

TITLE 32: ENERGY  
CHAPTER II: ILLINOIS EMERGENCY MANAGEMENT AGENCY  
SUBCHAPTER c: NUCLEAR FACILITY SAFETY

PART 504  
STATUS SIGNALS FOR NUCLEAR POWER REACTORS

## Section

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**SOURCE:** Adopted at 16 Ill. Reg. 11544, effective July 7, 1992; recodified from the Department of Nuclear Safety to the Illinois Emergency Management Agency at 27 Ill. Reg. 13641; amended at 33 Ill. Reg. 2254, effective January 23, 2009.

**Section 504.10 Policy and Scope**

- a) The Illinois Emergency Management Agency (Agency) has the responsibility under State law to acquire from each nuclear power reactor in the State all system status signals which initiate Emergency Action Level Declarations, actuate accident mitigation and provide mitigation verification, including indications of operating power levels.
- b) Signals shall be provided by each owner in a manner that assures availability to the Agency during all modes of reactor operation (including defueled conditions) as well as throughout accidents and subsequent recovery operations.
- c) This Part provides the criteria and requirements under which each owner of a nuclear power reactor shall transmit to the Agency a System Status Signals Catalogue for the reactor via a Reactor Data Link (RDL).
- d) This Part shall apply to all owners. For any nuclear power reactor for which no License to Operate has been issued by the United States Nuclear Regulatory Commission on the effective date of this Part, a System Status Signals Catalogue shall be transmitted by the owner to the Agency prior to commencing initial fuel

load.

- e) For any nuclear power reactor providing an RDL, the owner shall continue to transmit a System Status Signals Catalogue after the License to Operate is no longer maintained and until such time that all fuel is removed from the site or until the owner no longer possesses the capability to supply such data.

(Source: Amended at 33 Ill. Reg. 2254, effective January 23, 2009)

### **Section 504.20 Definitions**

As used in this Part, the following definitions will apply:

"Agency" means the Illinois Emergency Management Agency.

"Communication Link" means the telephone line or other connection between the Agency supplied modem on the owner's premises to the Agency's headquarters in Springfield, Illinois.

"Owner" means the owner and operator of the nuclear power reactor.

"Point" means the system parameter being monitored.

"RDL" means the Reactor Data Link for a reactor. The RDL includes the entire system by which the owner provides and the Agency receives a System Status Signals Catalogue at the Agency's headquarters in Springfield, Illinois.

"RDL outage" means any breakdown in the RDL that prevents the normal continuous data transmission of the System Status Signals Catalogue to the Agency's headquarters in Springfield, Illinois.

"Reactor" means a nuclear power reactor.

"Station Catalogue" means the complete and inclusive list of all computer monitored points available for transmission from a nuclear power station from which the System Status Signals Catalogue for each reactor is chosen.

"Station Computer" means the computer or computers which collect and transfer data to the Agency's modems.

"System Status Signals Catalogue" means the points selected by the Agency from the Station Catalogue to be transmitted over the Communications Link. A System Status Signals Catalogue is selected for each reactor.

(Source: Amended at 33 Ill. Reg. 2254, effective January 23, 2009)

### **Section 504.30 Protocol for Data Transmissions**

Communications protocol, data representation and data transmission frequency for the System Status Signals Catalogue shall be established and/or changed by mutual consent of the Agency and the owner subject to the condition that the owner shall provide signals to the Agency in a manner and at a frequency that allows the Agency to incorporate the signals into and augment the Agency's remote effluent monitoring system.

(Source: Amended at 33 Ill. Reg. 2254, effective January 23, 2009)

### **Section 504.40 Equipment**

- a) The Agency shall provide a modem to the owner and shall establish a Communication Link. All Agency owned equipment shall be maintained by the Agency.
- b) Agency personnel and agents shall have access to all Agency equipment located at the nuclear station site, subject to any security requirements imposed by law, regulation, or normal security practices of the owner including Fitness-For-Duty requirements.
- c) The owner shall provide and maintain necessary hardware and software at its reactor site to communicate via the Agency supplied modem.

