

March 26, 1996

Tennessee Valley Authority
ATTN: Mr. Oliver D. Kingsley, Jr.
President, TVA Nuclear and
Chief Nuclear Officer
6A Lookout Place
1101 Market Street
Chattanooga, TN 37402-2801

SUBJECT: MEETING SUMMARY - PLANS FOR RADIOLOGICAL CONTROLS DURING NEXT
OUTAGE - BROWNS FERRY NUCLEAR PLANT - DOCKET NOS. 50-256, 50-260,
AND 50-296

Dear Mr. Kingsley:

This refers to the meeting conducted at your request at the NRC Region II office in Atlanta, Georgia, on March 14, 1996, at 9:00 a.m. The purpose was to discuss the plans for the Radiological Controls to be applied during the next refueling outage. Enclosed are list of attendees and the presentation handouts.

In accordance with 10 CFR 2.790, of the NRC's "Rules of Practice," Part 2, Title 10 Code of Federal Regulations, a copy of this letter and its enclosures will be placed in the NRC Public Document Room.

Should you have any questions concerning this meeting, please contact Mr. Ken Barr at (404) 331-0335.

Sincerely,

(Original signed by M. S. Lesser)

Mark S. Lesser, Chief
Reactor Projects Branch 6
Division of Reactor Projects

Docket Nos. 50-259, 50-260, 50-296
License Nos. DPR-33, DPR-52, DPR-68

Enclosures: 1. List Attendees
2. Handout - Browns Ferry Nuclear Plant
Radchem Program Status

cc w/encl: {See page 2}

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PDR ADOCK 05000259
P PDR

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NAME	D Jones	K Barr								
DATE	03/25/96	03/26/96	03 / / 96	03 / / 96	03 / / 96	03 / / 96	03 / / 96	03 / / 96	03 / / 96	03 / / 96
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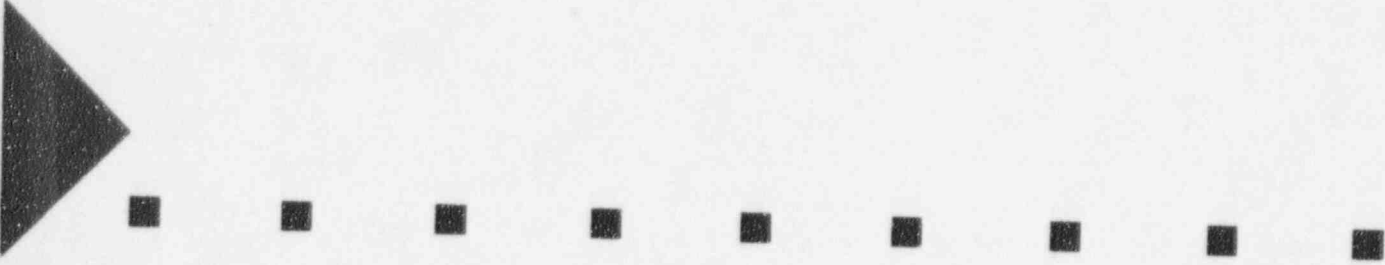
LIST OF ATTENDEES

TENNESSEE VALLEY AUTHORITY (TVA)

S. Kane, Regulatory Licensing Manager, TVA, Browns Ferry
J. Corey, RadChem Manager, TVA, Browns Ferry
S. Hilmes, I & C and Electric Supervisor, TVA, Browns Ferry
J. Cotter, TVA, Browns Ferry
D. Nix, Chemistry, TVA, Browns Ferry
R. Coleman, Radcon Superintendent, TVA, Browns Ferry

