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April 27, 1981

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U.S. NUCLEAR REGULATORY COMMISSION

Mr. Dennis M. Crutchfield, Chief
Operating Reactors Branch #5
Division of Licensing
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Subject: Dresden Station Unit 2
SEP Topics: II-1.B, Population Distribution
III-7.D, Containment Structural Integrity Tests
XV-20, Radiological Consequences of Fuel Damaging Accidents
NRC Docket No. 50-237

Reference: a) R.F. Janecek letter to D.G. Eisenhut dated February 4, 1981

Dear Mr. Crutchfield:

Attached are the SEP topic assessments prepared in response to our commitments made in reference a. The completion dates for Topics II-2.C and II-1.A were interchanged. The attached assessments for the above referenced topics were patterned after the completed topic assessments prepared by the NRC and given to us as examples to be used in preparing our assessments.

Please address any questions you may have concerning this matter to this office.

One (1) signed original and thirty-nine (39) copies of this transmittal have been provided for your use.

Very truly yours,

Robert F. Janecek

Robert F. Janecek
Nuclear Licensing
Administrator
Boiling Water Reactors

cc: R III Resident Inspector, Dresden

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The 1980 population of other municipalities including the population centers (containing more than 25,000 residents) within 50 miles of the station based on 1980 census data (Linda Fulkerson, 1981) is compared with the population data shown in the FES.

	1970 Population	1980 Population	Distance from Dresden Station	Direction
Morris, IL	8,194	8,833	7.5 miles	WSW
Coal City, IL	3,040	3,028	8 miles	S
Braidwood, IL	2,323	3,421	9 miles	SSE
Wilmington, IL	4,335	4,419	10 miles	SE
Joliet, IL	80,000	77,956	15 miles	NE
Aurora, IL	76,500	81,293	27 miles	N
Kankakee, IL	31,200	30,141	30 miles	SE
Chicago, IL	3,330,000	3,005,072	50 miles	NE

The criterion that the nearest major population center must be over one- and one-third times the distance of the LPZ radius (5 miles) is still being met. These residential concentrations do not appreciably alter the permanent population distribution patterns reported previously, except that the growth of the rural communities was greater than projected in the FES, whereas most large cities further from the station have declined.

The transient population in the vicinity of the station outside the EAB comprises workers employed by the various industries in the area and visitors to the many recreational facilities available.

The nearest industrial facilities to the station include the following:

1. General Electric Boiling Water Reactor Training Center and Spent Fuel Storage Facility — 0.7 mile SW

2. Reichhold Chemicals — 1.6 miles W

3.	A. P. Green	2.1 miles SSW
4.	Northern Petrochemicals Dock	2.1 miles W
5.	Airco CO_2 Plant	2.5 miles NW
6.	Northern Illinois Gas	2.5 miles NW
7.	Dow Chemicals Dock	2.7 miles E
8.	Alumax Mill Products	2.8 miles NW
9.	Durkee SCM Chemicals	3.2 miles NW
10.	Northern Petrochemicals	3.3 miles WNW
11.	Armak Chemicals	3.5 miles ENE
12.	Truck Terminal (under construction)	3.6 miles ENE
13.	Dow Chemicals	3.7 miles E
14.	Exxon (a chemical plant under construction)	3.9 miles NE
15.	Streator Industrial Supply	4.0 miles S
16.	Mobil Chemicals	4.1 miles NE
17.	Rexene Polymers	4.1 miles NE
18.	Joliet Livestock Market	4.2 miles ESE
19.	Mobil Oil Refinery	4.5 miles NE
20.	Commonwealth Edison Company Collins Station	5.0 miles WSW

This list of industrial facilities has expanded from that reported in the FES, Figure 2.4. Most of the new industrial development is adjacent to existing facilities so the distribution of this type of land use is similar to that reported previously.

