

THE DETROIT EDISON COMPANY

PRELIMINARY METHODOLOGY FOR
MANUAL DOSE ASSESSMENT FOR
EMERGENCY PREPAREDNESS

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Radiation Dose Assessment

The data tables, worksheets, and curves on the following pages may be used to classify the magnitude of accidental airborne releases and assess the offsite consequences. The red, yellow, and white emergency designations are based on dose ranges in Table 5.2 of the "Manual of Protective Action Guides and Protective Actions for Nuclear Incidents", Environmental Protection Agency, Office of Radiation Programs, Environmental Analysis Division, EPA-520/1-75-001, September, 1975. Their definition is

Red Emergency	Whole Body Thyroid	5 rem and above 25 rem and above
Yellow Emergency	Whole Body Thyroid	1 to <5 rem 5 to <25 rem
White Emergency	Whole Body Thyroid	.05 to <1 rem .3 to <5 rem

The following steps may be used to assess the offsite consequences:

1. For each monitor reading (drywell or SGTS), the projected activity released (Xe-133 or I-131 effective activity) for any 8 hour period to 192 hours may be found using the Tables and Worksheets on pages 4 through 15.
2. The worst radiological emergency condition is determined using the worksheet on page 16 and the curves on pages 17 and 18 along with the releases determined in item 1 (or by other means) and with the current wind speed.
3. The emergency condition may then be defined at the exclusion area boundary or any integral number of miles from the release point to 10 miles using the releases determined in item 1 (or by other means), the current meteorological data, and the worksheet, tables, and curves on pages 19 through 23.

4. The projected dose at any point in item 3 may be determined using the releases determined in item 1 (or by other means), the current meteorological data, and the worksheet and tables on pages 24 through 26. The curves on pages 27 and 28 provide the dose times wind speed per curie released at any point between the EAB and 10 miles.
5. The downwind boundaries of the affected area may be defined according to radiological emergency condition (Red, Yellow, and White) using the releases determined in item 1 (or by other means), the current meteorological data, and the worksheets and curves on pages 29 through 32.
6. The projected downwind dose at various distances within the affected area may be determined using the releases determined in item 1 (or by other means), the current meteorological data, the worksheets on pages 33 and 34, and the curves on pages 31 and 32.

Evaluation of NUREG-0654 General and Site Emergencies

The data tables on the following pages may be used to determine if NUREG-0654 General and Site Emergencies exist.

The data in the table on page 35 present the drywell and SGTS monitor readings as calculated for a release of 100% noble gases to the drywell at 0. hours after shutdown. A similar table on page 36 is for a release of 100% noble gases and 25% iodines at 0. hours after shutdown. The ratio of the actual monitor reading to the value in the table is a measure of the actual fraction of the stipulated release.

The data in the tables on page 37 present the minimum fraction/wind speed that would result in the indicated emergency. Also, the allowed wind speed range is given.

The data in the tables on pages 38 through 43 give the monitor reading that would result in a projected emergency condition. For monitor readings greater than or equal to those in these tables, an emergency condition exists.

WORKSHEET

for

Projected Activity Release Based on

Drywell Monitor Reading

Xe-133 (equivalent)

Time after shutdown of release to primary containment _____

Time of Drywell Monitor reading _____

8 hour period desired for activity release _____

Q/R, ci·hr/Rem, from Table for Xe-133 equivalent _____

Drywell Monitor reading, mrem/hr _____

Activity, ci, released = (Q/R)x(Monitor Reading) x 10⁻³

= _____ x _____ x 10⁻³ = _____

Xe-133 Equivalent Q/R For Release at 0. Hours After Shutdown

Time Period After Release to Primary Containment, Hrs.	Drywell Monitor					
	Q/R, ci-hr/Rem, For 100% Nobles					
	Plus 0.0% Iodines at Indicated Time					
	After Release to Primary Containment					
	10 min	20 min	30 min	40 min	50 min	1 hour
0-8	4.44	5.44	6.16	6.75	7.27	7.73
8-16	1.10	1.35	1.52	1.67	1.80	1.91
16-24	.540	.662	.749	.822	.885	.941
24-32	.360	.442	.500	.548	.590	.628
32-40	.276	.339	.384	.421	.453	.482
40-48	.230	.282	.319	.350	.376	.400
48-56	.201	.246	.279	.306	.329	.350
56-64	.182	.223	.252	.277	.298	.317
64-72	.168	.206	.233	.256	.276	.293
72-80	.158	.193	.219	.240	.258	.275
80-88	.149	.183	.207	.227	.244	.259
88-96	.141	.173	.196	.215	.231	.246
96-104	.134	.165	.186	.204	.220	.234
104-112	.128	.157	.178	.195	.210	.223
112-120	.122	.150	.169	.186	.200	.213
120-128	.117	.143	.162	.177	.191	.203
128-136	.111	.136	.154	.169	.182	.194
136-144	.106	.130	.148	.162	.174	.185
144-152	.102	.124	.141	.155	.166	.177
152-160	.0970	.119	.135	.148	.159	.169
160-168	.0927	.114	.129	.141	.152	.162
168-176	.0886	.109	.123	.135	.145	.154
176-184	.0846	.104	.117	.129	.139	.147
184-192	.0809	.0991	.112	.123	.132	.141

Xe-133 Equivalent Q/R For Release at 0. Hours After Shutdown

Time Period After Release to Primary Containment, Hrs.	Drywell Monitor					
	Q/R, ci-hr/Rem, For 1000 Nobles					
	Plus 0.0% Iodines at Indicated Time					
	After Release to Primary Containment					
	2 hrs	4 hrs	6 hrs	8 hrs	16 hrs	24 hrs
0-8	10.0	14.8	20.4	26.6	52.7	74.7
8-16	7.48	3.66	5.04	6.58	13.0	18.5
16-24	1.22	1.80	2.48	3.24	6.42	9.09
24-32	.814	1.20	1.65	2.16	4.28	6.06
32-40	.625	.921	1.27	1.66	3.28	4.65
40-48	.519	.765	1.05	1.38	2.73	3.86
48-56	.454	.669	.922	1.20	2.39	3.38
56-64	.411	.606	.835	1.09	2.16	3.06
64-72	.380	.560	.772	1.01	2.00	2.83
72-80	.356	.525	.723	.944	1.87	2.65
80-88	.336	.496	.683	.892	1.77	2.50
88-96	.319	.470	.648	.846	1.68	2.38
96-104	.304	.448	.617	.805	1.60	2.26
104-112	.289	.427	.588	.768	1.52	2.15
112-120	.276	.407	.561	.732	1.45	2.05
120-128	.263	.388	.535	.698	1.38	1.96
128-136	.252	.371	.511	.667	1.32	1.87
136-144	.240	.354	.488	.637	1.26	1.79
144-152	.229	.338	.466	.609	1.21	1.71
152-160	.219	.323	.445	.581	1.15	1.63
160-168	.210	.309	.425	.556	1.10	1.56
168-176	.200	.295	.406	.531	1.05	1.49
176-184	.191	.282	.388	.507	1.00	1.42
184-192	.183	.269	.371	.484	.960	1.36

WORKSHEET

For

Projected Activity Release Based on

SGTS Monitor Reading

Xe-133 (equivalent)

Time after shutdown of release to primary containment _____

Time of SGTS Monitor reading _____

8 hour period desired for activity release _____

Q/R, ci-cc/ μ ci, from Table for Xe-133 equivalent _____

SGTS Monitor reading, μ ci/cc _____

Activity, ci, released = (Q/R)x(Monitor Reading)