U. S. NUCLEAR REGULATORY COMMISSION

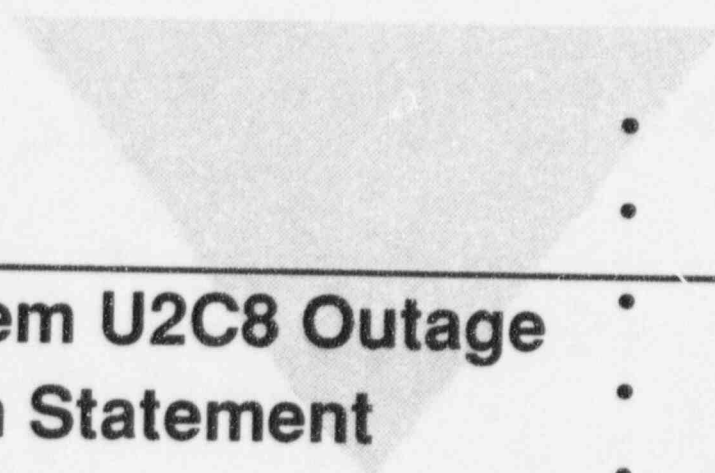
K. Barr, Chief, Plant Support Branch (PSB), Division of Reactor Safety (DRS),
Region II (RII)
D. Jones, Senior Radiation Specialist, PSB, DRS, RII



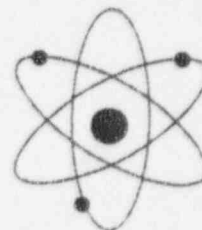
**Browns Ferry Nuclear Plant
Radchem Program Status
March 1996**

U2C8 Outage Preparations





**RadChem U2C8 Outage
Mission Statement**



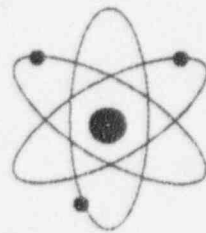


U2C8 Outage Mission

- The RadChem U2C8 outage mission is to support safe and cost effective operations by:
 - Maximizing personnel safety considerations
 - Minimizing the radiation exposure of plant workers through aggressive and innovative engineering and administrative radiological controls
 - Ensuring work progresses at the highest level of efficiency



U2C8 Outage Preparations



▼ U2C8 Outage Preparations

Temporary Shielding

- 37.8 tons of temporary lead shielding is to be installed in the drywell
- Systems which will be shielded include portions of the recirculation, residual heat removal, and reactor water cleanup systems as well as grating areas where shine from nearby components contributes to area dose rates
- Focus of the shielding effort is to reduce general area dose rates with the capability for roving applications for specific tasks such as ISI, valve work, etc.
- Estimated savings of 60 manrem for outage duration

Cameras/Communications

- Closed Circuit TV cameras will be installed on the major elevations in the drywell
- Two way communications centers will also be installed in the drywell
- Monitors will be located in both the main Radcon control point in the Unit 3 Turbine building and in the satellite control point
- Will allow for monitoring of work activities by both RadCon personnel and work foremen
- Estimated savings of 15-20 manrem for outage

U2C8 Outage Preparations - Cont'd

Drywell "Cool Room"

- A "Cool Room" will be constructed in a low dose area outside the personnel access to the drywell to provide workers relief from heat
- Room is a tubelock structure with prefab air conditioning portals
- Room has been constructed with clear windows and two-way glove sleeves to allow easy communications

Initial Drywell Entry Without SCBA

- Drywell and torus atmospheres will be purged for 24 hours prior to entry
- Oxygen levels will be verified by drywell CAM and control room monitors prior to entry
- Airborne radioactivity levels will be monitored by the drywell CAM prior to entry
- Oxygen monitors with extendible probes as well as belt pack monitors will be carried by personnel making entry
- All personnel will carry 10 minute emergency life support packs
- Fire Protection EMTs will be staged at the entrance with SCBAs donned in the event emergency response is required
- Procedure will reduce physical/heat stress from wearing SCBA and minimize dose
- This has been done successfully at other plants

U2C8 Outage Preparations - Cont'd

RCA Clean Islands

- Two "Clean Islands" within the RCA will be utilized during U2C8 outage - See Figures 1 and 2
- One island located on the turbine deck and one on the refueling floor
- Personnel entry into islands will require use of a personnel contamination monitor (PCM 1B) prior to entry
- Islands will have refrigerators, microwave ovens and water cans for use by plant workers during breaks, lunch and work planning sessions
- Personnel lunch boxes will be transported to the islands by RadCon personnel
- Portable restrooms with detachable 300 gallon holding tanks will be located adjacent to the islands. Use of the PCM 1B will be required prior to use

Turbine Deck Dressouts

- Modified dressouts will be utilized for work areas on the turbine deck where contamination levels are less than 10,000 dpm/100 cm sq
- Dressout consists of long sleeve cotton scrubs, Kevlar gloves, a one-piece bootie/shoe cover and polypropylene hard hat covers
- The scrubs may be worn to the personnel contamination monitor (PCM 1B) and if cleared the worker may exit without removing the clothing.