Major recreation and institutional facilities include the following:

1.	Illinois, Kankakee, and Des Plaines rivers	Adjacent
2.	Goose Lake State Park	1.0 mile SW
3.	Collins Lake	2.0 miles W

4. Des Plaines Conservation Area — 2.5 miles SE

5. Illinois Department of Corrections, Morris Juvenile Residential Center — 3.2 miles W

There are additional private recreational facilities such as gun clubs and picnic grounds scattered throughout the strip-mined areas south of the station. A small unnamed public park is also located 1.5 miles east of the station on the Des Plaines River. Public access is available to the Dresden Lock and Dam and a public path parallels the Illinois and Michigan Canal which approaches within 0.7 miles north of the station. The recreational facilities are apparently being actively expanded and improved and data on daily use indicate a substantial increase in recreationists in recent years.

To summarize, the EAB of the Dresden Nuclear Power Station, as reported previously, has no permanent residents. Permanent population distribution around the station has not changed significantly although total population within the five mile LPZ has increased to an estimated 10,400 residents from 5,090 reported in the FES. The 1980 population was projected to be 8,003 in the LPZ (FES Figure 2.2). Industrial facilities and recreational facilities have also expanded although their distribution is largely unchanged. The daily maximum transient population including visitors to recreational facilities and workers employed by industries within five miles of the station is estimated to be approximately 11,000. The LPZ and population center distance specified for the site are in conformance with 10 CFR Part 100.

REFERENCE

Fulkerson, L., 1981, Assistant Planner, Northeast Illinois Planning Commission, Telephone Conversations on April 7, with W. J. Buchanan, Sargent & Lundy Cultural Resource Analyst.

U.S. Atomic Energy Commission, 1973, Final Environmental Statement related to operation of Dresden Nuclear Power Station Units 2 and 3. Variously paged.

The closest significant residential concentration of over 1000 is from two to three miles southeast of the station along the north shore of the Kankakee River where the number of houses has increased to 319. This would be equivalent to a population of approximately 1100, using an average of 3.4 people per house.

The nearest incorporated municipality is Channahon with a 1980 census population of 3806 people, more than double the previously reported 1970 population of 1505. Channahon is actively expanding by annexing adjacent properties that have been recently developed for residential subdivisions. A large tract of vacant land extending from two to three miles northeast of the station has been annexed by the village of Channahon but not yet developed. Future expansion, however, is probable as the area near the confluence of the DuPage and Des Plaines rivers is developed.

The next closest incorporated municipality, Minooka, has its closest border approximately 3.5 miles north-northeast of the station. It has also been expanding. The present population according to the 1980 census is 1566, more than double the 1970 population of 768. However, a large tract of single-family houses is partially completed and a multiple-dwelling development is also in the planning stages which will further increase this population. This new development is primarily east and south-east of the old center of town.

Other significant unincorporated residential developments have been expanding in the strip-mined areas four to five miles southwest of the station, in a blue collar worker residential complex across U.S. Highway 6 from the industrial center 3.5 miles northwest of the station, and along Aux Sable Creek 4.5 miles northwest of the station.

DRESDEN NUCLEAR POWER STATION UNIT 2

Topic II-1.B - Population Distribution

The safety objective of this topic is to assure that the Low Population Zone (LPZ) and population center distance specified for the site are compatible with the current population distribution and are in conformance with the guidance of 10 CFR Part 100.

This report describes the current resident population distribution in the vicinity of the Dresden Nuclear Power station, the population in the Exclusion Area Boundary (EAB), LPZ, the major municipalities (>1000) within 50 miles of the station, and the transient population associated with commercial and recreational facilities. The population distribution information within a 5 mile radius area was gathered during an April 1981 field survey, including a house count. Another source of information included the Northeast Illinois Planning Commission. These data update the demographic information presented in the Final Environmental Statement (FES) dated November 1973, issued by the Atomic Energy Commission.

The EAB for the Dresden Nuclear Power Station is an area within 0.5 mile of the station. There is no resident population within the EAB. The transient population within the EAB of the nuclear station consists only of operating personnel,construction workers, visitors, and NRC inspectors. No changes are expected within the EAB.