= _____ x _____

Xe-133 Equivalent Q/R For Release at 0. Hours After Shutdown

Time Period After Release to Primary Containment, Hrs.	SGTS Monitor					
	Q/R, ci-cc/uci, For 100% Nobles					
	Plus 0.0% Iodines at Indicated Time					
	After Release to Primary Containment					
	10 min	20 min	30 min	40 min	50 min	1 hour
0-8	1.40+4	1.73+4	1.97+4	2.17+4	2.34+4	2.50+4
8-16	3.48+3	4.29+3	4.87+3	5.37+3	5.80+3	6.19+3
16-24	1.71+3	2.11+3	2.40+3	2.64+3	2.85+3	3.05+3
24-32	1.14+3	1.41+3	1.60+3	1.76+3	1.90+3	2.03+3
32-40	8.75+2	1.08+3	1.23+3	1.35+3	1.46+3	1.56+3
40-48	7.27+2	8.96+2	1.02+3	1.12+3	1.21+3	1.30+3
48-56	6.36+2	7.84+2	8.92+2	9.82+2	1.06+3	1.13+3
56-64	5.76+2	7.10+2	8.07+2	8.89+2	9.61+2	1.03+3
64-72	5.33+2	6.56+2	7.46+2	8.22+2	8.88+2	9.48+2
72-80	4.99+2	6.15+2	6.99+2	7.70+2	8.32+2	8.89+2
80-88	4.72+2	5.81+2	6.61+2	7.28+2	7.86+2	8.40+2
88-96	4.47+2	5.51+2	6.27+2	6.90+2	7.46+2	7.96+2
96-104	4.26+2	5.25+2	5.96+2	6.57+2	7.10+2	7.58+2
104-112	4.06+2	5.00+2	5.68+2	6.26+2	6.76+2	7.22+2
112-120	3.87+2	4.77+2	5.42+2	5.97+2	6.45+2	6.89+2
120-128	3.69+2	4.55+2	5.17+2	5.70+2	6.16+2	6.57+2
128-136	3.53+2	4.35+2	4.94+2	5.44+2	5.88+2	6.28+2
136-144	3.37+2	4.15+2	4.72+2	5.20+2	5.62+2	6.00+2
144-152	3.22+2	3.96+2	4.51+2	4.96+2	5.36+2	5.73+2
152-160	3.07+2	3.79+2	4.30+2	4.74+2	5.12+2	5.47+2
160-168	2.94+2	3.62+2	4.12+2	4.53+2	4.90+2	5.23+2
168-176	2.80+2	3.46+2	3.93+2	4.33+2	4.68+2	5.00+2
176-184	2.68+2	3.30+2	3.75+2	4.14+2	4.47+2	4.77+2
184-192	2.56+2	3.16+2	3.59+2	3.95+2	4.27+2	4.56+2

Xe-133 Equivalent Q/R For Release at 0. Hours After Shutdown

Time Period After Release to Primary Containment, Hrs.	SGTS Monitor					
	Q/R, ci-cc/uci, For 100% Nobles					
	Plus 0.0% Iodines at Indicated Time					
	After Release to Primary Containment					
	2 hrs	4 hrs	6 hrs	8 hrs	16 hrs	24 hrs
0-8	3.32+4	5.14+4	7.50+4	1.04+5	2.61+5	4.33+5
8-16	8.22+3	1.27+4	1.86+4	2.58+4	6.46+4	1.07+5
16-24	4.04+3	6.26+3	9.13+3	1.27+4	3.18+4	5.27+4
24-32	2.70+3	4.18+3	6.09+3	8.46+3	2.12+4	3.52+4
32-40	2.07+3	3.20+3	4.67+3	6.49+3	1.63+4	2.70+4
40-48	1.72+3	2.66+3	3.88+3	5.39+3	1.35+4	2.24+4
48-56	1.50+3	2.33+3	3.40+3	4.72+3	1.18+4	1.96+4
56-64	1.36+3	2.11+3	3.08+3	4.27+3	1.07+4	1.78+4
64-72	1.26+3	1.95+3	2.84+3	3.95+3	9.89+3	1.64+4
72-80	1.18+3	1.83+3	2.66+3	3.70+3	9.27+3	1.54+4
80-88	1.11+3	1.73+3	2.52+3	3.50+3	8.76+3	1.45+4
88-96	1.06+3	1.64+3	2.39+3	3.32+3	8.30+3	1.38+4
96-104	1.01+3	1.56+3	2.27+3	3.16+3	7.90+3	1.31+4
104-112	9.58+2	1.48+3	2.17+3	3.01+3	7.53+3	1.25+4
112-120	9.14+2	1.42+3	2.07+3	2.87+3	7.18+3	1.19+4
120-128	8.72+2	1.35+3	1.97+3	2.74+3	6.85+3	1.14+4
128-136	8.33+2	1.29+3	1.88+3	2.61+3	6.55+3	1.09+4
136-144	7.96+2	1.23+3	1.80+3	2.50+3	6.25+3	1.04+4
144-152	7.60+2	1.18+3	1.72+3	2.38+3	5.97+3	9.92+3
152-160	7.26+2	1.12+3	1.64+3	2.28+3	5.70+3	9.47+3
160-168	6.94+2	1.07+3	1.57+3	2.18+3	5.45+3	9.05+3
168-176	6.63+2	1.03+3	1.50+3	2.08+3	5.21+3	8.65+3
176-184	6.33+2	9.81+2	1.43+3	1.99+3	4.97+3	8.26+3
184-192	6.05+2	9.37+2	1.37+3	1.90+3	4.75+3	7.89+3

WORKSHEET

for

Projected Activity Release Based on
Drywell Monitor Reading
I-131 (equivalent)

Time after shutdown of release to primary containment _____
Time of Drywell Monitor reading _____
8 hour period desired for activity release _____
Q/R, ci·hr/Rem, from Table for I-131 equivalent _____
Drywell Monitor reading, mrem/hr _____

$$\begin{aligned} \text{Activity, ci, released} &= (Q/R) \times (\text{Monitor Reading}) \times 10^{-3} \\ &= \underline{\hspace{2cm}} \times \underline{\hspace{2cm}} \times 10^{-3} = \underline{\hspace{2cm}} \end{aligned}$$

I-131 Equivalent Q/R For Release at 0. Hours After Shutdown

Time Period After Release to Primary Containment, Hrs.	Drywell Monitor					
	Q/R, ci·hr/Rem, For 100% Nobles plus 25% Iodines at Indicated Time After Release to Primary Containment					
	10 min	20 min	30 min	40 min	50 min	1 hour
0-8	2.52-4	2.92-4	3.23-4	3.49-4	3.74-4	3.98-4
8-16	2.16-4	2.50-4	2.76-4	2.99-4	3.21-4	3.41-4
16-24	1.94-4	2.24-4	2.48-4	2.68-4	2.87-4	3.05-4
24-32	1.77-4	2.05-4	2.27-4	2.46-4	2.63-4	2.80-4
32-40	1.64-4	1.90-4	2.10-4	2.28-4	2.44-4	2.59-4
40-48	1.54-4	1.78-4	1.97-4	2.13-4	2.28-4	2.43-4
48-56	1.45-4	1.68-4	1.86-4	2.01-4	2.15-4	2.29-4
56-64	1.38-4	1.59-4	1.76-4	1.91-4	2.04-4	2.17-4
64-72	1.31-4	1.52-4	1.68-4	1.82-4	1.95-4	2.07-4
72-80	1.25-4	1.45-4	1.60-4	1.74-4	1.86-4	1.98-4
80-88	1.20-4	1.39-4	1.54-4	1.67-4	1.79-4	1.90-4
88-96	1.16-4	1.34-4	1.48-4	1.60-4	1.72-4	1.82-4
96-104	1.11-4	1.29-4	1.43-4	1.54-4	1.65-4	1.76-4
104-112	1.07-4	1.24-4	1.37-4	1.49-4	1.59-4	1.69-4
112-120	1.04-4	1.20-4	1.33-4	1.44-4	1.54-4	1.64-4
120-128	1.00-4	1.16-4	1.28-4	1.39-4	1.49-4	1.58-4
128-136	9.70-5	1.12-4	1.24-4	1.34-4	1.44-4	1.53-4
136-144	9.39-5	1.09-4	1.20-4	1.30-4	1.39-4	1.48-4
144-152	9.09-5	1.05-4	1.16-4	1.26-4	1.35-4	1.43-4
152-160	8.81-5	1.02-4	1.13-4	1.22-4	1.31-4	1.39-4
160-168	8.53-5	9.89-5	1.09-4	1.18-4	1.27-4	1.35-4
168-176	8.27-5	9.58-5	1.06-4	1.15-4	1.23-4	1.30-4
176-184	8.02-5	9.29-5	1.03-4	1.11-4	1.19-4	1.26-4
184-192	7.77-5	9.01-5	9.95-5	1.08-4	1.15-4	1.23-4

I-131 Equivalent Q/R For Release at 0 Hours After Shutdown

Time Period
After Release
to Primary
Containment,
Hrs.

