**Section 405.APPENDIX A Minimum Training Requirements for Industrial Radiography Applicable to Radioactive Materials and Radiation Machines**

a) Fundamentals of Radiation Safety

1) Characteristics of radiation

2) Units of radiation dose and quantity of radioactivity

3) Significance of radiation dose

A) Radiation protection standards

B) Biological effects of radiation

4) Levels of radiation from sources of radiation

5) Methods of controlling radiation dose

A) Working time

B) Working distances

C) Shielding

b) Radiation Detection Instrumentation to be Used

1) Use of radiation survey instruments

A) Operation

B) Calibration

C) Limitations

2) Survey techniques

3) Use of personnel monitoring equipment

A) Film badges

B) Thermoluminescent dosimeters (TLDs) or optically stimulated luminescence dosimeters (OSLs)

C) Pocket dosimeters

D) Alarm ratemeter

c) The Requirements of Pertinent Federal and State Regulations

d) Written Operating and Emergency Procedures

e) Case Histories of Radiation Accidents

f) Radiography Equipment to be Used

1) For Industrial Radiography Using Radioactive Material

A) Remote handling equipment

B) Radiographic exposure devices and sealed sources

C) Storage containers

D) Inspection, maintenance, operation and control of radiography equipment

E) Demonstration of competency to safely perform radiographic procedures using a simulated source of radioactive material

2) For Industrial Radiography Using Radiation Machines

A) Remote exposure equipment

B) Radiation machine exposure equipment

C) Inspection, maintenance, operation and control of radiography equipment

D) Demonstration of competency to safely perform radiographic procedures using a simulated source of radiation

(Source: Amended at 26 Ill. Reg. 3483, effective February 25, 2002)