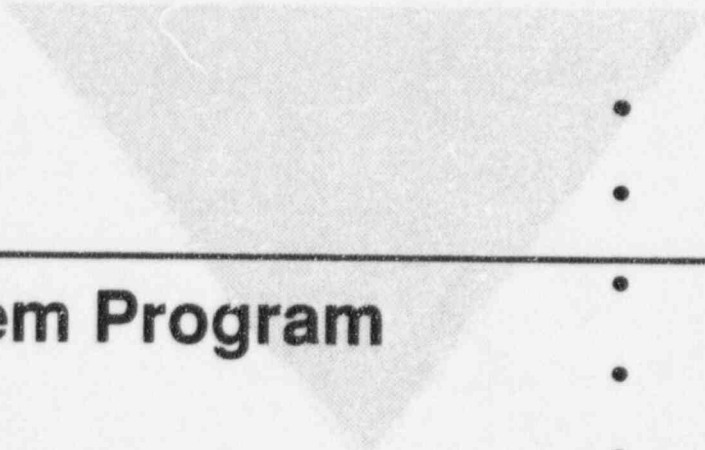
U2C8 Outage Preparations - Cont'd

Drywell Penetration Monitors

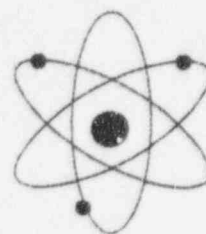
- Merlin Gerin Model AM-16 Area Monitoring system to be used inside drywell - See Figure 3
- System will be used to monitor radiation levels at all 14 major penetrations into the reactor vessel above the bioshield
- System will provide audible and visible warning to personnel of increasing radiation levels in the area as a result of fuel movement
- Lowers dose by reducing amount of continuous RadCon coverage in the drywell
- System can also provide a historical record of dose rate as a function of time which can be used to plan work for later outages

Pontoon Work Platform

- A pontoon boat will be placed in the Unit 2 ^{cavity} ~~fuel pool~~ to provide a stable work platform for ISI work
- Use of the boat will allow water level to be maintained at a maximum height providing optimum shielding vs. lowering water level to install a work platform
- Personnel safety will be of foremost consideration during use of the boat. Requiring the boat to be rigidly tied off to permanent structures, load to remain within manufacturers specifications and local area radiation monitors to be installed



**RadChem Program
Status**

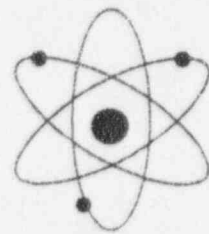


RadChem Program Status

	FY 95 RESULTS	FY 95 GOAL	FY 96 TO DATE	FY 96 GOAL
CHEMISTRY INDEX (Unit 2)	0.22	0.23	1.00	1.10
(Unit 3)	-	-	1.01	1.20
GASEOUS RADIOACTIVE EFFLUENT AIR DOSE (MRAD)	0.00019	0.05	0.00064	0.48
LIQUID RADIOACTIVE EFFLUENT DOSE (MREM)	0.0304	0.15	0.0121	0.32
COLLECTIVE RADIATION EXPOSURE (MANREM)	850.18	895	139.51	510.00
CONTAMINATED AREA SQUARE FOOTAGE (PERCENT OF RCA)	1.33	<1.0	0.52	<1.0
RADWASTE GENERATION (CUBIC METERS)	337.0	450	102.8	320