Drywell Monitor
Q/R, ci·hr/Rem, For 100% Nobles Plus 25% Iodines at
Indicated Time After Release to Primary Containment
2 hours 4 hours 6 hours 8 hours 16 hours 24 hours

0-8	5.27-4	7.85-4	1.06-3	1.34-3	2.46-3	3.50-3
8-16	4.51-4	6.73-4	9.05-4	1.14-3	2.11-3	3.00-3
16-24	4.04-4	6.03-4	8.11-4	1.03-3	1.89-3	2.69-3
24-32	3.70-4	5.52-4	7.42-4	9.40-4	1.73-3	2.46-3
32-40	3.43-4	5.12-4	6.88-4	8.71-4	1.61-3	2.28-3
40-48	3.21-4	4.79-4	6.45-4	8.16-4	1.50-3	2.14-3
48-56	3.03-4	4.52-4	6.08-4	7.70-4	1.42-3	2.02-3
56-64	2.88-4	4.29-4	5.77-4	7.30-4	1.34-3	1.91-3
64-72	2.74-4	4.09-4	5.50-4	6.95-4	1.28-3	1.82-3
72-80	2.62-4	3.91-4	5.25-4	6.65-4	1.23-3	1.74-3
80-88	2.51-4	3.75-4	5.04-4	6.38-4	1.18-3	1.67-3
88-96	2.42-4	3.60-4	4.84-4	6.13-4	1.13-3	1.61-3
96-104	2.33-4	3.47-4	4.67-4	5.91-4	1.09-3	1.55-3
104-112	2.24-4	3.35-4	4.50-4	5.70-4	1.05-3	1.49-3
112-120	2.17-4	3.23-4	4.35-4	5.50-4	1.01-3	1.44-3
120-128	2.09-4	3.12-4	4.20-4	5.32-4	9.80-4	1.39-3
128-136	2.03-4	3.02-4	4.06-4	5.14-4	9.48-4	1.35-3
136-144	1.96-4	2.92-4	3.93-4	4.98-4	9.18-4	1.30-3
144-152	1.90-4	2.83-4	3.81-4	4.82-4	8.88-4	1.26-3
152-160	1.84-4	2.74-4	3.69-4	4.67-4	8.61-4	1.22-3
160-168	1.78-4	2.66-4	3.58-4	4.53-4	8.34-4	1.19-3
168-176	1.73-4	2.58-4	3.47-4	4.39-4	8.08-4	1.15-3
176-184	1.67-4	2.50-4	3.36-4	4.25-4	7.84-4	1.11-3
184-192	1.62-4	2.42-4	3.26-4	4.12-4	7.60-4	1.08-3

WORKSHEET

for

Projected Activity Release Based on

SGTS Monitor Reading

I-131 (equivalent)

Time after shutdown of release to primary containment _____

Time of SGTS Monitor reading _____

8 hour period desired for activity release _____

Q/R, ci·cc/pci, from Table for I-131 equivalent _____

SGTS Monitor reading, pci/cc _____

Activity, ci, released = (Q/R)x(Monitor Reading)

= _____ x _____ = _____

I-131 Equivalent Q/R For Release at 0 Hours After Shutdown

Time Period After Release to Primary Containment, Hrs.	SGTS Monitor					
	Q/R, ci·cc/pci, For 100% Nobles plus 25% Iodines at Indicated Time After Release to Primary Containment					
	10 min	20 min	30 min	40 min	50 min	1 hour
0-8	1.33	1.64	1.86	2.05	2.21	2.36
8-16	1.14	1.40	1.59	1.76	1.90	2.03
16-24	1.02	1.26	1.43	1.57	1.70	1.82
24-32	.935	1.15	1.31	1.44	1.56	1.66
32-40	.867	1.07	1.21	1.34	1.44	1.54
40-48	.812	.999	1.14	1.25	1.35	1.44
48-56	.766	.943	1.07	1.18	1.27	1.36
56-64	.726	.894	1.02	1.12	1.21	1.29
64-72	.692	.852	.968	1.07	1.15	1.23
72-80	.661	.815	.926	1.02	1.10	1.18
80-88	.635	.781	.888	.978	1.06	1.13
88-96	.610	.751	.853	.940	1.02	1.08
96-104	.588	.724	.822	.905	.978	1.04
104-112	.567	.698	.793	.873	.943	1.01
112-120	.547	.674	.766	.843	.911	.973
120-128	.529	.651	.740	.815	.881	.940
128-136	.512	.630	.716	.788	.852	.910
136-144	.495	.610	.693	.763	.824	.880
144-152	.479	.590	.671	.739	.798	.852
152-160	.465	.572	.650	.716	.774	.826
160-168	.450	.554	.630	.694	.750	.800
168-176	.436	.537	.611	.672	.726	.776
176-184	.423	.521	.592	.652	.704	.752
184-192	.410	.505	.574	.632	.683	.729

I-131 Equivalent Q/R For Release at 0 Hours After Shutdown

Time Period After Release to Primary Containment, Hrs.	SGTS Monitor					
	Q/R, ci-cc/pci, For 100% Nobles Plus 25% Iodines at					
	Indicated Time After Release to Primary Containment					
	2 hours	4 hours	6 hours	8 hours	16 hours	24 hours
0-8	3.14	4.86	7.08	9.82	24.5	40.6
8-16	2.69	4.16	6.07	8.42	21.0	34.8
16-24	2.41	3.73	5.44	7.54	18.8	31.2
24-32	2.20	3.42	4.98	6.90	17.2	28.5
32-40	2.04	3.17	4.62	6.40	16.0	26.4
40-48	1.91	2.96	4.32	5.99	14.9	24.8
48-56	1.80	2.80	4.08	5.65	14.1	23.4
56-64	1.71	2.65	3.87	5.36	13.4	22.2
64-72	1.63	2.53	3.68	5.11	12.7	21.1
72-80	1.56	2.42	3.52	4.89	12.2	20.2
80-88	1.50	2.32	3.38	4.69	11.7	19.4
88-96	1.44	2.23	3.25	4.50	11.2	18.6
96-104	1.39	2.15	3.13	4.34	10.8	17.9
104-112	1.34	2.07	3.02	4.18	10.4	17.3
112-120	1.29	2.00	2.91	4.04	10.1	16.7
120-128	1.25	1.93	2.82	3.91	9.74	16.1
128-136	1.21	1.87	2.72	3.78	9.42	15.6
136-144	1.17	1.81	2.64	3.66	9.12	15.1
144-152	1.13	1.75	2.55	3.54	8.83	14.6
152-160	1.10	1.70	2.47	3.43	8.56	14.2
160-168	1.06	1.64	2.40	3.33	8.29	13.7
168-176	1.03	1.59	2.32	3.22	8.03	13.3
176-184	.997	1.54	2.25	3.12	7.79	12.9
184-192	.967	1.50	2.18	3.03	7.55	12.5

WORKSHEET
for
Emergency Classification Calculation - Worst Conditions

Wind speed, MPH _____
Curies released, XE-133 _____
Emergency Classification* _____
Curies released, I-131 _____
Emergency Classification** _____

* From

Emergency Classification -
Worst Condition Graph

White $\geq$ 0.05 rem and < 1 rem
Yellow $\geq$ 1 rem and < 5 rem
Red = 5 rem and above

