



TITLE:

INSTRUCTIONS FOR AUGMENTING THE UST Co. RADIATION
SAFETY PROGRAM AT THE CLINTON POWER STATIONRadiation Safety
Program Augmentation
No. CPS-1

Revision No. 8

SCOPE OF REVISIONS:

Rev. 8 Revised substantially throughout.

Incorporated/Resolved comments as per MEMO RFH-051-85.

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INFORMATION ONLY8505060348 850425
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Revision No.	8			
No. of Sheets	17			
Prepared by	<i>J. D. Simon</i>			
Reviewed by	<i>R. K. Smith</i>			
Approved by	<i>J. D. Simon</i>			
Date of Issue	02-27-85			



UNITED STATES TESTING COMPANY, INC.

TITLE:

INSTRUCTIONS FOR AUGMENTING THE UST Co. RADIATION
SAFETY PROGRAM AT THE CLINTON POWER STATION

Radiation Safety
Program Augmentation
No. CPS-1

Revision No. 7

SCOPE OF REVISIONS:

- Rev. 4 Changed Para. 2 to require the UST Co. shift supervisor to notify IP Operations in addition to IP Security prior to and after each Radiation Operations.
- Rev. 5 Detailed the intent of Para. 7 with respect to the disestablishment of Restrictive Area perimeters.
- Deleted T. Swift in Attachment A.
- Added D. Hillyer in Attachment A.
- Rev. 6 Included instructions and verbiage for bullhorn use.
- Included instructions to make a reasonable, prudent and thorough search of scaffolding in RT areas.
- Included instructions to deliver a copy of the UST NOTICE OF RADIATION OPERATIONS to the B/A General Superintendent, IP Security, and IP Operations prior to start of operations.
- Deleted H. Livermore from Attachment A.
- Added F. Christianson to Attachment A.
- Rev. 7 Included instructions for use of the red flashing light on the bulletin boards in brass alley and the N.E. Corridor of Radwaste at the 737' elevation.

Revision No.	4	5	6	7
No. of Sheets	5	5	6	6
Prepared by	J.A. Grimm	J.A. Grimm	J.A. Grimm	J.A. Grimm
Reviewed by	R. Krauth	R. Krauth	H. Schmid	R. Krauth
Approved by	J.A. Grimm	J.A. Grimm	J.A. Grimm	J.A. Grimm
Date of Issue	1-27-84	3-01-84	7-20-84	8-28-84



UNITED STATES TESTING COMPANY, INC.

TITLE:

INSTRUCTIONS FOR AUGMENTING THE UST Co. RADIATION
SAFETY PROGRAM AT THE CLINTON POWER STATION

Radiation Safety
Program Augmentation
No. CPS-1

Revision No. 3

SCOPE OF REVISIONS:

- Rev. 0 Incorporated provisions of JAG-UST-9/81-02.
Incorporated Corrective Action provisions of IPQA 1/7/83
"Inquiry of Radiation Barrier Crossing."
- Rev. 1 Attachment A
Delete: R. Baldwin, IPQA Supervisor-Welding , NDE and Testing
Add: J. Price, IPQA Supervisor-Welding, NDE and Testing
- Rev. 2 Attachment A
Delete: R. Stearns, UST Alternate
Delete: J. Price, IPQA Supervisor-Welding, NDE and Testing
Add: R. Baldwin, IPQA Supervisor-Welding, NDE and Testing
- Rev. 3 Attachment A
Delete: R. Maxwell, UST Alternate
Add: Wm. Boyson, UST Alternate

Revision No.	0	1	2	3
No. of Sheets	4	4	4	4
Prepared by	J.A. Grimm	R. Krauth	R. Krauth	R. Krauth
Reviewed by	R. Krauth	J.A. Grimm	J.A. Grimm	J.A. Grimm
Approved by	J.A. Grimm	J.A. Grimm	J.A. Grimm	J.A. Grimm
Date of Issue	1-25-83	1-31-83	4-14-83	11-1-83



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1.0 SCHEDULING

- 1.1 U.S. Testing personnel shall deliver a PRELIMINARY NOTICE OF RADIATION OPERATIONS to distribution prior to the end of the first shift (typically by 3:30 pm). The PRELIMINARY NOTICE OF RADIATION OPERATIONS shall clearly state no work to be scheduled in identified areas where radiography is scheduled.
- 1.2 Due to construction priorities, there may be changes to the PRELIMINARY NOTICE OF RADIATION OPERATIONS.
- 1.3 A final NOTICE OF RADIATION OPERATIONS shall be routed for review and approval to:
 - a. BA Safety
 - b. BA Project Manager
 - c. BA General Superintendent
 - d. IP Security
 - e. IP Operations
 - f. IP Radiation Protection
- 1.4 Radiation Operations shall not commence until the final NOTICE OF RADIATION OPERATIONS has been approved as per para. 1.3; and posted as per para. 2.1, 2.2, and 2.3 of this instruction.

