

DEPARTMENT OF ENVIRONMENTAL QUALITY  
DIVISION OF WATER AND RADIOLOGICAL PROTECTION  
PEACETIME NUCLEAR INCIDENTS

(By authority conferred on the department of public health by sections 3 and 7 of Act No. 305 of the Public Acts of 1972, by section 7 of Act No. 146 of the Public Acts of 1919, and by sections 9 and 427 of Act No. 380 of the Public Acts of 1965, being SS325.453, 325.457, 325.7, 16.109, and 16.527 of the Michigan Compiled Laws)

PART 1. DEFINITIONS

R 325.5901 Definitions; A to E.

Rule 1. (1) "Acceptable" means acceptable to the division of radiological health of the department pursuant to part 3.

(2) "Agreement state" means a state with which the nuclear regulatory commission has entered into an effective agreement pursuant to section 247b of the federal atomic energy act of 1954, as amended.

(3) "Department" means the department of public health.

(4) "Emergency equipment" means equipment to be used during a nuclear incident for activities such as monitoring, communicating, minimizing contamination, and decontaminating.

(5) "Exclusion area" means that area surrounding a nuclear facility from which the owner has the authority to exclude or remove people and property.

History: 1979 AC.

R 325.5902 Definitions; M to O.

Rule 2. (1) "Michigan emergency plan" means the state emergency plan developed by the state police pursuant to Act No. 154 of the Public Acts of 1953, as amended, being S30.221 et seq. of the Michigan Compiled Laws.

(2) "Michigan nuclear facility emergency plan" means the plan developed as a component of the Michigan emergency plan, which sets forth the actions to be taken by state agencies in response to a nuclear incident at a nuclear facility.

(3) "Nuclear facility" means a nuclear production or utilization facility.

(4) "Nuclear incident" means an event which creates a class A, class B, or class C condition, as classified in part 2, or an event which creates the probability that such a condition will happen, including:

(a) An event which requires the movement of members of the general public who are outside of the protected area.

(b) An event which will, or may, result in the release of radioactive material in excess of the concentrations listed in 10 C.F.R., Part 20, Appendix B, Table II, as amended, offsite without indication from the liquid or gaseous monitoring system.

(c) A civil disturbance threat.

(d) A threat which may affect the health or safety of the public.

(5) "Nuclear reactor" means an apparatus, other than an atomic weapon, designed or used to sustain nuclear fission in a self-supporting chain reaction.

(6) "Offsite" means outside of the exclusion area.

(7) "Onsite" means within the exclusion area.

(8) "Owner" means the owner, operator, or licensee of a nuclear facility and any agent thereof.

History: 1979 AC.

R 325.5903 Definitions; P.

Rule 3. (1) "Plant" means a nuclear facility.

(2) "Plant emergency plan" means the procedures which are to be implemented by the owner in case of a nuclear incident at a specific nuclear facility and maps, documents, or information sheets attached thereto.

(3) "Production facility" means any of the following:

(a) A nuclear reactor designed or used primarily for the formation of plutonium or uranium-233.

(b) A facility designed or used for the separation of the isotopes of uranium or the isotopes of plutonium, except laboratory scale facilities designed or used for experimental or analytical purposes only.

(c) A facility designed or used for the processing of irradiated materials containing special nuclear material, except:

(i) Laboratory scale facilities designed or used for experimental or analytical purposes.

(ii) Facilities in which the only special nuclear materials contained in the irradiated material to be processed are uranium enriched in the isotope U-235 and plutonium produced by the irradiation, if the material processed contains not more than 10<sup>-6</sup> grams of plutonium per gram of U-235 and has fission product activity not in excess of 0.25 millicuries of fission products per gram of U-235.

(iii) Facilities in which processing is conducted pursuant to a license issued under 10 C.F.R., Part 30, and 10 C.F.R., Part 70, or equivalent regulations of an agreement state, for the receipt, possession, use, and transfer of irradiated special nuclear material, which authorizes the processing of the irradiated material on a batch basis for the separation of selected fission products and limits the process batch to not more than 100 grams of uranium enriched in the isotope 235 and not more than 15 grams of any other special nuclear material.

(4) "Protected area" means the area encompassed by a continuous fence or other physical barrier surrounding a nuclear facility, inside of which members of the public are allowed only with a personal escort.

(5) "Public interest occurrence" means an event or condition which is not a nuclear incident, but which reasonably would be of concern to the agencies of the state and local units of government in the performance of their duty to protect the public health and safety, including:

(a) Abnormal occurrences which shall be reported to the nuclear regulatory commission pursuant to the plant technical specifications.

(b) Indication of unusual results from the plant effluent or environs monitoring systems.

(c) Facility start-up or shut-down.