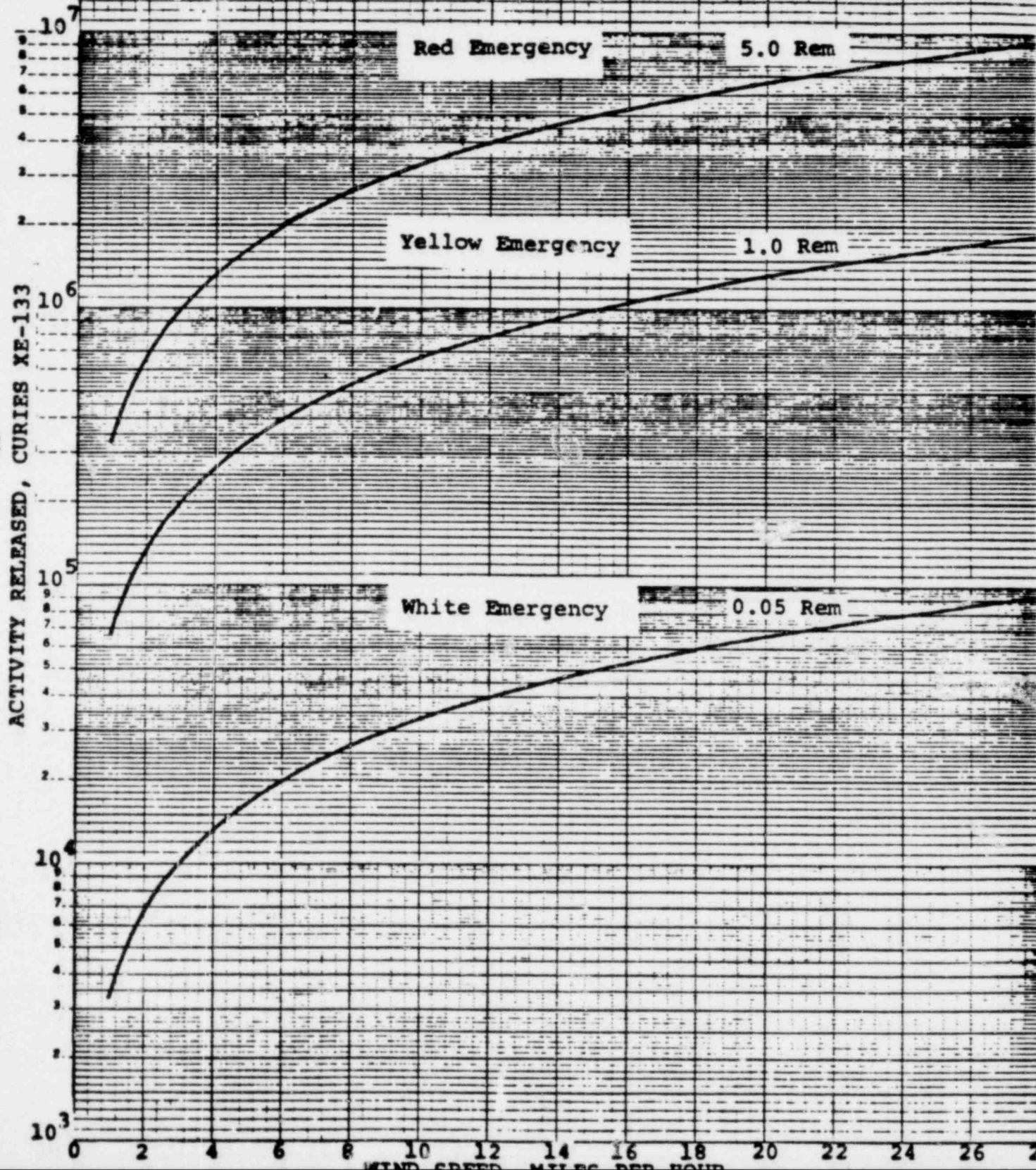
** From

Emergency Classification -
Worst Condition Graph

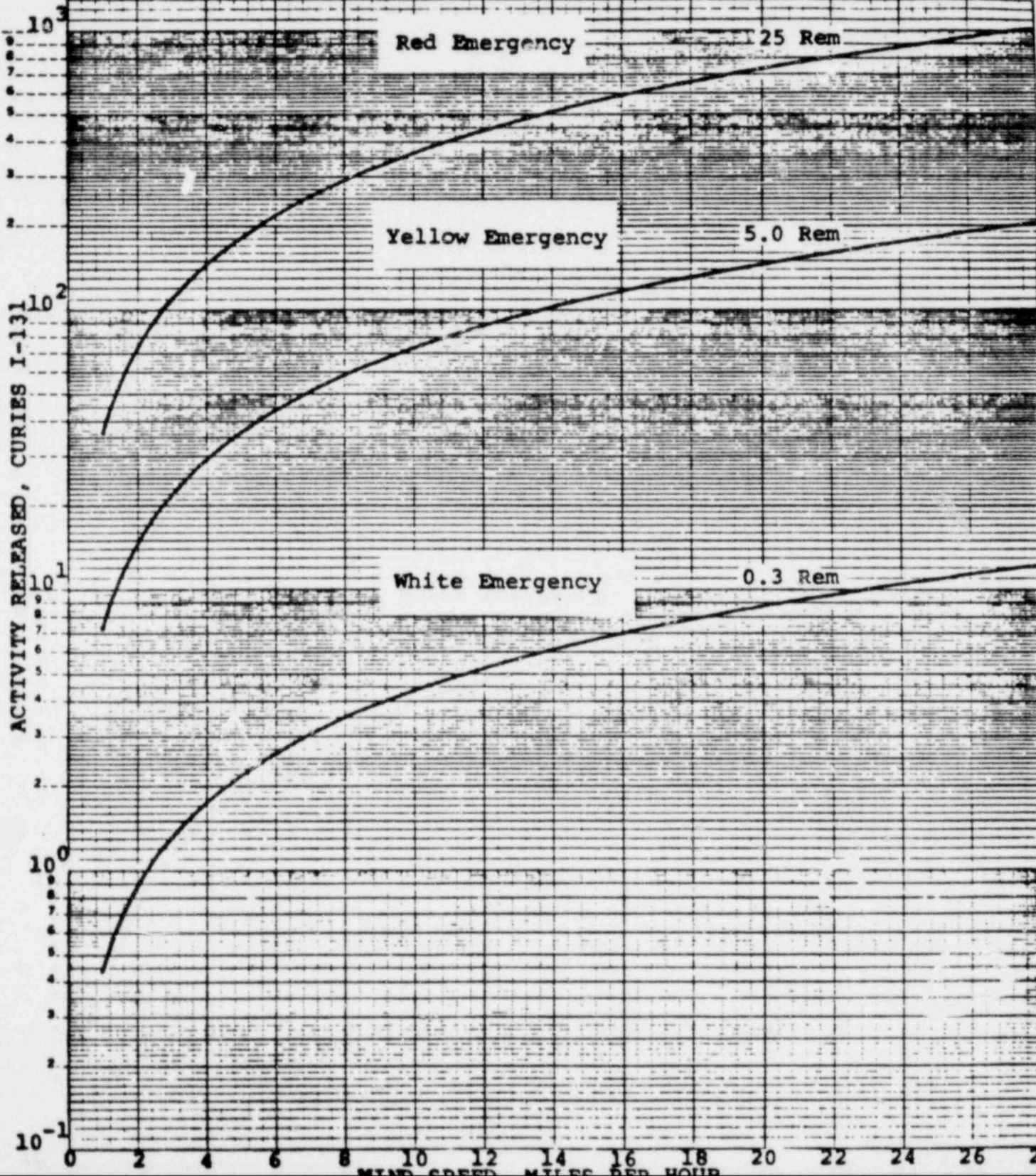
White $\geq$ 0.3 rem and < 5 rem
Yellow $\geq$ 5 rem and < 25 rem
Red = 25 rem and above

*Based on worst EAB conditions; wind stability class independent.

PAG Emergency Classification-
Based on Worst EAB Conditions



PAG Emergency Classification-
Based on Worst EAB Conditions



WORKSHEET

for

Emergency Classification Calculation

Pasquill Stability Category* _____

Distance, meters** _____

Type of Dose*** _____

Multiplying Factor from Table _____

Curies Released _____

Normalized Curies Released =
Multiplying Factor X
Curies Released _____

Wind Speed, mph _____

Plot - wind speed, Normalized Curies Released - on Emergency
Classification Graph (for Type of Dose)

* Categories A through G

** EAB - .57 miles

*** Xe-133 Whole Body Gamma Dose; I-131 Thyroid Inhalation Dose

PAG Emergency Classification

Multiplying Factors For Xe-133 Activity (ci) Released

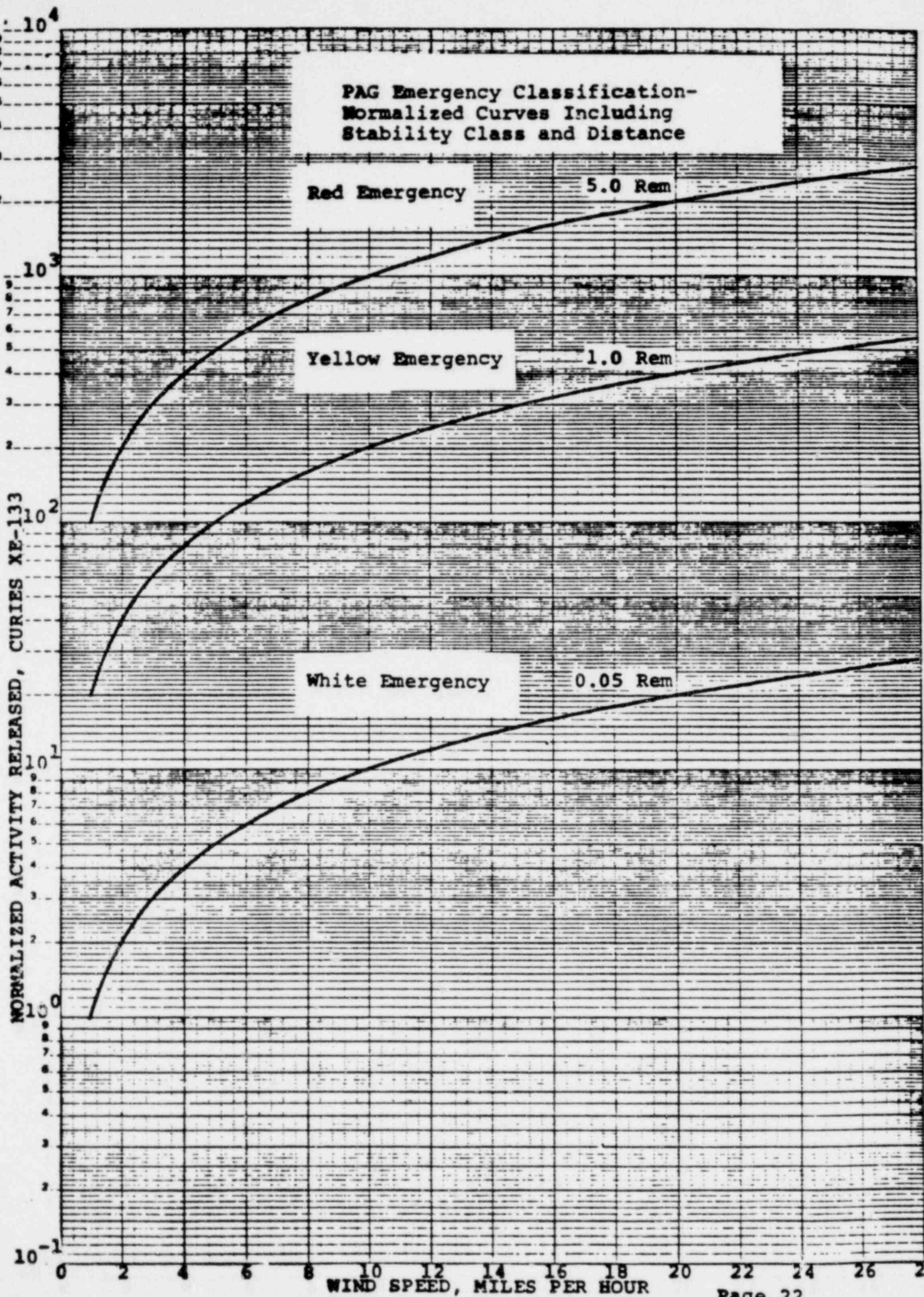
Pasquill Stability Class	Distance from Release Point					
	915 Meters	1 Mile	2 Miles	3 Miles	4 Miles	5 Miles
A	2.46-6	5.62-7	3.01-7	2.09-7	1.61-7	1.32-7
B	1.22-5	4.02-6	1.02-6	4.54-7	2.55-7	1.75-7
C	2.74-5	1.02-5	2.96-6	1.42-6	8.45-7	5.64-7
D	6.74-5	2.98-5	1.07-5	5.87-6	3.84-6	2.77-6
E	1.19-4	5.70-5	2.21-5	1.28-5	8.66-6	6.42-6
F	2.02-4	1.10-4	4.76-5	2.87-5	2.00-5	1.52-5
G	3.02-4	2.01-4	1.03-4	6.55-5	4.69-5	3.61-5