2.0 PREPARATION FOR RADIATION OPERATIONS

- 2.1 A copy of the approved final NOTICE OF RADIATION OPERATIONS shall be posted inside the lighted, locked bulletin boards located near brass alley and inside the northeast entrance of the Radwaste Building, (737').

NOTE

Numerous copies of the approved final NOTICE OF RADIATION OPERATIONS shall be deposited in the drop box outside the

TRAINING RECORD
GROUP INSTRUCTION

Project or Location Clinton (1033)
Instructor W. K. Jackson Date 2/28/55
Subject CPS-1 REV 8 (40 min)

Description of Training:

Thoroughly covered CPS-1 REV 8
Had group discussion.

Attendees:

John A. Fletcher SAF
Jeff Goodwin S.O.
Scott H. Deal S.O.
Earl B. Wolff ESWO
Rolf L. Walter RW
Mary Chandler m
Rick Melton ARM
William Norton W.N.
Clifford Spindler CFS
L. Banks LB
S. Weible SW
Bruce Hanning BH

Ray Paston RP
James D. Schmid HAS
Wm. C. V.C.
Michael H. H. 3/1/55



Safety Office, (737' Control Building).

- 2.2 Concurrent with posting the approved final NOTICE OF RADIATION OPERATIONS in the bulletin boards, the red flashing lights on the bulletin boards shall be energized.
- 2.3 A response check of all assigned survey instruments shall be performed by the Designated Radiographer and documented on the Survey Meter Verification Log, (CPSF-1.4). Readings should be consistent from day to day and meter to meter. Suspect conditions shall be resolved in accordance with procedure UST-NDEC-1.
- 2.4 Each assigned individual shall check their assigned Pocket Dosimeter and document the results utilizing the Pocket Dosimeter Record, (CPSF-1.3).
- 2.5 Pocket Dosimeters and Film Badges should be worn in the provided dosimetry pouch which should be worn on the belt.
- 2.6 Radiation Workers hardhats shall bear Radiation Warning Symbols. These will identify the wearer as authorized to prevent unauthorized access to the restricted area, established by and under the control of UST Co.

3.0 ESTABLISHING THE RESTRICTED AREA/HIGH RADIATION AREA

- 3.1 The Designated Radiographer shall be responsible for the following actions to establish the restricted area.
 - a. Post barricades (utilizing yellow and magenta rope and/or tape) at all access points to the restricted area.
 - b. Assign a perimeter guard at each access point to the restricted area. The perimeter guards may permit exit from the restricted area; but shall not permit entry of unauthorized personnel into the restricted area.



- c. Direct an evacuation of the restricted area. Personnel shall be assigned specific areas/elevations utilizing the Restricted Area Evacuation Worksheet, (CPSF-1.1).
- 1) Each assigned searcher shall conduct a thorough, physical search of the restricted area, including scaffolding, open ventilation ducting, accessible pipe penetrations, and cable trays.
 - 2) Each assigned searcher shall utilize a portable bullhorn as an additional measure to ensure evacuation of unauthorized personnel. The following announcement should be made continuously while evacuating the restricted area: "Attention all personnel - Radiation Safety Announcement - United States Testing is establishing a Restricted Area at (location). Please make a safe exit from this area immediately." Each announcement should be preceded by a foghorn blast on the bullhorn.
 - 3) Each assigned searcher, upon completion of the assigned area/elevation, shall report back to the Designated Radiographer; and shall initial CPSF-1.1 to indicate that a thorough search was conducted. The Designated Radiographer shall also initial concurrence that a thorough search was conducted.
 - 4) When all the assigned areas/elevations have been thoroughly searched, as denoted by the initials of the searchers and the Designated Radiographer, the Designated Radiographer shall sign, date, and indicate



the time of approval.

- 5) Upon completion of these actions the Designated Radiographer shall direct that CAUTION-RADIATION AREA - DO NOT ENTER signs be posted at the restricted area barricades. In addition, the battery operated, portable, flashing, red lights shall be energized at the restricted area barricades.

d. Evacuation of the Drywell shall be performed by a minimum of six (6) searchers utilizing a Double Search method, and shall meet the requirements of para. 3.1.a, 3.1.b and 3.1.c of this instruction.

- 1) Evacuation shall begin with all assigned searchers at the top of the drywell working down in unison to the bottom.
- 2) Personnel completing their first search shall report to the Designated Radiographer to be assigned specific areas (elevations) to begin the second complete search. (The searchers will then operate in three, two man teams, utilizing a pincher pattern.)
- 3) Upon having completed the second search, the searchers shall again report to the Designated Radiographer for completion of the Restricted Area Evacuation Worksheet, (CPSF-1.1).
- 4) Following the Designated Radiographer's signature, a member of IP's Radiation Protection Department shall also sign CPSF-1.1 for approval.