(d) Impending offsite nuclear fuel or other radioactive material movement, transferral, or shipment which requires federal department of transportation specified marking of a package or vehicle.

History: 1979 AC.

R 325.5904 Definitions; S to U.

Rule 4. (1) "Source material" means uranium or thorium, or a combination thereof, in any physical or chemical form, or ores which contain by weight 0.05% or more of uranium, thorium, or a combination thereof. Source material does not include special nuclear material.

(2) "Special nuclear material" means plutonium, uranium-233, or uranium enriched in the isotope 233 or in the isotope 235, or a material artificially enriched by any of the foregoing, but does not include source material.

(3) "Utilization facility" means a nuclear reactor other than one designed or used primarily for the formation of plutonium or uranium-233.

History: 1979 AC.

## PART 2. NUCLEAR INCIDENTS AND PUBLIC INTEREST OCCURRENCES

R 325.5911 Classification of nuclear incidents.

Rule 11. A nuclear incident shall be classified by the owner according

to R 325.5912 as the first class appearing in the table which meets the incident conditions.

History: 1979 AC.

R 325.5912 Table of nuclear incident classes.  
Rule 12.

**Figure for 325.5912**

Class	Projected Public Individual Exposure Dose or Dose Rate <sup>1</sup>	Organ or Media Involved	Liquid Effluent Concentration	
			For a Single Radioisotope <sup>3</sup>	For a Mixture of Radioisotopes <sup>2</sup>
Class A	0.5 rem in 2 hrs. or 5 rems in 30 days 2.5 rems in 2 hrs. or 25 rems in 30 days	Whole body, including eyes, gonads, and blood-forming organs. Thyroid	500 x MPC <sub>w</sub> <sup>4</sup>	500
Class B	0.5 rem in 30 days  2.5 rems in 30 days	Whole body, including eyes, gonads, and blood-forming organs. Thyroid	50 x MPC <sub>w</sub> <sup>4</sup>	50
Class C	2 millirems in any one hour	Whole body, including eyes, gonads, and blood-forming organs.	3 x MPC <sub>w</sub> <sup>4</sup>	3

<sup>1</sup>An exposure dose or dose rate which equals or exceeds the standard listed will result in classification as specified.

<sup>2</sup>A liquid concentration which equals or exceeds the standard listed will result in classification as specified. The concentration may be averaged over a period of 24 hours.

<sup>3</sup>A sum of the ratios of each radionuclide to its MPC<sub>w</sub> which equals or exceeds the standard listed, will result in classification as specified. The concentration may be averaged over 24 hours.

<sup>4</sup>MPC<sub>w</sub>—see 10 C.F.R., Part 20, Appendix B, Table II, Column 2, as amended.

History: 1979 AC.

R 325.5913 Notification of nuclear incident; confirmation.

Rule 13. (1) When a nuclear incident occurs, the owner shall immediately notify the department by contacting the state police. Notification shall be immediate, without delay for offsite or onsite area radiation readings. Favorable meteorological conditions shall not be considered justification for lack of notification.

(2) A notification pursuant to this rule shall be followed by written confirmation.

History: 1979 AC.

R 325.5914 Notification of public interest occurrence; confirmation.

Rule 14. (1) When a public interest occurrence happens, the owner shall promptly notify the department by telephone during normal working hours or as otherwise specified by the department.

(2) A notification pursuant to this rule shall be followed by written confirmation.

History: 1979 AC.

### PART 3. EMERGENCY PLANS

R 325.5921 Michigan nuclear facility emergency plan.

Rule 21. An owner shall maintain and have available a current copy of the Michigan nuclear facility emergency plan at all times.

History: 1979 AC.

R 325.5922 Plant emergency plan; formulation; evaluation and filing; review; compliance.

Rule 22. An owner shall formulate a plant emergency plan prior to operation. A copy of the plan and of each amendment shall be submitted to the department for evaluation and filing. Upon request of the department, the plan shall be reviewed by the owner and revised if an amendment is necessary. For designation as an acceptable plan by the department, the plan shall conform to the requirements of this part.

History: 1979 AC.

R 325.5923 Plant emergency plan; offsite actions.

Rule 23. (1) In case of a class A nuclear incident, the offsite actions of the owner shall be in accordance with the plant emergency plan and the applicable provisions of the Michigan nuclear facility emergency plan, unless otherwise directed by the governor or by his authorized representative.

(2) In case of a class B or C nuclear incident, the offsite actions of the owner shall be in accordance with the plant emergency plan and the applicable provisions of the Michigan nuclear facility emergency plan unless otherwise directed by the department.

History: 1979 AC.

R 325.5924 Plant emergency plan; conformity; procedures; evacuation routes; personnel reassembly and monitoring areas; emergency survey and stations.