Pasquill Stability Class	Distance from Release Point				
	6 Miles	7 Miles	8 Miles	9 Miles	10 Miles
A	1.12-7	9.72-8	8.61-8	7.74-8	7.04-8
B	1.48-7	1.29-7	1.15-7	1.03-7	9.36-8
C	4.05-7	3.07-7	2.41-7	1.94-7	1.61-7
D	2.12-6	1.69-6	1.39-6	1.17-6	1.01-6
E	5.04-6	4.11-6	3.44-6	2.95-6	2.57-6
F	1.21-5	9.99-6	8.47-6	7.33-6	6.44-6
G	2.91-5	2.42-5	2.06-5	1.79-5	1.58-5

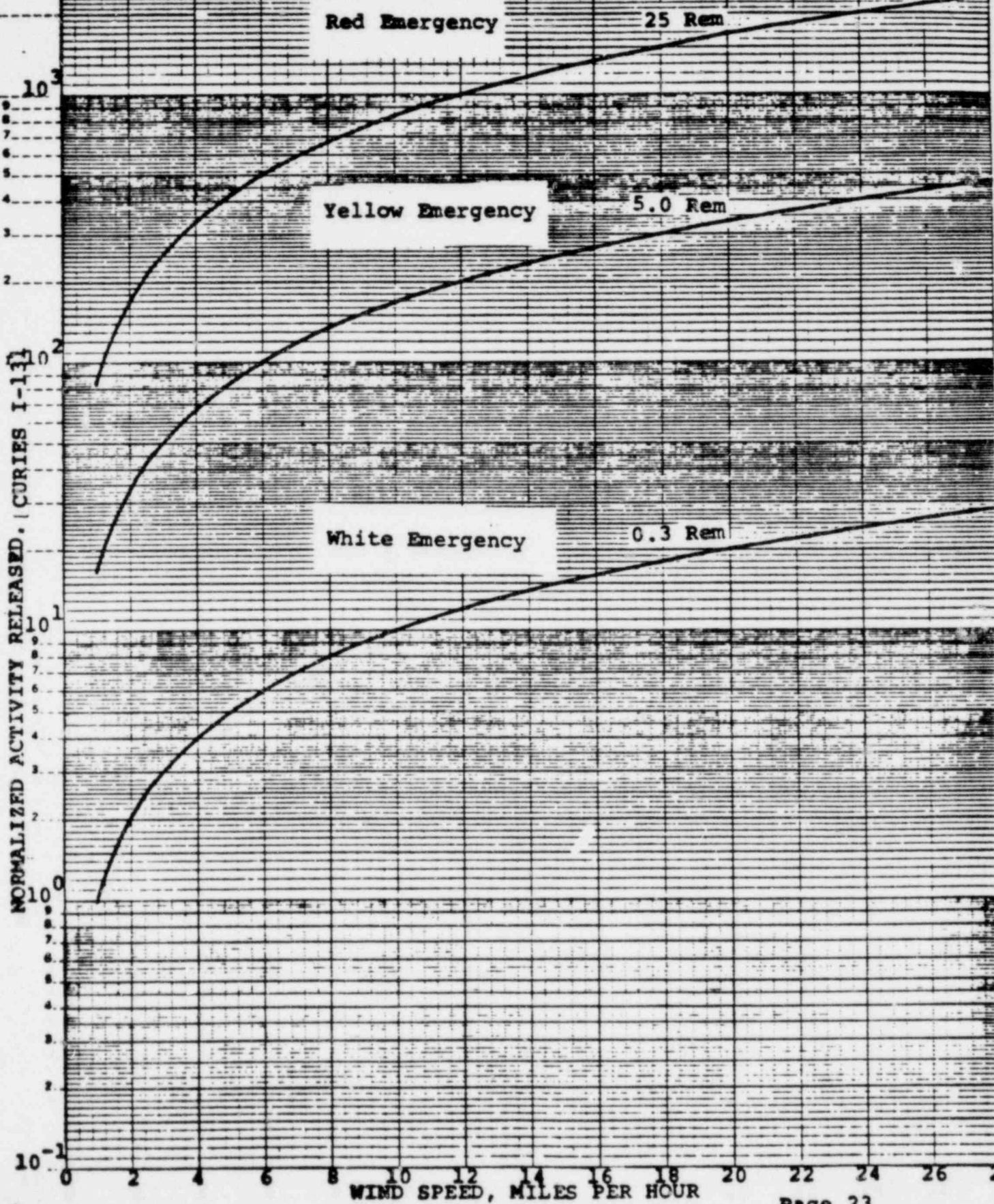
PAG Emergency Classification
 Multiplying Factors For I-131 Activity (ci) Released

Pasquill Stability Class	Distance from Release Point					
	<u>915 Meters</u>	<u>1 Mile</u>	<u>2 Miles</u>	<u>3 Miles</u>	<u>4 Miles</u>	<u>5 Miles</u>
A	1.86-2	4.26-3	2.28-3	1.58-3	1.22-3	9.96-4
B	9.20-2	3.05-2	7.70-3	3.43-3	1.93-3	1.32-3
C	2.07-1	7.74-2	2.24-2	1.08-2	6.39-3	4.27-3
D	5.10-1	2.26-1	8.10-2	4.45-2	2.91-2	2.10-2
E	9.03-1	4.31-1	1.68-1	9.66-2	6.55-2	4.86-2
F	1.52+0	8.33-1	3.61-1	2.17-1	1.52-1	1.15-1
G	2.29+0	1.52+0	7.77-1	4.95-1	3.55-1	2.73-1

Pasquill Stability Class	Distance from Release Point				
	<u>6 Miles</u>	<u>7 Miles</u>	<u>8 Miles</u>	<u>9 Miles</u>	<u>10 Miles</u>
A	8.45-4	7.35-4	6.52-4	5.86-4	5.33-4
B	1.12-3	9.78-4	8.67-4	7.79-4	7.09-4
C	3.07-3	2.32-3	1.82-3	1.47-3	1.22-3
D	1.60-2	1.28-2	1.05-2	8.88-3	7.62-3
E	3.81-2	3.11-2	2.61-2	2.23-2	1.94-2
F	9.15-2	7.56-2	6.41-2	5.55-2	4.87-2
G	2.20-1	1.83-1	1.56-1	1.35-1	1.19-1



PAG Emergency Classification-
Normalized Curves Including
Stability Class and Distance