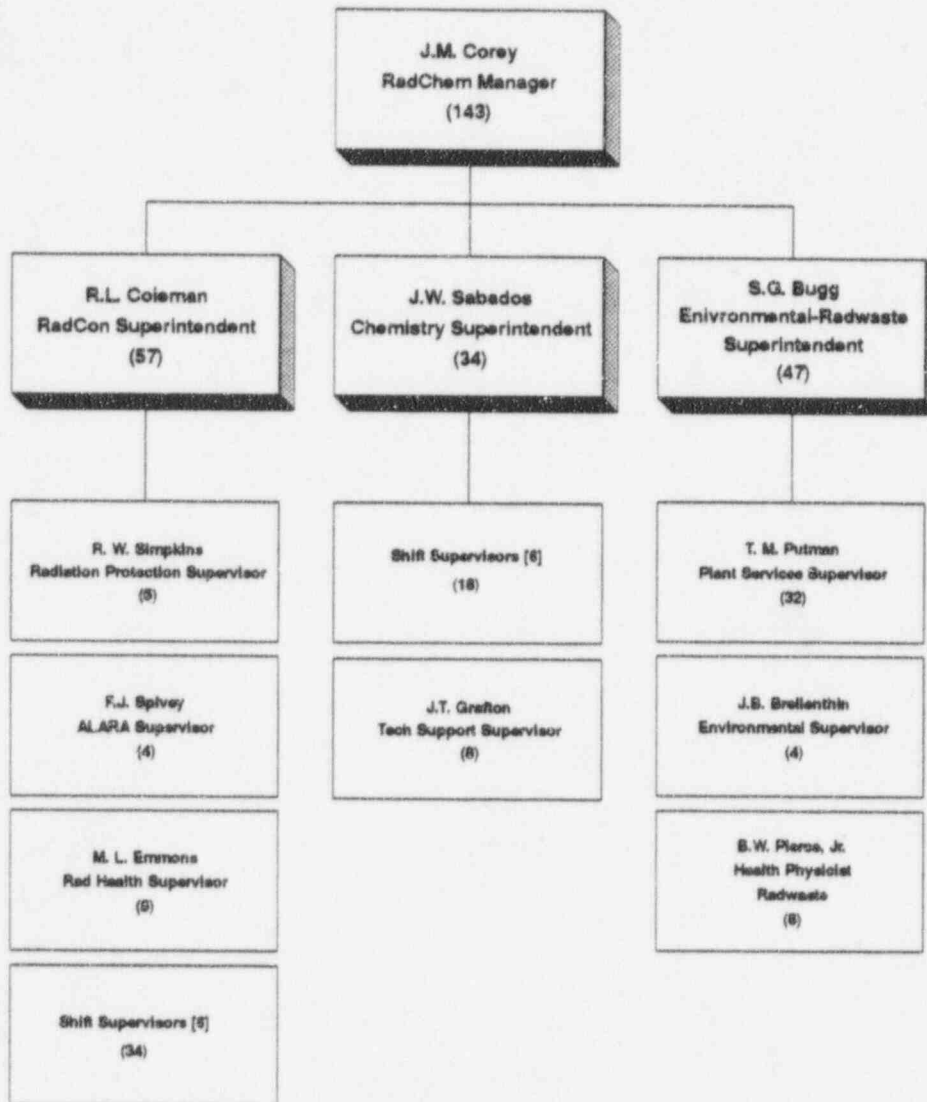


Organization Structure



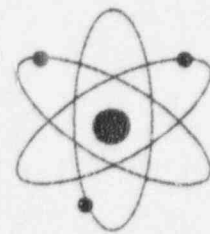


BFN RadChem Organization





RadChem Initiatives





RadChem Current Initiatives

- RadCon
 - High level of attention to U2C8 outage preparations
 - Continued work effort toward overall source term reduction
 - Preparing to implement process improvements and standardization of procedures
- Chemistry
 - Continuing efforts to improve condensate demineralizer run times
 - Implementing HWC on Units 2 and 3 and DZO on Unit 2
 - Implementing a new chemistry data management system
 - Ongoing effort to raise RLA performance level and streamline Chemistry Shift Supervision
- Radwaste/Environmental
 - Continuous area decontamination efforts resulting in c-zone square footage of 1%
 - Aggressive approach to front-end generation of radwaste to meet shipping goal of 320 cubic meters