Rule 24. A plant emergency plan shall:

(a) Conform to the Michigan nuclear facility emergency plan and this part for designation as an acceptable plan by the department.

(b) Establish specific procedures to be followed in case of a nuclear incident.

(c) Establish procedures to provide the most expeditious means of evaluating the hazard and to provide systematic notification and response in case of a nuclear incident.

(d) Include plant area maps which shall indicate evacuation routes from the plant, personnel reassembly and monitoring areas, and geographically preselected emergency survey and sampling stations.

History: 1979 AC.

R 325.5925 Plant emergency plan; assessment methods; decisional aids.

Rule 25. A plant emergency plan shall:

(a) Delineate the radiological and meteorological assessment methods and equipment to be employed in determining the magnitude and disposition of any radioactive materials released into the air, ground, or water.

(b) Include decisional aids, such as graphs, maps, lists, and overlays, to aid appropriate state agencies in the classification of nuclear incidents and in the determination of radiation doses in the environs.

History: 1979 AC.

R 325.5926 Plant emergency plan; notification of nuclear incident.

Rule 26. A plant emergency plan shall:

(a) Establish criteria for notification of appropriate state and federal agencies and local units of government in case of a nuclear incident.

(b) Establish methods and procedures, such as call trees or lists, for notifying the state police in case of a nuclear incident. A plan shall provide for immediate notification from the plant to the state police, regardless of the time of day or week that such an incident occurs.

(c) Establish a list of information to be included in a notification of a nuclear incident.

History: 1979 AC.

R 325.5927 Plant emergency plan; onsite contamination control.

Rule 27. A plant emergency plan shall:

(a) Establish procedures for restriction of the public from onsite areas, normally accessible to the public, which become contaminated with radioactive material.

(b) Provide that radioactive contamination testing data from public access areas shall be available to the department for review in the event of a nuclear incident.

(c) Provide that written notification of intent to release such areas for public use shall be received by the department from the plant not less than 24 hours prior to release.

History: 1979 AC.

R 325.5928 Plant emergency plan; offsite contamination control.

Rule 28. A plant emergency plan shall:

(a) Provide assurance that, with the approval of the property owner, the plant owner will assist in decontamination and disposal of contaminated materials from a nuclear incident resulting in offsite contamination.

(b) Provide that offsite radioactive contamination testing data in the possession of the plant owner shall be available to the department for review in the event of a nuclear incident.

History: 1979 AC.

R 325.5929 Plant emergency plan; emergency equipment, vehicles, or services.

Rule 29. A plant emergency plan shall:

(a) Include an inventory of the emergency equipment resources of the owner that can be marshalled at the plant itself and in areas surrounding the plant in case of a nuclear incident. The inventory shall note the normal location and availability of emergency equipment.

(b) List available emergency equipment from other private and public sources.

(c) Provide assurance that emergency vehicles are adequately equipped for the transportation of radiological and other casualties. The plan shall indicate the names and physical locations of the vehicles or services.

History: 1979 AC.

R 325.5930 Plant emergency plan; medical support.

Rule 30. A plant emergency plan shall:

(a) Provide assurance that prior arrangements have been made to secure medical support facilities, such as hospitals, clinics, or doctors' offices, on a 24-hour basis for the treatment of radiological and other casualties.

(b) Provide assurance that medical personnel trained in the treatment of radiological and other casualties are identified and designated.

(c) Provide assurance that adequate monitoring instruments and decontamination equipment are available at the designated facilities.

History: 1979 AC.

R 325.5931 Plant emergency plan; radiation records.

Rule 31. A plant emergency plan shall provide that records of radiation dose measurements or estimations for radiological casualties and exposed persons, in the event of a nuclear incident, shall be available for department review.

History: 1979 AC.

R 325.5932 Plant emergency plan; emergency response services; offsite assistance groups.

Rule 32. A plant emergency plan shall:

(a) Establish a list of qualified emergency response services readily available to the owner to augment his response in case of a nuclear incident.

(b) Include a list of offsite assistance groups such as governmental agencies, medical facilities, and other nuclear facilities with which the owner has emergency planning agreements.

History: 1979 AC.

R 325.5933 Plant emergency plan; annual test; amendments; review.

Rule 33. A plant emergency plan shall:

(a) Provide that tests shall be conducted annually by the owner to determine plan adequacy and the need for updating.

(b) Provide that plan amendments upon adoption shall be submitted for review by the department.

History: 1979 AC.

R 325.5934 Plant emergency plan; modification of requirements.

Rule 34. The department may modify requirements for designation of a specific plant emergency plan as acceptable when necessary for the protection of the public health and safety.

History: 1979 AC.