3.2 Following the evacuation and establishment of the restricted area, the Designated Radiographer shall establish and surveil the High



Radiation Area in accordance with normal Operating Procedures.

- a. The High Radiation Area shall be barricaded by yellow and magenta rope and/or tape, and CAUTION (or DANGER) - HIGH RADIATION AREA - DO NOT ENTER signs.
- b. An audible alarm, (e.g., Rad tad, etc.), shall be positioned in close proximity to the exposed position of the source.
- c. A battery powered, portable, flashing, red light shall be placed near the exposed position of the source.

4.0 CONDUCTING RADIATION OPERATIONS

- 4.1 The U.S. Testing Shift Supervisor shall notify IP Operations and IP Security prior to each Radiation Operation.
- 4.2 The Designated Radiographer shall conduct Radiation Operations in accordance with approved Operating Procedure.
- 4.3 At approximately ten minutes prior to the first exposure of the source in a specific area, the Designated Radiographer shall be responsible for making the following announcement on the Gaitronics System and the portable bullhorn throughout the Restricted Area Volume: "Attention all personnel - U.S. Testing will begin Radiation Operations at (location) in approximately ten minutes."
- 4.4 During field operations, the time each exposure starts and ends shall be recorded on the Field Exposure Log, (CPSF-1.2), by the Designated Radiographer.
- 4.5 Radiation Workers assigned to the surveillance of the Restricted Area Perimeters shall constantly surveil the assigned perimeter to prevent unauthorized personnel from entering. They shall maintain this surveillance for as long as the Restricted Area is established.
- 4.6 Each Restricted Area perimeter guard shall take and document, (CPSF-1.5), a radiation survey at the beginning of each shot, to



ensure that radiation levels are below those values calculated by the Radiographer. If the radiation level is greater than the calculated value, immediately notify the Designated Radiographer.

5.0 SECURING RADIATION OPERATIONS AT A SINGLE LOCATION

- 5.1 The Designated Radiographer shall secure the licensed equipment in accordance with approved Operating Procedure.
- 5.2 The Designated Radiographer shall direct the disestablishment of the High Radiation Area and the Restricted Area by removal of the red flashing lights, the signs, and the yellow and magenta barrier material. This removal of barriers, signs, and barrier lights shall be performed only when so directed by the Designated Radiographer.
- 5.3 The Designated Radiographer shall be responsible for making the following announcement on the Gaitronics System and the portable bullhorn, "Attention all personnel - U.S. Testing has concluded Radiation Operations at (location)." This concluding announcement shall not be made until the licensed equipment is secured, and the Restricted Area and High Radiation Area perimeters have been disassembled.
- 5.4 The U.S. Testing Shift Supervisor shall notify IP Operations and IP Security that the Radiation Operation has been completed.

6.0 SECURING FROM ALL RADIATION OPERATIONS

- 6.1 Upon conclusion of all Radiation Operations, the posted final NOTICE OF RADIATION OPERATIONS shall be removed from the bulletin boards; and the bulletin boards' flashing red lights shall be deenergized.



- 6.2 The Designated Radiographer shall perform and document a response check of all assigned survey instruments utilizing CPSF-1.4.
- 6.3 The U.S. Testing Shift Supervisor shall notify IP Operations and IP Security that all Radiation Operations have been concluded.

7.0 ABNORMAL SITUATIONS

- 7.1 Any condition not covered by Operating Procedure, (e.g., stuck source, etc.), shall require implementation of the Emergency Procedure.
- 7.2 Any encroachment of the Restricted Area by unauthorized personnel, or any unusual occurrence which may have resulted in inadvertent exposure to personnel shall require immediate notification to the personnel identified in Attachment "A" of this instruction. This shall be accomplished by immediate reporting of known details to the UST Co. Shift Supervisor. The UST Co. Shift Supervisor shall record these known details, and make the specified notifications immediately.

NOTE:

- 1. THESE INSTRUCTIONS ARE INTENDED TO AUGMENT THE STANDARD UST CO. RADIATION SAFETY PROGRAM, AND SHALL NOT RELIEVE UST CO. RADIOGRAPHIC PERSONNEL OF ANY RESPONSIBILITY REQUIRED THEREIN.
- 2. Revisions to this instruction shall be reviewed and approved by Illinois Power/Radiation Protection.



UNITED STATES TESTING COMPANY, INC.

CPS-1, Rev. 8
ATTACHMENT A

Immediate notification shall be given to the following personnel in regard to any encroachment of RESTRICTED AREA Perimeters; or any unusual occurrence relating to Radiography, which may have resulted in inadvertent exposure to personnel.