The LPZ for the Dresden Station is an areas within a 5-mile radius. The nearest resident population within the LPZ is contained in a cluster of cottages along the west shore of the Kankakee River; the nearest line of cottages is just outside the EAB.

In the FES the number of cottages was reported at approximately 20 located 0.7 miles from the site. They were described as largely for part-time use. Presently there are 39 dwellings in this development. Additional dwellings have been built closer to the site since the previous reports. Also the dwellings now appear to be used permanently. The estimated population of this cluster of homes is approximately 133 using an average number of residents per household of 3.4 for rural areas in this part of Illinois which was derived from data provided by the Northeast Illinois Planning Commission (Linda Fulkerson, 1981) based on 1980 census data.[1]

The other closest residences are widely separated in several directions from the station. A single residence is located approximately 0.6 miles southeast of the station on the east shore of the Kankakee River. To the northwest approximately 0.8 miles from the station are two permanent residences for the resident engineers at the Dresden Island Lock and Dam and a temporary construction office trailer. At the confluence of the Des Plaines and Kankakee rivers there is a new residential development that includes six houses from 0.8 to 1.0 miles from the station. Three individual residences are located along the Kankakee Bluffs on the north shore of the Des Plaines and Illinois rivers approximately 0.8 mile to the north-northwest, northeast, and east of the station.

[1]Note: The numbers of 1980 residents per household in the townships of Wilmington and Channahon, and the municipalities of Channahon and Minooka were averaged to derive the 3.4 per household value.

Dresden Station - Unit 2

SEP Topic III-7.D

Containment Structural Integrity Test

Introduction

The original structural integrity test procedure employed to test the containment structure for the Dresden Station Unit 2 has been reviewed against present day criteria. This report demonstrates that the original structural integrity test is equal to or more conservative when compared to today's criteria.

Current Review Criteria

The current criteria to review the structural integrity test are the following:

1. 10 CFR 50, Appendix A, GDC 2,
2. NRC Standard Review Plan, Section 3.8.2,
3. Regulatory Guide 1.57, and
4. ASME Boiler and Pressure Vessel Code, Section III, Division 1, Article NE-6000, 1980 Edition including Winter 1980 Addenda.

Containment Original Code of Construction

The Mark I containment vessel of the Dresden Station Unit 2 is a Class B vessel which was designed, fabricated, inspected, and N-stamped in accordance with the requirements of the ASME Boiler and Pressure Vessel Code, Section III, 1965 Edition including the Summer 1965 Addenda. The containment vessel consists of a dry-well, suppression chamber, and interconnecting vent system.

The containment was constructed of SA212, Grade B Firebox quality steel. This material specification no longer exists and has been replaced by SA516, Grade 70, Carbon steel.

The design of the containment was based on the following material properties:

Ultimate strength = 70 ksi
Yield strength = 38 ksi

The stress allowables are based on the requirements of ASME Section III, Article 13, 1965 Edition.

The design loads and load combinations are shown in the Sargent & Lundy Construction Specification K-2152. (Applicable pages attached)

April 23, 1981

Original Structural Integrity Test

A pneumatic test was conducted at a maximum pressure of 71.3 psig which is 1.15 times the design pressure of 62 psi. For this test, the suppression chamber was filled with water up to mid-height. The maximum pressure was held for one hour. Based on a recent review, it has been determined that the structural integrity test was conducted in accordance with the requirements of:

> ASME Boiler and Pressure Vessel Code, Section III, Subsection B, 1965 Edition including the Summer 1965 Addenda,
>
> the Sargent & Lundy Specification K-2152, and
>
> the constructor's (Chicago Bridge & Iron) design criteria.

The test was certified on the N-1 Form, (manufacturer's data report for nuclear vessels) by the authorized inspector, and included in the Dresden Units 2 & 3 FSAR, Appendix C.