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for

Dose Calculation

Pasquill Stability Category* _____

Distance, miles** _____

Type of Dose*** _____

Value from Table _____ Rem/curie

Curies Released _____

Wind Speed, mph _____

$\frac{\text{Curies Released}}{\text{Wind Speed, mph}}$ _____

Dose = (Value from Table) x $\frac{\text{Curies Released}}{\text{Wind Speed, mph}}$ = _____ Rem

* Categories A through G

** EAB = .57 Miles

*** Xe-133 Whole Body Gamma Dose; I-131 Thyroid Inhalation Dose

Dose Calculation Table
Xe-133 Whole Body Gamma Dose, $\frac{\text{Rem} \cdot \text{mph}}{\text{Ci}}$

Pasquill Stability Class	Distance from Release Point					
	915 Meters	1 Mile	2 Miles	3 Miles	4 Miles	5 Miles
A	1.23-7	2.81-8	1.51-8	1.04-8	8.05-9	6.58-9
B	6.08-7	2.01-7	5.09-8	2.27-8	1.28-8	8.75-9
C	1.37-6	5.12-7	1.48-7	7.11-8	4.22-8	2.82-8
D	3.37-6	1.49-6	5.35-7	2.94-7	1.92-7	1.38-7
E	5.97-6	2.85-6	1.11-6	6.38-7	4.33-7	3.21-7
F	1.01-5	5.50-6	2.38-6	1.44-6	1.00-6	7.59-7
G	1.51-5	1.01-5	5.13-6	3.27-6	2.35-6	1.80-6

Pasquill Stability Class	Distance from Release Point				
	6 Miles	7 Miles	8 Miles	9 Miles	10 Miles
A	5.58-9	4.86-9	4.31-9	3.87-9	3.52-9
B	7.42-9	6.46-9	5.73-9	5.15-9	4.68-9
C	2.03-8	1.53-8	1.20-8	9.72-9	8.03-9
D	1.06-7	8.46-8	6.96-8	5.86-8	5.03-8
E	2.52-7	2.05-7	1.72-7	1.47-7	1.28-7
F	6.05-7	5.00-7	4.24-7	3.67-7	3.22-7
G	1.45-6	1.21-6	1.03-6	8.94-7	7.88-7

Dose Calculation Table
I-131 Thyroid Inhalation Dose, $\frac{\text{Rem} \cdot \text{mph}}{\text{Ci}}$

Pasquill Stability Class	Distance from Release Point					
	915 Meters	1 Mile	2 Miles	3 Miles	4 Miles	5 Miles
A	5.59-3	1.28-3	6.83-4	4.74-4	3.66-4	2.99-4
B	2.76-2	9.14-3	2.31-3	1.03-3	5.80-4	3.97-4
C	6.21-2	2.32-2	6.71-3	3.23-3	1.92-3	1.28-3
D	1.53-1	6.77-2	2.43-2	1.33-2	8.73-3	6.29-3
E	2.71-1	1.29-1	5.03-2	2.90-2	1.97-2	1.46-2
F	4.57-1	2.50-1	1.08-1	6.52-2	4.55-2	3.44-2
G	6.86-1	4.56-1	2.33-1	1.49-1	1.07-1	8.19-2

Pasquill Stability Class	Distance from Release Point				
	6 Miles	7 Miles	8 Miles	9 Miles	10 Miles
A	2.54-4	2.21-4	1.95-4	1.76-4	1.60-4
B	3.37-4	2.93-4	2.60-4	2.34-4	2.13-4
C	9.20-4	6.96-4	5.46-4	4.41-4	3.64-4
D	4.81-3	3.84-3	3.16-3	2.66-3	2.28-3
E	1.14-2	9.32-3	7.82-3	6.69-3	5.83-3
F	2.75-2	2.27-2	1.92-2	1.66-2	1.46-2
G	6.60-2	5.49-2	4.68-2	4.06-2	3.58-2

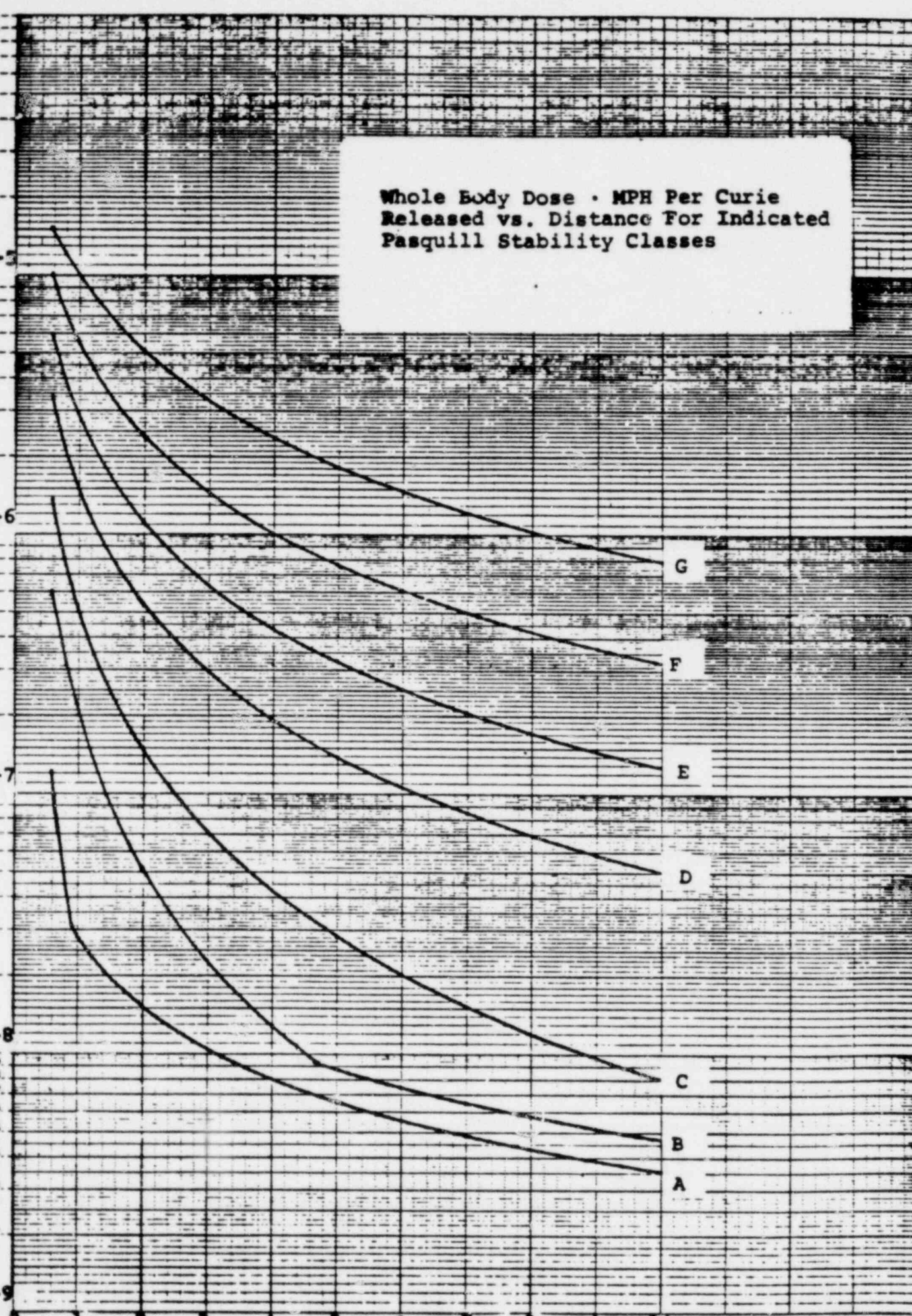
Whole Body Dose - MPH Per Curie
Released vs. Distance For Indicated
Pasquill Stability Classes