<u>TITLE</u>	<u>NAME</u>	<u>PHONE</u>
NRC Resident Inspector	F. Christianson	Ext. 2638 Home (217) 586-5064
	P. Gwynn	Ext. 71-3754 Home (309) 928-2687
UST Radiation Protection Officer	J.A. Grimm	Ext. 2412 Home (217) 875-5810
UST Alternate	R. Krauth	Ext. 2566 Home (217) 356-9850
UST Alternate	W. Boyson	Ext. 2627 Home (217) 356-3070
IPQA Director of Purchasing and Construction	G. Bell	Ext. 71-3191 Home (217) 877-6488
BA Shift Safety Engineer	R. Knight	Ext. 2160 Home (309) 663-2097
	D. Spencer	Ext. 2276 Home (217) 578-3061
	R. Burton	Ext. 2276 Home (217) 935-9818
	S. Whicker	Ext. 2246 Home (217) 352-0489
IP Security Shift Liaison	*M. Newby	Ext. 2501
	*R. Lawrence	or call Ext. 2100
	*D. Smith	for Home Phone
	*W. Dethrow	Number
IPC Supervisor Radiological Operations	D. Hillyer	Ext. 71-3228 Home (217) 422-3676
IP Operations Shift Supervisor**	Pat Yocum	Ext. 2223
	Jeff Neuschwanger	or 71-3329
	Gary Mosley	
	John Owens	
	Jeff Kouski	

*Four Liaison Personnel work rotating shifts.

**Five operations supervisors work rotating shifts.

UNCONTROLLED
INFORMATION ONLY



UNITED STATES TESTING COMPANY, INC.

RESTRICTED AREA EVACUATION WORKSHEET

Location	Elevation(s) Assigned	Search By Int.	Approved By Radiographer Int.	REMARKS
	1.			
	2.			
	3.			
	4.			
	5.			
	6.			

Radiographer Signature: _____ Date: _____ Time: _____

Location	Elevation(s) Assigned	Search By Int.	Approved By Radiographer Int.	REMARKS
	1.			
	2.			
	3.			
	4.			
	5.			
	6.			

Radiographer Signature: _____ Date: _____ Time: _____



SERIAL NO. _____ MODEL NO. _____

Name of Technician _____

CPSF-1.3 (2/85)

1. When charging dosimeter run the hairline up and down scale prior to setting it on 0 mr.
2. Short dosimeter charging pin to the case to remove static charge. Then read dosimeter. Dosimeter shall not read more than 10 mr.
3. Lightly tap dosimeter to insure stability of the fiber line. If no reaction record on log.

1. Turn selector switch to the "bat" position. If the meter does not read with in the check band, the batteries must be replaced.
2. Place meter in front of camera plug centering GM Tube as closely as possible.
3. Turn selector switch to X1 scale, if Rad. Level exceeds scale switch to next highest scale. Record reading on log.



AREA SURVEY MONITOR RECORD

Boundary Location

Date _____

Survey Meter S/N

Worker Signature

CPSP-1.5 (2/85)



TRAINING RECORD
GROUP INSTRUCTION

Project or Location Clinton (1033)
Instructor J. E. Egan (at site) Date 2/25/85
Subject Respirator Safety 1/2 hr

Description of Training:

Reviewed Evacuation procedure for Contaminant (Inside Drywell)
Reviewed Evacuation procedure for Contaminant (Outside Drywell).
Stressed the importance of conducting a physical search
of the entire Restricted Area Volume to include scaffolding,
Ventilation ducts, penetrations, cable trays etc.
Stressed the importance of Safety first, production second.

Attendees:

Clifford P. Spickard CFS
Jeff Doodman J.G.
Ray Pittard RP
James L. Schmid H.L.S.
Harry Chandler sr.
Bruce Herring BH
Joe Fletcher sr.
Earl Wilke Elr
Rick Helton RH
Lester A. Dool L.A.D.
William Horton WA

Vernon Collins V.C.
Michael Pate MP
J. Lewis J.L.
J. Wick J.W.
W. R. Rufford W.R.



1033-772 - 700

UNITED STATES TESTING COMPANY, INC. Attachment 19B

TRAINING RECORD
GROUP INSTRUCTIONProject or Location Clinton 1033Instructor W. K. Boyson Date 2-27-85Subject Radiation Incident of Jan 5, 1985Description of Training: Reviewed the circumstances

surrounding the subject incident, including probable reasons. Explained the necessity of a proper search as well as methods for conducting the search I.H.W. with procedure. Emphasized the importance of understanding the limits of search areas as well as exact locations.

Attendees:

Harold L. Schmidt HCS

Scott A. Schermer SAE

Stan Wible L.W.

Procy Chandler MC

Scott Neal L.A.W.

Earl D. G. ESQ. J.E.

John L. Walter L.W.

Clifford R. Spence L.F.S.

John L. Walter L.W.

Bruce Haenig BH

John L. Walter L.W.