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Catawba Nuclear Station  
Emergency Plan  
Section K - Radiological Exposure Control

K. RADIOLOGICAL EXPOSURE CONTROL

To assure that means for controlling radiological exposures in an emergency are established for emergency workers.

K.1 On-site Exposure Guidelines

On-site exposure guidelines consistent with EPA 400-R-92-001, Table 2-2, "Guidance on Dose Limits for Workers Performing Emergency Services," have been established in Figure K-1.

Members of outside emergency services responding to a call from the station are considered emergency workers and must also be protected from excessive radiation doses. Their doses are not to exceed exposure guidelines as established in Figure K-1.

K.2 Doses in Excess of 10CFR Part 20

The Emergency Coordinator or the EOF Director is responsible for authorizing emergency workers to receive doses in excess of 10CFR20 limits. An on-site radiation protection program shall be implemented during emergencies which shall be consistent with ALARA conditions. The site will be responsible for providing medical treatment and rescue efforts for life-saving missions. Site procedures are in place for expeditious decision-making with reasonable consideration of the relative risks involved in a lifesaving mission involving radiation exposure.

K.3 Emergency Personnel Exposure and Records

K.3.a Distribution of Dosimetry

Provisions have been made for maintaining records of emergency personnel during a radiological emergency on a 24-hour per day basis. The Operations Support Center will provide a means for keeping track of exposure to personnel involved in a radiological accident. Distribution of dosimeters (self-reading and TLD badges) will be provided for all personnel.

The issuance of High Range Dosimetry will be in accordance with Radiation Protection procedures.

Should any off-site agency respond to an emergency at the site during a nuclear emergency, dosimeters will be provided for their use to determine any exposure.

### K.3.b Dose Records

The Operations Support Center through the Radiation Protection section shall have the responsibility of keeping records of the doses received by emergency personnel involved in any radiological accident. Normal operating procedures shall be followed for the use of dosimeters and the TLD badges. Distribution of the dosimeters and badges shall be through Radiation Protection.

### K.4 State/Local Plan for Authorizing Doses Exceeding PAGs

See County and State Plans.

### K.5 Decontamination

#### K.5.a Action Levels For Determining the Need For Decontamination

Guidelines as established in Radiation Protection Procedures will be used to determine action levels for decontamination. Pre-planning efforts have been established by the Radiation Protection Section.

#### K.5.b Radiological Decontamination

PD-RP-ALL-0001 (Radiation Worker Responsibilities) provides generic requirements that are to be adhered to by all personnel working in all Duke nuclear facilities. Radiation Protection Procedures define specific action levels for determining the need for decontamination, define the means for decontaminating emergency personnel, describe the availability of supplies, instruments and equipment and process for waste disposal. Handling of contaminated injured personnel is described in station procedure HP/0/B/1009/008, Contamination Control of Injured Individuals.

### K.6 Contamination Control Measures

K.6.a Area Access Control - The site will be evacuated when station management declares a Site Evacuation and a potential threat exists for safety of non-essential personnel. Once the site has been evacuated, access to the site will be limited by the Highway Patrol on the public highway and then Site Security will limit access to the site except through established access procedures.

K.6.b Drinking Water and Food Supplies - Drinking water and food supplies can be brought in by private vendor if necessary. Arrangements will be made by the OSC Nuclear Supply Chain Liaison/designee.

K.6.c Recovery efforts will be determined by the Emergency Operations Facility Organization (see Section M).

#### K.7 Decontamination of Personnel at Relocation Assembly Area

Should non-essential plant personnel be evacuated from site to a relocation area, provisions for extra protective clothing and decontamination of personnel have been made. Protective clothing and decontamination supplies have been placed at the relocation site.

Relocation assembly areas have been determined so that site personnel can be relocated to a safe site quickly and can be decontaminated (if necessary), monitored and released. Records will be made of the exposure of all personnel released from the relocation site. (Procedure HP/0/B/1000/006 provides the requirement for emergency supplies to be established at the off-site relocation assembly area.)

DUKE ENERGY  
CATAWBA NUCLEAR SITE  
FIGURE K-1

EMERGENCY WORKER EXPOSURE LIMITS (a)

| Dose Limits  |  |             |                  |
|--|--|-------------|------------------|
| Activity   | Total Effective<br>Dose Equivalent<br>(TEDE) | Lens of Eye | Other Organs (b) |
| All  | 5 rem  | 15 rem      | 50 rem           |
| Protecting Valuable<br>Property                      | 10 rem                                       | 30 rem      | 100 rem          |
| Lifesaving or Protection<br>of Large Populations     | 25 rem                                       | 75 rem      | 250 rem          |
| Lifesaving or Protection<br>of Large Populations (c) | >25 rem                                      | >75 rem     | >250 rem         |

(a) Excludes declared pregnant women

(b) Includes skin and body extremities

(c) Only on a volunteer basis to persons fully aware of the risks involved

Based on EPA 400-R-92-001, Manual of Protective Action Guides and Protective Actions for Nuclear Incidents