DOSE, REM - MPH PER CURIE XE-133 RELEASED

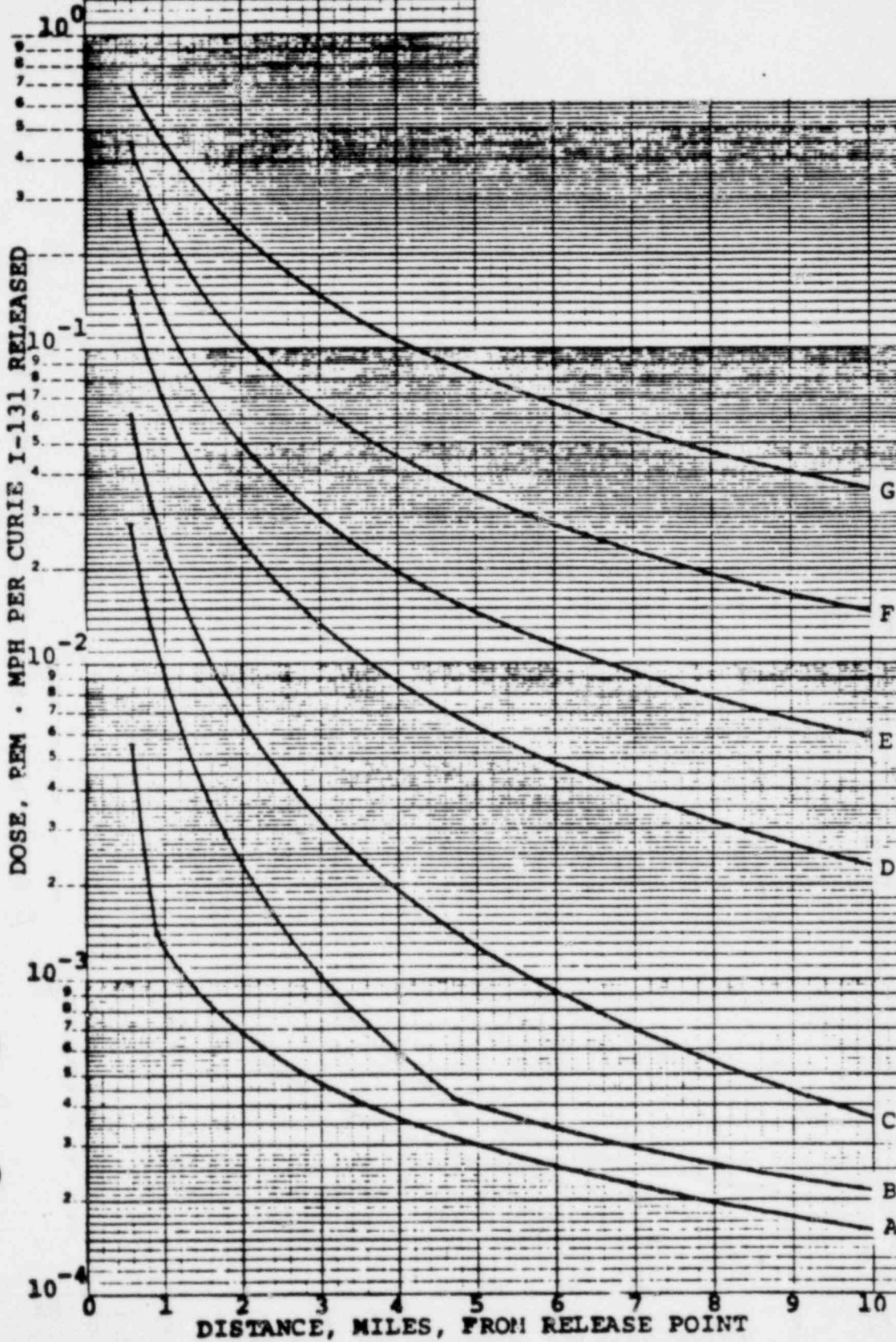
10^{-5}
 10^{-6}
 10^{-7}
 10^{-8}
 10^{-9}

DISTANCE, MILES, FROM RELEASE POINT

G
F
E
D
C
B
A



Thyroid Inhalation Dose - MPH Per
Curie Released vs. Distance For
Indicated Pasquill Stability Classes



WORKSHEET

for

Area Effected Calculation - Xe-133

Curies Released _____

Wind Speed, mph _____

Atmospheric Dispersion Factor, m^{-2}

= $1.963 \times \frac{\text{Wind Speed, mph}}{\text{Curies Released}}$ = _____ White

= $3.92 \times \frac{\text{Wind Speed, mph}}{\text{Curies Released}}$ = _____ Yellow

= $196.3 \times \frac{\text{Wind Speed, mph}}{\text{Curies Released}}$ = _____ Red

Pasquill Stability Category _____

From Atmospheric Dispersion Factor vs. Distance Graph

Obtain: White Distance _____ miles

Yellow Distance _____ miles

Red Distance _____ miles

WORKSHEET

for

Area Affected Calculation - I-131

Curies Released

Wind Speed, mph

Atmospheric Dispersion Factor, m^{-2}

$$= 2.59 \times 10^{-4} \times \frac{\text{Wind Speed, mph}}{\text{Curies Released}} = \text{_____ White}$$

$$= 4.32 \times 10^{-3} \times \frac{\text{Wind Speed, mph}}{\text{Curies Released}} = \text{_____ Yellow}$$

$$= 2.16 \times 10^{-2} \times \frac{\text{Wind Speed, mph}}{\text{Curies released}} = \text{_____ Red}$$