Current Structural Integrity Test Requirements

In accordance with ASME Section III, Division 1, Article NE-6000, 1980 Edition including Winter 1980 Addenda, the minimum required pneumatic test pressure is 1.10 times the design pressure of the vessel. If applied to the Dresden Station Unit 2 containment, the test pressure would be 68.2 psig which is less than what the containment vessel was tested for originally.

The stress allowables permitted for the structural integrity pressure test load case, in accordance with the current NRC acceptance criteria and the present ASME Boiler and Pressure Vessel Code, are higher than what the original code of construction permitted.

Conclusion

Based on the review of the conduct of the original structural integrity test and a review of current structural integrity test requirements, it is concluded that it is more conservative than the present day codes and regulations would require. The test procedure employed originally is consistent with the test procedures used today. Therefore, the containment structure will satisfactorily perform its intended safety function as it relates to SEP Topic III-7.D.

TABLE 3-03-1. DESIGN LOADS

Symbols: AP for pressure indicates atmosphere pressures;
AT for temperature indicates ambient temperature.

Item	Load Desig.	Drywell and Vent System				Suppression Chamber			
		Internal		External		Internal		External	
		Pressure psig	Temperature, F	Pressure psig	Temperature, F	Pressure psig	Temperature, F	Pressure psig	Temperature, F
A. DESIGN PRESSURES AND TEMPERATURES									
a. Normal operation	P01	AP	150	AP	AT	AP	150	AP	AT
b. Accident condition, as follows:									
(1) Base Bid......	DP1	62 positive 2 negative	281	AP	AT	35 positive 1 negative	281	AP	AT
(2) Alternate Bid..........	DP2	62 positive 2 negative	281	AP	AT	62 positive 1 negative	281	AP	AT
c. Overload pressure test, as follows:									
(1) Base Bid......	DP3	62x1.15	AT	AP	AT	35x1.15	AT	AP	AT
(2) Alternate Bid..........	DP4	62x1.15	AT	AP	AT	62x1.15	AT	AP	AT

Table Continued Next Page

Table 3-03-1, Design Loads, Cont.

Item	Load Desig.	Drywell and Vent System Load	Suppression Chamber Load
B. JET FORCES FOR DRYWELL AND VERTICAL FORCES ON DOWNCOMER PIPES	JF1	a. See drawing B-22 for jet forces. b. Design drywell shell and closure head for jet forces of indicated magnitudes in locations indicated, and from any direction within drywell. c. Indicated jet forces consist of steam and/or water at 300 F maximum. d. Jet forces indicated do not occur simultaneously. However, consider jet forces to occur coincident with design internal pressure, and temperature of 150 F.	See drawing B-22 for vertical loads on downscomers resulting from accident conditions in drywell.

Item	Drywell and Vent System Load Desig.	Drywell and Vent System Load	Suppression Chamber Load	Suppression Chamber Load Desig.
C. GRAVITY LOADS For load not included see Article 3-03 Ba	DG1	Weight of steel shell, jet deflectors vents, penetrations, and all other appurtenances.	Weight of steel shell, vents, expansion bellows, vacuum breakers and related piping, vent header, vent downscomers, baffles, catwalks and platforms, access manholes, and all other appurtenances	SG1
	DG2	Applied loads P1 through P11, etc., indicated on drawing B-22, as applicable.		
	DG3	Flooded condition - see Article 3-03 Bb	Suppression pool water as follows:	
		Personnel Air Lock:	(1) Normal operation.120,000 cu.ft.	SG2
	DG4	(1) Dead load	(2) Accident condition.............130,000 cu.ft.	SG3
	DG5	(2) Live load of 150 psf on walkway area	(3) Flooded condition............242,000 cu.ft.	SG4
	DG6	Weight of compressible material on exterior of shell.	Live load of 50 psf on entire area of catwalks and platforms.	SG5

Table Continued Next Page

Table 3-03-1, Design Loads, Cont.

