

UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION

DOCKETED  
USNRC

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

95 MAR 28 AIO:40

In the Matter of )  
 )  
THE CLEVELAND ELECTRIC )  
ILLUMINATING COMPANY, ET AL. )  
 )  
(Perry Nuclear Power Plant, )  
Units 1 and 2 )

OFFICE OF SECRETARY  
DOCKETING & SERVICE  
BRANCH

Docket Nos. 50-440  
50-441

APPLICANTS' DIRECT TESTIMONY  
OF  
KENNETH B. COLE  
ON ISSUE NO. 1 - CONTENTION M

1. The State of Ohio Disaster Services Agency (DSA) maintains three fully trained and equipped radiological monitoring teams for response to any radiation emergency in Ohio. The members for the teams are drawn from the 8-10 fully qualified technicians who work daily in the agency's Nuclear Section. Each technician has received training in the area of nuclear response, and in most cases is qualified as an instructor in the subject. In addition to the classroom training, each technician actively participates in response to 15-30 non-nuclear power plant related incidents per year. To insure familiarity with instrumentation and procedures, each team member is required to participate in two additional training sessions per year which are designed around response to nuclear power facility accidents. A list of training received by each is attached as Attachment 1.

8503290155 850325  
PDR ADOCK 05000440  
G PDR

2. In 1980, the Nuclear Regulatory Commission and the Federal Emergency Management Agency jointly produced a guidance document for off-site nuclear power plant planning (NUREG-0654). Under the guidance of this document, Ohio DSA augmented its field monitoring capability with the purchase of additional equipment. The new equipment is more sensitive, more accurate, and exceeds the NUREG-0654 criteria for identifying iodine concentrations down to  $1 \times 10^{-7}$  uCi/cc. Air sampling capability was also developed with the purchase of Eberline RAS-2 samplers, which provide the means of collecting particulate samples on filter paper and iodine samples in silver zeolite cartridges. The equipment lists are attached as Attachments 2 and 3.

3. The composition of a field monitoring team for nuclear power related incidents consists of one or more technicians from Ohio DSA and the Ohio Environmental Protection Agency (EPA). Members of these two agencies work together to collect environmental samples and obtain gross gamma readings, which provide the data needed by the State's Dose Assessment Group. The data is transmitted to a centralized command and control facility in the State emergency operations center (EOC) in Columbus which includes a dedicated computer system for analysis and evaluation of radiological data and related dose rates for the key isotopes and for converting parameters for these isotopes.

4. The placement of a field monitoring team in an accident area requires several specific and simultaneous actions:

1. Unusual Event -
  - a. Team members are identified and placed on "Alert". The resources necessary for rapid response are consolidated.
2. Alert -
  - a. Field monitoring teams are dispatched.
  - b. The mobile communications van is dispatched.
  - c. The response team supervisor is dispatched by air to the site.

5. On arriving at the site area in one of the State's helicopters, the ODSA response team supervisor performs an aerial survey, to confirm the general plume direction and centerline. This monitoring is performed with a PRM -7 micro R meter. The helicopter's response time to the Perry site is about one hour and 15 minutes.

6. In the case of the Perry Nuclear Power Plant, the field teams are in place 3 to 3 1/2 hours after they are dispatched. The staging area for field monitoring personnel is the Ohio Highway Patrol Post in Chardon, Ohio. The communications van sets up at the Ledgemont School at 16200 Burrows Road, Thompson, Ohio. Once at the local staging area, the Ohio DSA members meet the Ohio EPA members and form three

field monitoring teams. Personnel dosimetry and record forms are issued and field sample kits are loaded into vehicles. The teams' direction and control comes from the response team supervisor who operates out of the communications van. The team supervisor directs each field team to preselected sites to collect environmental samples. The type of sample or information to be collected is determined by the Dose Assessment Group in the State Emergency Operations Center (EOC). The information received from the monitoring teams will allow plotting of the plume and identification of plume parameters.

7. The communications van's capabilities allow the response team supervisor to have direct communications with the State EOC, County EOC's, the Perry Emergency Operations Facility (EOF), and each monitoring team, regardless of where they might be in the 10 mile emergency planning zone. Each monitoring team has radios with both hand-carried and in-vehicle capabilities which operate on the Ohio Disaster Service Agency Direction and Control frequencies. The response team supervisor is responsible for maintaining records indicating:

1. Requested sampling sites
2. Gross gamma readings from each site.
3. Counts per minute from each air sampling cartridge.
4. Type of sample taken.

8. The State of Ohio's field monitoring teams now have participated in eight exercises. Each was graded by experienced Department of Energy representatives and in each case the teams' performance resulted in no category "A" deficiencies, and few suggestions for improvement. The State's field monitoring teams are adequate in number, equipment and communications capabilities to effectively track the radiation plume independently of the radiation monitoring teams which are dispatched from the Perry plant.

9. In addition to the State, the Department of Energy, US Environmental Protection Agency, and NRC all have capability for gross gamma monitoring, environmental sampling and analysis, independent meteorological capability, and plume identification and tracking in the event of an accident at the Perry facility. A central location for consolidating and coordinating all field data - the Federal Radiological Monitoring and Assessment Center - would be set up by DOE and would relay information to the EOC's, the EOF and FEMA.

10. As a result of working together on many different types of radiological emergencies, Ohio's nuclear incident response capability is recognized and respected by both the Department of Energy and the Nuclear Regulatory Commission and represents an effective independent radiation monitoring system for the plume exposure pathway emergency planning zone for the Perry Nuclear Power Plant. All three of the counties within the Perry plume exposure pathway EPZ rely on the State's field

monitoring capabilities, as shown in their emergency plans  
(Lake Plan, § I-02; Ashtabula Plan, § I.2; Geauga Plan § I-2).