REFUEL FLOOR CLEAN ISLAND

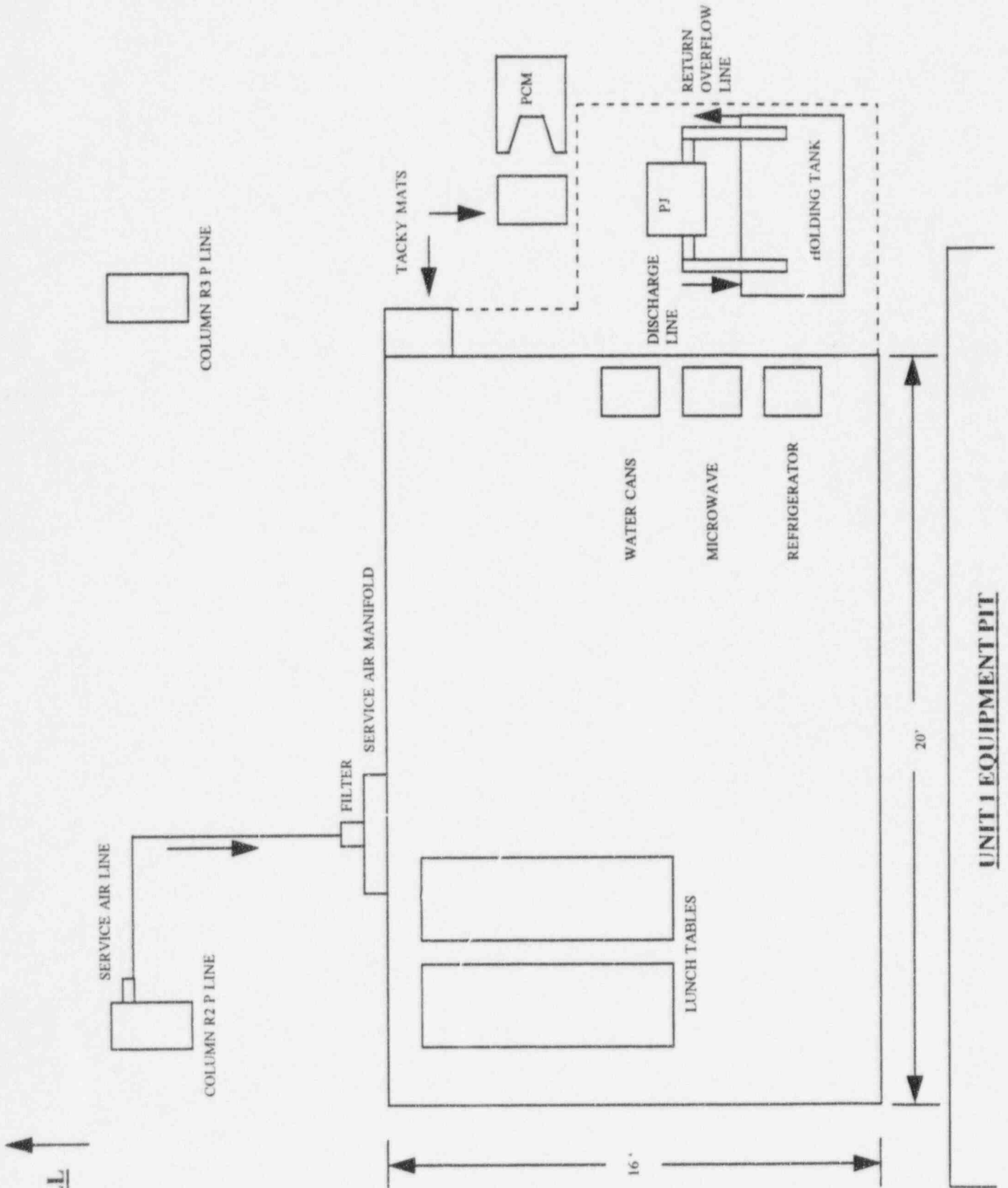