(Source: Amended at 33 Ill. Reg. 2254, effective January 23, 2009)

### **Section 504.50 Updating Station Catalogues and System Status Signals Catalogue**

- a) For each point included in the Station Catalogue, the Station Catalogue shall contain, as a minimum, the name of the point; a description of each parameter (point) measured, sensed or calculated; the units of measure for analog points; the state indication for digital points, e.g., open or closed, on or off; and the type of point, e.g., analog or digital.
- b) On the effective date of this Part, the Agency will consider the current Station Catalogue for each nuclear power station to be the most recent Station Catalogue that was provided the Agency pursuant to the prerulemaking arrangement between the owner and the Agency.
- c) The owner shall provide the Agency an updated Station Catalogue for each

nuclear power station at 180 day intervals. In the event that the Station Catalogue remained unchanged, the owner shall notify the Agency that no changes were made in lieu of providing an updated Station Catalogue. The end of each 180 day interval shall be consistent with the end of the prerulemaking 180 day interval already in effect for the owner under the prerulemaking arrangement between the owner and the Agency. The Agency may lengthen the Station Catalogue submission interval at any time.

- d) Within 14 calendar days after receipt of an updated Station Catalogue, the Agency shall provide the owner with notice of any changes to the System Status Signals Catalogue.
- e) The Agency shall select points for the System Status Signals Catalogue from the updated Station Catalogue using the following criteria:
  - 1) those points by which the off-site radiological consequences can be determined;
  - 2) those points by which challenges to, and failures of, the clad, the primary boundary, and the containment structures can be determined;
  - 3) those points by which short and long-term decay heat removal capabilities can be determined; or
  - 4) those points by which on and off-site station electrical power status can be determined.

(Source: Amended at 33 Ill. Reg. 2254, effective January 23, 2009)

### **Section 504.60 Implementation of System Status Signals Catalogue**

Except as provided in this Section, the owner shall coordinate the transmission of a new System Status Signals Catalogue no later than 14 calendar days after receiving the notice provided for in Section 504.50(d). If the owner determines that it cannot transmit the new System Status Signals Catalogue in the 14 calendar day period, the owner shall, prior to the expiration of the 14 calendar day goal, apply in writing to the Agency for an extension of time to transmit the new System Status Signals Catalogue.

- a) A written request to extend the time for implementation shall include an estimate of the amount of time needed by the owner to begin transmitting the new System Status Signals Catalogue and the reasons why the additional time is needed for implementation.

- b) Timely submittal to the Agency of a written request described in subsection (a) will result in an automatic 14 day extension of the time for implementation by the owner.

(Source: Amended at 33 Ill. Reg. 2254, effective January 23, 2009)

### **Section 504.70 Availability**

- a) Each owner shall transmit a System Status Signals Catalogue for each reactor over a Communications Link continuously 24 hours a day during all modes of reactor operation (including defueled conditions) as well as throughout accident and subsequent recovery operations, except during planned station computer and RDL system outages or unplanned station computer and RDL system outages beyond the control of the owner. The owner shall establish measures to assure that unplanned RDL system outages are promptly identified and corrected and that the root cause of the RDL outage is determined and corrective action taken to preclude repetition where appropriate.
- b) In the event of an RDL outage, or station computer outage, the owner, when required by the Agency, shall establish a point of technical contact with the Agency to communicate reactor status information until the RDL is restored.
- c) In the event of a planned or unplanned station computer outage, data transmission to the Agency shall be restored as soon as possible after the station computer's return to service.
- d) The Agency's access to the System Status Signals Catalogue shall not be intentionally degraded by the owner's computer usage unless such usage is necessary to protect public health and safety as required under the Nuclear Regulatory Commission license, and the degradation of access cannot be avoided.

(Source: Amended at 33 Ill. Reg. 2254, effective January 23, 2009)