ATTACHMENT 1

TRAINING OF FIELD MONITORING PERSONNEL

COURSES TAKEN

MAINTENANCE AND CALIBRATION  
SUPERVISOR

Radiological Monitoring  
Radiological Emergency Response Team  
Radiological Officer  
Radiological Monitoring Instructor  
Radiological Response Team  
Instructor  
Radiological Officer Instructor  
Radiological Accident Assessment  
Course  
Radiological Emergency Preparedness  
Planning  
Basic Radiological Health  
Aerial Radiological Monitoring  
Radiological Emergency Response  
Course

RADIOLOGICAL DEFENSE OFFICER

Radiological Defense Officer  
Managers  
Radiological Monitoring  
Radiological Emergency Response Team  
Radiological Officer  
Radiological Monitoring Instructor  
Radiological Response Team  
Instructor  
Radiological Officer Instructor  
Radiological Accident Assessment  
Course  
Radiological Emergency Preparedness  
Planning  
Basic Radiological Health  
Aerial Radiological Monitoring  
Radiological Emergency Response  
Course

INDUSTRIAL SAFETY HYGENIST

Radiological Monitoring  
Radiological Emergency Response  
Course  
Radiological Officer  
Radiological Monitoring Instructor  
Radiological Response Team  
Instructor  
Radiological Officer Instructor



(cont'd.) Radiological Accident Assessment Course  
Radiological Emergency Preparedness Planning  
Basic Radiological Health  
Aerial Radiological Monitoring  
Radiological Emergency Response Course

RADIOLOGICAL HEALTH INSTRUCTOR

Radiological Monitoring  
Radiological Emergency Response Team  
Radiological Officer  
Radiological Monitoring Instructor  
Radiological Response Team  
Instructor  
Radiological Officer Instructor  
Radiological Emergency Response Course  
Aerial Radiological Monitoring

RADIOLOGICAL HEALTH SPECIALIST

Radiological Monitoring  
Radiological Emergency Response Team  
Radiological Officer  
Radiological Monitoring Instructor  
Radiological Response Team  
Instructor  
Radiological Officer Instructor  
Radiological Emergency Response Course  
Aerial Radiological Monitoring

ELECTRONIC TECHNICIAN 2

Radiological Monitoring  
Radiological Emergency Response Team  
Radiological Officer  
Radiological Monitoring Instructor  
Radiological Response Team  
Instructor  
Radiological Officer Instructor  
Radiological Emergency Response Course  
Aerial Radiological Monitoring

ELECTRONIC TECHNICIAN 2

Radiological Monitoring  
Radiological Emergency Response Team  
Radiological Officer  
Radiological Monitoring Instructor  
Radiological Response Team  
Instructor

(cont'd.)

Radiological Officer Instructor  
Radiological Emergency Response  
Course  
Aerial Radiological Monitoring

ELECTRONIC TECHNICIAN 3

Radiological Monitoring  
Radiological Emergency Response Team  
Radiological Officer  
Radiological Monitoring Instructor  
Radiological Response Team  
Instructor  
Radiological Officer Instructor  
Aerial Radiological Monitoring

ATTACHMENT 2

OHIO DISASTER SERVICES AGENCY  
EMERGENCY RESPONSE EQUIPMENT (AVAILABLE)

3 - CDV-715	Ion Chamber .05 R/hr to 500 R/hr
3 - CDV-700	Geiger Muller .05 mR/hr to 50 mR/hr
1 - SAM 2	Stabilized Assay Meter
1 - RD-19	Stabilized Detection Probe
5 - PRS-1P	Rascal
5 - PRM-7	Micro R Meter - .005 mR/hr to 5 mR/hr
5 - SPA-3	Scintillation Probe (High Energy)
2 - HP-200	Gamma Probe
5 - HP-210	Pancake G.M. Probe
5 - HP-270	Beta/Gamma Probe
5 - A-C-3-7	Scintillation Alpha Probe
5 - PG-2	Scintillation Probe (Low Energy)
5 - Small Screwdriver	
3 - Regulated Air Sampler	
24 - Silver Zeolite Cartridges	
60 - Carbon Cartridges	
3000 - Filter Paper 47 mm	
3 - Portable Generator	
16 - TLD Badge	

36 - CDV-138

15 - CDV-730

15 - CDV-742

8 - Film Badge

Pencils

Note Paper

ATTACHMENT 3

OHIO DISASTER SERVICES AGENCY  
RESPONSE EQUIPMENT (PER TEAM)

CDV-715	Ion Chamber .05 R/hr to 500 R/hr
CDV-700	Geiger Muller .05 mR/hr to 50 mR/hr
RD-19	Stabilized Detection Probe
PRS-1P	Rascal
PRM-7	Micro R Meter - .005 mR/hr to 5 mR/hr
SPA-3	Scintillation Probe (High Energy)
HP-200	Gamma Probe
HP-210	Pancake G.M. Probe
HP-270	Beta/Gamma Probe
A-C-3-7	Scintillation Alpha Probe
PG-2	Scintillation Probe (Low Energy)
Small Screwdriver	
Regulated Air Sampler	
Silver Zeolite Cartridges	
Carbon Cartridges	
Filter Paper 47 mm	
Portable Generator	
TLD Badge	
CDV-138	

CDV-730

TCDV-742

Film Badge

Pencils

Note Paper

Radiological Monitoring SOP

County Map - at scale of 1" = 1 mile

County Map - at scale of 1:24,000