Item	Drywell and Vent System		Suppression Chamber	
	Load Desig.	Load	Load	Load Desig.
C. Gravity Loads, Cont.		Dead and live loads on welding pads:	Weight of contained air during testing.	SG6
	DG7	(1) 200 lb. dead load each pad	Weight of header for flooding pumps, with entire header filled with water. This load applied only to supports under suppression chamber.	SG7
	DG8	(2) 400 lb. live load on each pad		
	DG9	Wind load vertical load.		
	DG10	Temporary pressure due to weight of wet concrete - see Article 3-03 Bd.		
	DG11	Weight of contained air during testing.		
D. LATERAL LOADS	DH1	Applied loads P1 through P11, etc., indicated on drawing B-22, as applicable.	Vent thrusts - see Article 3-03 Bg	SH1
			Earthquake lateral loads - see Article 3-03 Bc	SH2
	DH2	Vent thrusts - see Article 3-03 Bg.		
	DH3	Earthquake lateral loads - see Article 3-03 Bc.		
	DH4	Wind loads on projected areas of circular shape exposed above grade during construction, as follows: Height Above Grade ... Wind Load 0-30 ft. .... 15 psf 30-50 ft. .... 18 psf over 50 ft. .... 24 psf		

TABLE 3-03-2. LOADING COMBINATIONS FOR DRYWELL

Symbols: X indicates load applies, __ indicates load does not apply, for given condition.

Loads (For load designations DG1, etc., see Table 3-03-1)		Ambient Temperature (not less than 30 F) at Time of Test for:		Operating Temperature - Range of 50 tp 150 F for:		Accident Condition at Temperatures for Design Pressures	Allowable Unit Stresses
Load	Load Desig.	Overload Pressure Test Col. 1	Final Test Condition Col. 2	Normal Operating Condition Col. 3	Refueling Condition with Drywell Head Removed Col. 4	Col. 5	Col. 6
A. Dead load of vessel..	DG1	X	X	X	X	X	Basic
B. Normal operation design pressure......	OP1	__	__	X	__	__	
C. Accident condition design pressure......	DP1 DP2	__	X	__	__	X	
D. Overload pressure test pressure.......	DP3 DP4	X	__	__	__	__	
E. Weight of contained air.................	DG11	X	X	__	__	__	
F. Wind loads - vertical and lateral.........	DG9 DH4	X (if more severe than earthquake)	__	__	__	__	1.33 x Basic
G. Earthquake lateral loads...............	DH3	X (if more severe than wind loads)	X	X	X	X	Basic
H. Vent thrusts.........	DH2	X	X	__	__	X	
I. Applied gravity loads	DG2	__	X	X	X	X	
J. Flooded condition....	DG3	__	__	__	__	Recovery Condition Only	See Article 3-03 Bb

Table Continued Next Page

Table 3-03-2, Loading Combinations for Drywell, Cont.

Loads (For load designations DG1, etc., see Table 3-03-1)		Ambient Temperature (not less than 30 F) at time of Test for:		Operating Temperature - Range of 50 tp 150 F for:		Accident Condition at Tempera-tures for Design Pressures	Allowable Unit Stresses
Load	Load Desig.	Overload Pressure Test Col. 1	Final Test Condition Col. 2	Normal Operating Condition Col. 3	Refueling Condition with Drywell Head Removed Col. 4	Col. 5	Col. 6
K. Compressible material	DG6	—	X	X	X	X	Basic
L. Welding Pads:							
a. Dead load.........	DG7	—	X	X	X	X	
b. Live load.........	DG8	—	—	—	X	—	
M. Effect of unrelieved deflection under temporary concrete load.................	DG10	—	X	X	X	X	
N. Restraint due to compressible material DG6..................		—	X	X	X	X	
O. Dead load on personnel airlock....	DG4	X	X	X	X	X	
P. Live load on personnel airlock....	DG5	—	—	X	X	—	
Q. Applied lateral loads	DH1	—	X	X	X	X	
R. Jet forces	JF1	—	—	—	—	X	See Article 3-03 Bf

K-2152

XV-20 Radiological Consequences of Fuel Damaging Accidents

The safety objective of this topic is to assure that the offsite doses resulting from fuel damaging accidents resulting from fuel handling are well within the guideline value of 10 CFR Part 100.