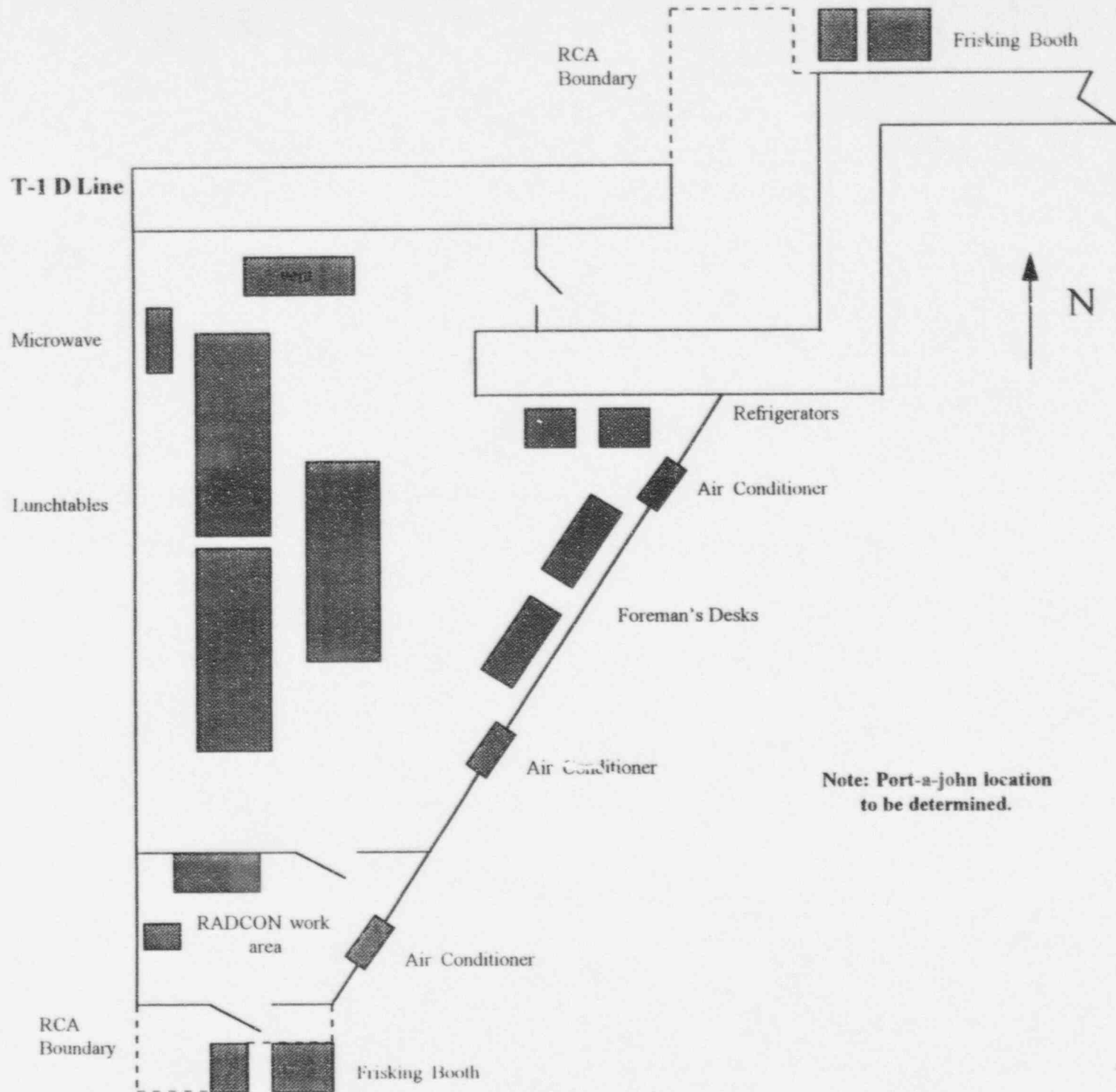


