresholds specified in AO criteria I.A.1 and I.A.2 did not occur during the time the source was missing; and unrecoverable sources (sources that have been lost and a reasonable attempt at recovery has been made without success) lost under such conditions that doses in excess of the reporting thresholds specified in AO criteria I.A.1 and I.A.2 were not known to have occurred and the agency has determined that the risk of theft or diversion is acceptable.

2. A substantiated case of actual or attempted theft or diversion of licensed material or sabotage of a facility.

3. Any substantiated loss of special nuclear material or any substantiated inventory discrepancy that is judged to be significant relative to normally expected performance, and that is judged to be caused by theft or diversion or by substantial breakdown of the accountability system.

4. Any substantial breakdown of physical security or material control (i.e., access control containment or accountability systems) that significantly weakened the protection against theft, diversion, or sabotage.

5. Any significant unauthorized disclosures (loss or theft) of classified[2] and/or safeguards information.

D. Initiation of High Level NRC Team Inspections.[3]

II. For Commercial Nuclear Power Plant Licensees

A. Any reactor events or degraded plant conditions that are determined to be of high safety significance.[4]

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2 Due to increased terrorist activities worldwide, the AO report would not disclose specific classified information or material or safeguards information or material and details considered useful to potential terrorists. Classified information or material or safeguards information or material is defined as information that would harm national security if disclosed in an unauthorized manner.

3 Initiation of any Incident Investigation Teams, as described in NRC Management Directive (MD) 8.3, “NRC Incident Investigation Program,” or initiation of any Accident Review Groups, as described in MD 8.9, “Accident Investigation.”

4 Any conditions evaluated by the NRC’s Reactor Oversight Process (ROP) to be Red, as described in NRC Management Directive 8.13, “Reactor Oversight Process.” In general, Red inspection findings are included in the fiscal year in which the final significance determination was made, and Red performance indicators are included in the fiscal year in which the NRC’s external web page for the ROP was updated to show the Red indicator. Additionally, Criterion II.A also includes any events or conditions evaluated by the NRC’s Accident Sequence Precursor (ASP) program to have a conditional core damage probability (CCDP) or change in the core damage probability (CDP) of greater than $1x10^{-3}$. An identical condition affecting more than one plant is counted as a single ASP-event if a single indicator would have resulted in a single reactor accident.

B. Any operating reactor plants that are determined to have overall unacceptable performance, or that are in a shutdown condition as a result of significant performance problems and/or operational event(s).[5]

III. For All Transportation Events and Events at Facilities Other than Nuclear Power Plants

A. Events Concerning Design, Analysis, Construction, Testing, Operation, Transport, Use, or Disposal of Licensed Facilities or Regulated Materials

1. An accidental criticality [10 CFR 70.52(a)].

2. A major deficiency in design, construction, control, or operation having significant safety implications requiring immediate remedial action.

3. A serious safety-significant deficiency in management or procedural controls.

4. Series of events (where individual events are not of major importance), recurring incidents, and incidents with implications for similar facilities (generic incidents) that create a major safety concern.

B. For Fuel Cycle Facilities

1. Absence/failure of all safety-related or security-related controls (engineered and human) for an NRC regulated lethal hazard (radiological or chemical) while the lethal hazard is present.

2. An NRC ordered safety-related or security-related immediate remedial action.

C. For Medical Licensees

A medical event that:

1. Results in a dose that is

a. equal to or greater than 1Gy (100 rad) to a major portion of the bone marrow, or to the lens of the eye; or 2.5 Gy (250 rad) to the gonads; or
b. equal to or greater than 10 Gy (1,000 rad) to any other organ or tissue; and

2. Represents either

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5 Any plants assessed by the ROP to be in the unacceptable performance column, as described in NRC Inspection Manual Chapter 0305, "Operating Reactor Assessment Program." This assessment of safety performance is based on the number and significance of NRC inspection findings and licensee performance indicators.

a. a dose or dosage that is at least 50 percent greater than that prescribed, or

b. a prescribed dose or dosage that

(i) is the wrong radiopharmaceutical or unsealed byproduct material; or

(ii) is delivered by the wrong route of administration; or

(iii) is delivered to the wrong treatment site; or

(iv) is delivered by the wrong treatment mode; or

(v) is from a leaking source or sources; or

(vi) is delivered to the wrong individual or human research subject.

## IV. Other Events of Interest

The Commission may determine that events other than AOs maybe of interest to Congress and the public and should be included in an appendix to the AO report as "Other Events of Interest." Guidelines for events to be included in the AO report for this purpose may include, but not necessarily be limited to, events that do not meet the AO criteria but that have been perceived by Congress or the public to be of high health and safety significance, have received significant media coverage, or have caused the NRC to increase its attention to or oversight of a program area, or a group of similar events that have resulted in licensed materials entering the public domain in an uncontrolled manner. Examples include 1.) any significant adverse trends in industry safety performance, 2.) the initiation of an Augmented Inspection Team per MD 8.3., or 3.) any plant that enters the Multiple/Repetitive Degraded Cornerstone Column of the ROP Action Matrix.