The design basis fuel handling accident is postulated to occure when a fuel assembly is accidentally dropped onto the top of the core during fuel handling operation.

Two analyses were reviewed to evaluate this topic, the refueling accident analysis contained in the Dresden 2 FSAR, and that presented in the AEC Safety Evaluation Report For Dresden Unit 2. The postulated consequences are given in Table 14.2.6 of the Dresden FSAR and Table 4.0 of the AEC Safety Evaluation Report For Dresden Unit 2, Section 4. (Attached as Tables XV-1 and XV-2). The assumptions and input parameters used in the calculations of the potential consequences are given in Table XV-3. The effect of the change from 7x7 to 8x8 fuel, since the original analyses, has been review based on the analysis in Section 5.5.6 of NEDE-24011. This change in fuel design was found not to adversely affect the radiological consequences of a fuel drop.

The acceptance criteria of SRP specify that the doses should be "appropriately within the guidelines" of 10 CFR Part 100. "Appropriately within the guidelines" has been defined by the staff as a thyroid dose less than 100 rem. This is based on the probability of these accidents relative to the probability of other accidents which are evaluated against the Part 100 exposure guidelines. Whole body doses were considered but they are not controlling due to the decay of the short-lived radioisotopes prior to fuel handling.

On the basis of the results as given in Tables XV-1 and XV-2, and a comparison of the assumptions used in these studies to the assumptions suggested in Regulation Guide 1.25, we conclude that the radiological consequences are appropriately within the guidelines of 10 CFR 100.