Figure 1

Figure 2



Note: Port-a-john location to be determined.

TURBINE DECK CLEAN ISLAND U-1, 617'

AM-16 AREA MONITOR CONFIGURED FOR DOSE RATE DETERMINATION IN A TYPICAL DRYWELL DURING CORE LOADING/OFFLOAD OPERATIONS

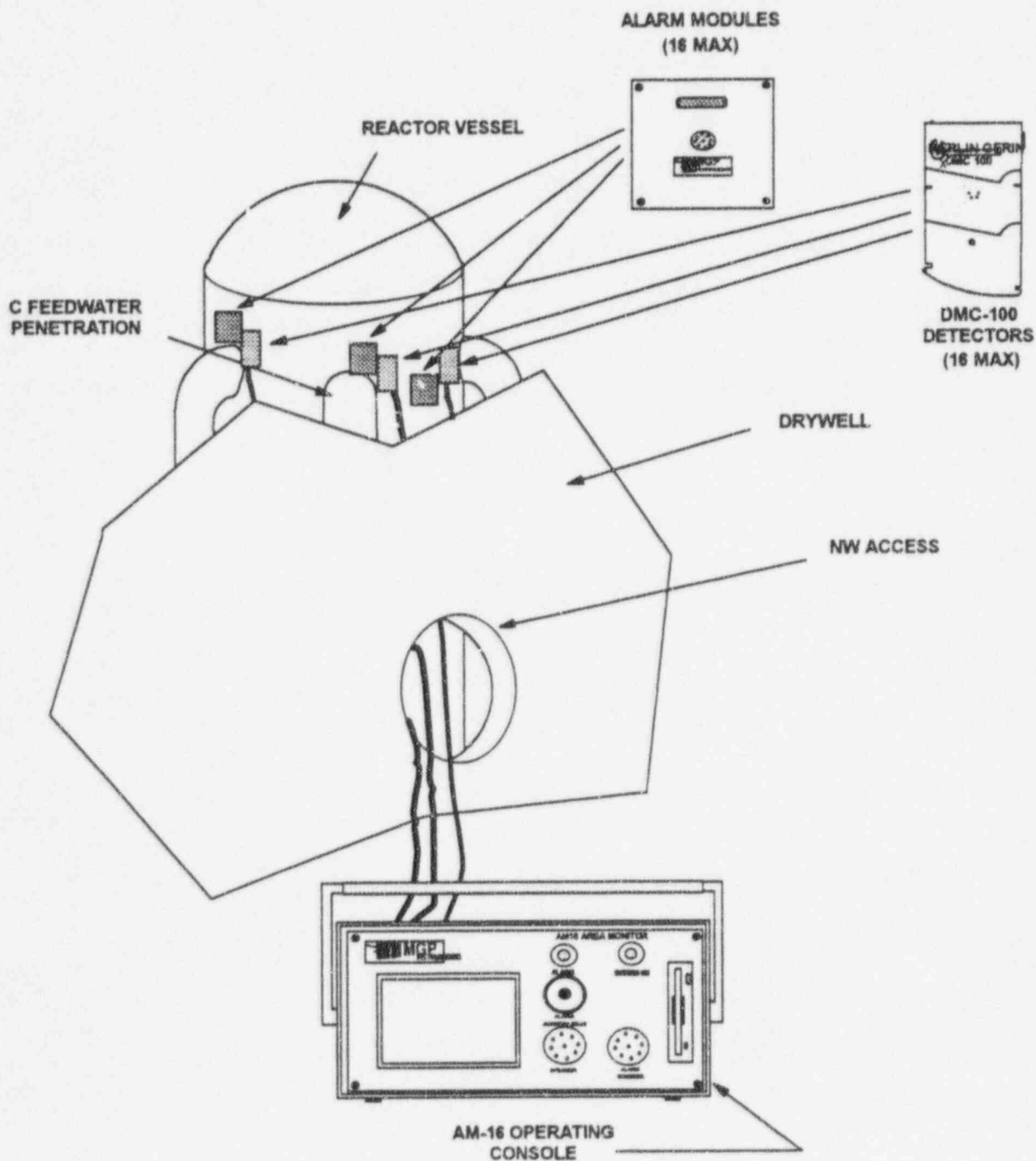


Figure 3