TABLE 14.2.6

RADIOLOGICAL EFFECTS OF THE REFUELING ACCIDENT

DISTANCE (miles)	FIRST 2-HOUR DOSE						TOTAL ACCIDENT DOSE					
	VS-2	MS-2	N-2	N-10	U-2	U-10	VS-2	MS-2	N-2	N-10	U-2	U-10
WHOLE BODY PASSING CLOUD DOSE (rem)												
1/2	3.5×10^{-4}	3.5×10^{-4}	3.8×10^{-4}	5.9×10^{-5}	4.7×10^{-4}	6.8×10^{-5}	2.3×10^{-3}	2.3×10^{-3}	2.5×10^{-3}	3.8×10^{-4}	3.1×10^{-3}	4.4×10^{-4}
1	2.3×10^{-4}	2.4×10^{-4}	2.9×10^{-4}	4.3×10^{-5}	2.1×10^{-4}	3.3×10^{-5}	1.5×10^{-3}	1.5×10^{-3}	1.9×10^{-3}	2.8×10^{-4}	1.4×10^{-3}	2.2×10^{-4}
5	-	-	-	7.9×10^{-6}	-	3.5×10^{-6}	4.1×10^{-4}	4.6×10^{-4}	2.8×10^{-4}	5.2×10^{-5}	9.5×10^{-5}	2.2×10^{-5}
9	-(1)-	-	-	3.4×10^{-6}	-	1.4×10^{-6}	2.3×10^{-4}	2.5×10^{-4}	9.6×10^{-5}	2.2×10^{-5}	2.9×10^{-5}	8.9×10^{-6}
12	-	-	-	2.2×10^{-6}	-	8.8×10^{-7}	1.6×10^{-4}	1.7×10^{-4}	5.3×10^{-5}	1.4×10^{-5}	1.6×10^{-5}	5.7×10^{-6}
LIFETIME THYROID DOSE (rem)												
1/2	a[2]	a	2.6×10^{-5}	6.6×10^{-7}	1.3×10^{-4}	1.4×10^{-5}	a	9.0×10^{-8}	2.1×10^{-4}	5.3×10^{-6}	1.1×10^{-3}	1.2×10^{-4}
1	a	-	6.4×10^{-5}	6.0×10^{-6}	5.5×10^{-5}	7.4×10^{-6}	a	4.6×10^{-6}	5.1×10^{-4}	4.8×10^{-5}	4.4×10^{-4}	6.0×10^{-5}
5	-	-	-	2.0×10^{-6}	-	7.5×10^{-7}	a	1.1×10^{-4}	8.3×10^{-5}	1.6×10^{-5}	3.4×10^{-5}	6.1×10^{-6}
9	-	-	-	8.7×10^{-7}	-	3.2×10^{-7}	2.5×10^{-8}	1.0×10^{-4}	3.5×10^{-5}	7.0×10^{-6}	1.4×10^{-5}	2.6×10^{-6}
12	-	-	-	5.8×10^{-7}	-	2.1×10^{-7}	2.2×10^{-7}	8.9×10^{-5}	2.3×10^{-5}	4.7×10^{-6}	8.8×10^{-6}	1.7×10^{-6}
WHOLE BODY FALLOUT DOSE (rem)												
1/2	a	a	1.6×10^{-8}	2.0×10^{-9}	1.8×10^{-7}	9.7×10^{-8}	a	a	4.4×10^{-7}	5.6×10^{-8}	5.1×10^{-6}	2.8×10^{-6}
1	a	a	3.8×10^{-8}	1.8×10^{-8}	7.4×10^{-8}	5.0×10^{-8}	a	5.6×10^{-9}	1.1×10^{-6}	5.1×10^{-7}	2.1×10^{-6}	1.4×10^{-6}
5	-	-	-	5.9×10^{-9}	-	5.1×10^{-9}	a	1.3×10^{-7}	1.8×10^{-7}	1.7×10^{-7}	1.6×10^{-7}	1.4×10^{-7}
9	-	-	-	2.6×10^{-9}	-	2.2×10^{-9}	a	1.2×10^{-7}	7.4×10^{-8}	7.4×10^{-8}	6.5×10^{-8}	6.1×10^{-8}
12	-	-	-	1.7×10^{-9}	-	1.4×10^{-9}	a	1.1×10^{-7}	4.9×10^{-8}	4.9×10^{-8}	4.2×10^{-8}	4.0×10^{-8}
WHOLE BODY FALLOUT (WASHOUT) DOSE (rem)												
1/2		1.5×10^{-6}						4.2×10^{-5}				
1		5.5×10^{-7}						1.6×10^{-5}				
5		-						1.6×10^{-6}				
9		-						6.4×10^{-7}				
12		-						4.1×10^{-7}				

	Meteorology	Wind Speed (mph)
VS-2	Very stable	2
MS-2	Moderately stable	2
N-2	Neutral	2
N-10	Neutral	10
U-2	Unstable	2
U-10	Unstable	10

(1) First 2 hour dose is zero since time of cloud travel is greater than 2 hours.

(2) The symbol "a" means less than 1×10^{-10}.

Table XV-2

AEC
Safety Evaluation Report For Dresden Unit 2, Section 4

TABLE 4.0

CALCULATED DOSES IN THE EVENT OF
POSTULATED ACCIDENTS AT UNIT 2 OR 3

Accident	Two Hour Dose at Site Boundary (rem)		30 Day Dose At The Low Population Zone (rem)	
	Thyroid	Whole Body	Thyroid	Whole Body
Loss of Coolant	185	8	90	2
Refueling	25	<1	8	1
Control Rod Drop	55	1	1	<1
Steam Line Break (10 sec valve closure time)	25	<1	<1	<1

TABLE XV-3

Assumptions Used For The Fuel Handling Accident

	FSAR	AEC
Power	2527 MW_t	2527 MW_t
Time after shutdown	24 hr	24 hr
Operating Time	1000 days	not given
Activity Released From Fuel	1% of noble gas 0.5% of halogens	20% of noble gas 10% of halogens
Activity Released From Pool (at time of fuel drop)	1% of noble gas .005% of halogens	20% of noble gas 1% of halogens
Building discharge rate	100% per day	100% in 2 hours
Fileter efficiency	99%	90%

ID2599A