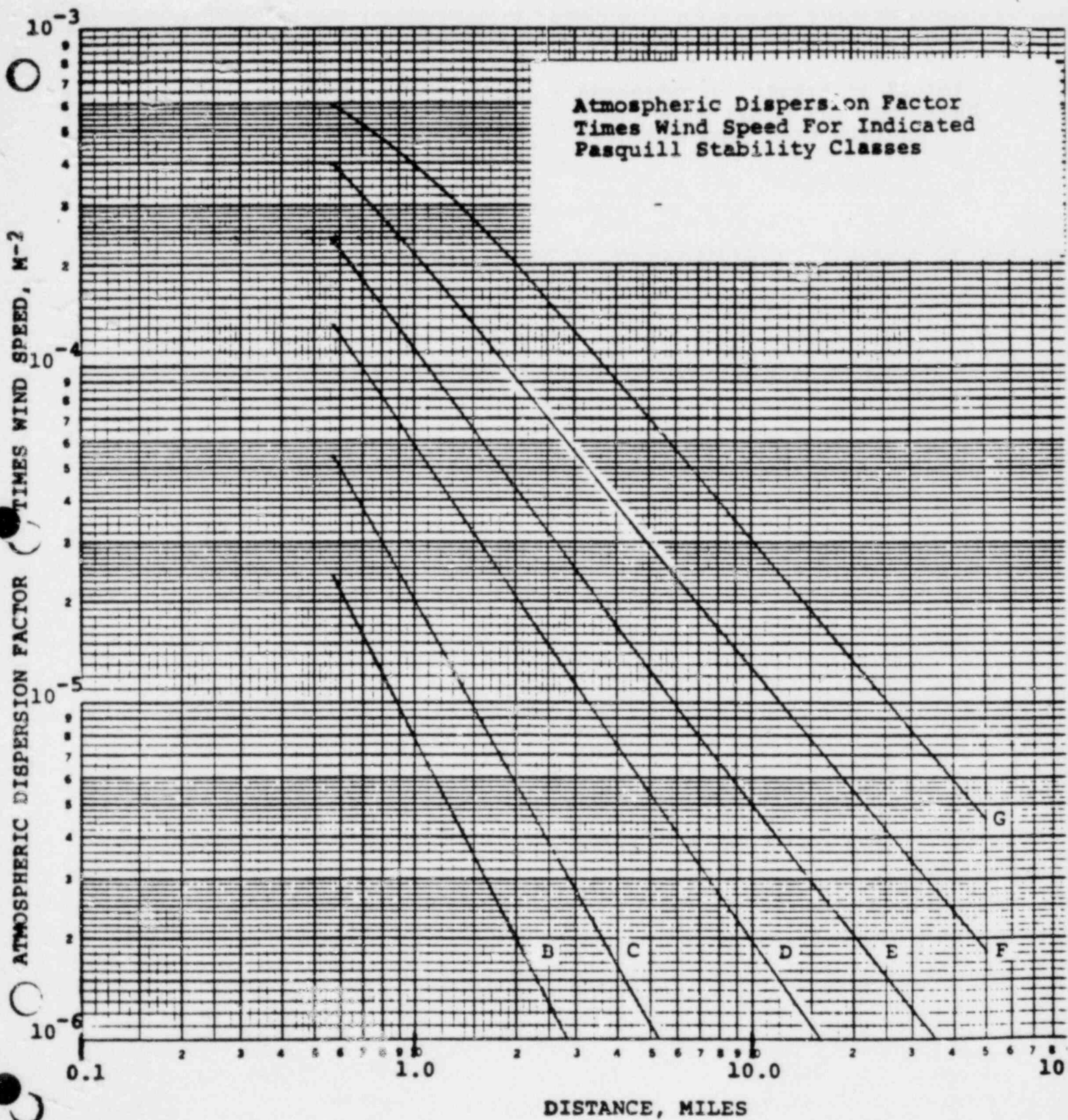
Pasquill Stability Category

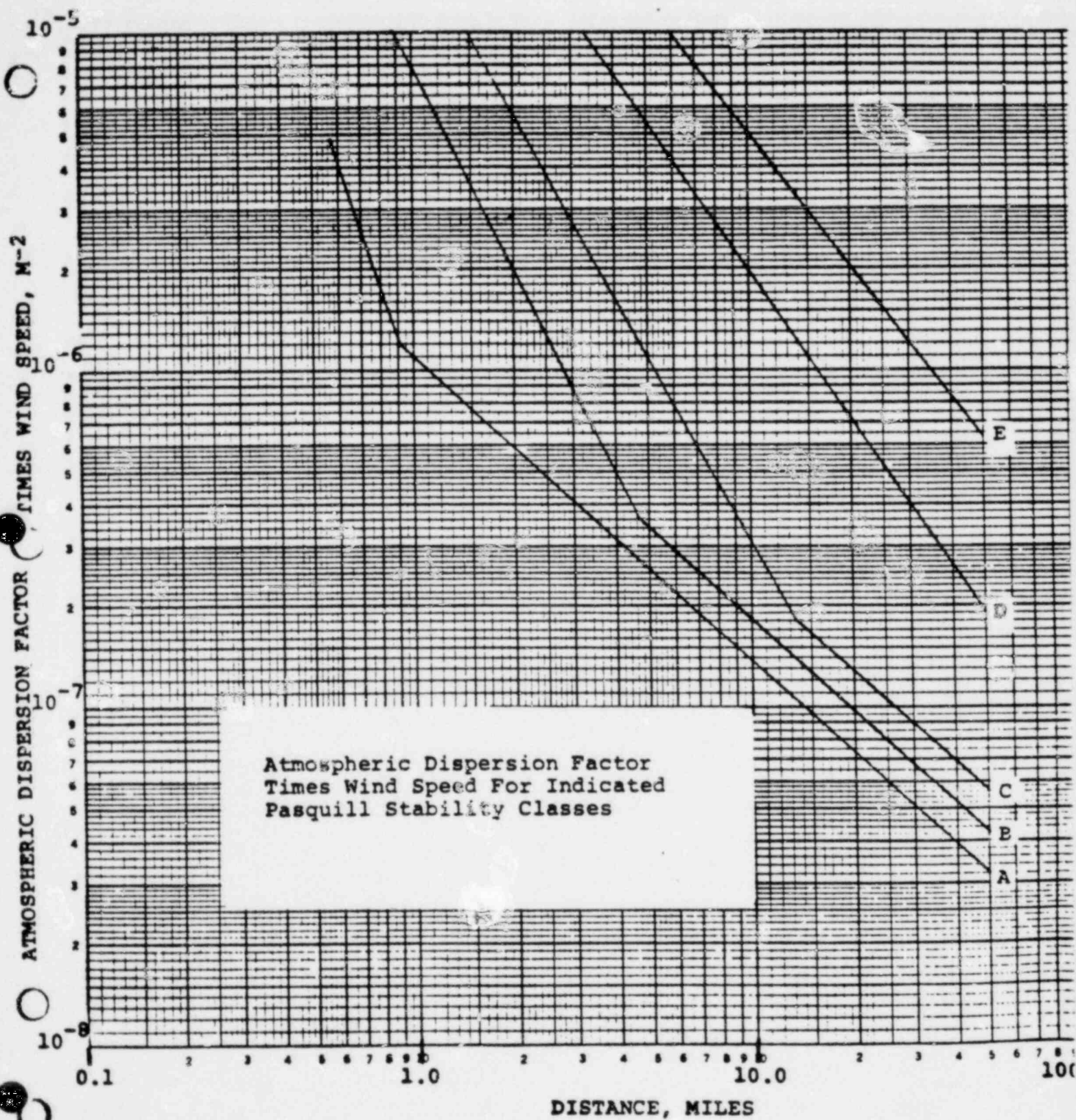
From Atmospheric Dispersion Factor vs. Distance Graph

Obtain: White Distance _____ miles

Yellow Distance _____ miles

Red Distance _____ miles





WORKSHEET

for Calculation of

Dose at Distances Between .57 and 50. miles

Xe-133

Distance _____ miles

Pasquill Stability Category _____

From Atmospheric Dispersion Factor vs. Distance Graph

Obtain: Atmospheric Dispersion Factor _____ m⁻²

Wind Speed _____ mph

Curies Released _____ curies

Dose =
$$\frac{.02548 \times \text{Curies Released} \times \text{Atmospheric Dispersion Factor}}{\text{Wind Speed}}$$

= _____ Rem

WORKSHEET

for Calculation of

Dose at Distances Between .57 and 50. Miles

K-131

Distance _____ miles

Pasquill Stability Category _____

From Atmospheric Dispersion Factor vs. Distance Graph

Obtain: Atmospheric Dispersion Factor _____ m^{-2}

Wind Speed _____ mph

Curies Released _____ curies

Dose = $\frac{1157. \times \text{Curies Released} \times \text{Atmospheric Dispersion Factor}}{\text{Wind Speed}}$

= _____ Rem

Calculated Monitor Readings for Release at 0.0 Hours After Shutdown

Time After Release to Primary Containment Hrs.	Monitor Readings For 100% Nobles Plus 0% Iodines	
	Drywell Monitor Rad/Hr	SGTS Monitor pci/cc
.167	1.379+6	435.6
.333	1.125+6	353.4
.500	9.942+5	310.8
.667	9.064+5	282.2
.833	8.421+5	261.2
1.00	7.917+5	244.6
1.25	7.328+5	225.1
1.50	6.857+5	209.5
1.75	6.457+5	196.2
2.00	6.105+5	184.4
2.25	5.786+5	173.8
2.50	5.495+5	164.0
2.75	5.226+5	155.1
3.00	4.977+5	146.8
3.25	4.746+5	139.1
3.50	4.531+5	131.9
3.75	4.330+5	125.2
4.00	4.142+5	119.0
4.25	3.966+5	113.2
4.50	3.802+5	107.7
4.75	3.647+5	102.7
5.00	3.503+5	97.89
5.33	3.324+5	91.99
5.67	3.158+5	86.56
6.00	3.006+5	81.58
6.50	2.799+5	74.82
7.00	2.615+5	68.83
8.00	2.302+5	58.74
16.00	1.161+5	23.46
24.00	8.200+4	14.13

Calculated Monitor Readings For Release at 0.0 Hours After Shutdown

Time After Release to Primary Containment Hrs.	Monitor Readings For 100% Nobles plus 25% Iodines	
	Drywell Monitor Rad/Hr	SGTS Monitor uci/cc
.167	2.313+6	438.4
.333	1.996+6	356.0
.500	1.807+6	313.3
.667	1.668+6	284.5
.833	1.558+6	263.3
1.00	1.466+6	246.6
1.25	1.352+6	227.0
1.50	1.258+6	211.2
1.75	1.177+5	197.7
2.00	1.107+6	185.9
2.25	1.044+6	175.1
2.50	9.876+5	165.3
2.75	9.368+5	156.3
3.00	8.907+5	148.0
3.25	8.487+5	140.2
3.50	8.102+5	133.0
3.75	7.748+5	126.3
4.00	7.422+5	120.0
4.25	7.121+5	114.1
4.50	6.842+5	108.6
4.75	6.582+5	103.5
5.00	6.340+5	98.73
5.33	6.043+5	92.80
5.67	5.769+5	87.33
6.00	5.519+5	82.32
6.50	5.179+5	75.52
7.00	4.876+5	69.49
8.00	4.361+5	59.35
16.00	2.366+5	23.81
24.00	1.664+5	14.37

Fractions of 100% Noble Gases Released and Wind Speed Ranges to
Give Gamma Whole Body Emergency Condition (NUREG-0654) For
Release to Primary Containment at 0. Hours After Shutdown

Emergency Type	Item	For Indicated Pasquill Stability Classes						
		A	B	C	D	E	F	G
General	Fraction/wind speed, sec/m	4.81	.975	.433	.176	.0992	.0588	.0392
General	Wind speed range*, m/sec	<.208	<1.03	<2.31	<5.69	<10.1	<17.0	<25.5
Site (30 minutes)	Fraction							.0196

Fractions of 100% Noble Gases Plus 25% Iodines Released and Wind
Speed Ranges to Give Thyroid Inhalation Emergency Condition
(NUREG-0654) for Release to Primary Containment at 0. Hours
After Shutdown

Emergency Type	Item	For Indicated Pasquill Stability Classes						
		A	B	C	D	E	F	G
General	Fraction/wind speed, sec/m	24.3	4.92	2.18	.888	.501	.297	.198
General	Wind speed range*, m/sec	<.0412	<.203	<.458	<1.13	<2.00	<3.37	<5.06
Site (30 minutes)	Fraction							.0989

*No General Emergency for wind speeds out of these ranges.

WHOLE BODY GAMMA	DOSE RATE EMERGENCY (EAB DOSE RATE GE. 1.0 RAD/MR)
100	100
200	200
300	300
400	400
500	500
600	600
700	700
800	800
900	900
1000	1000
1100	1100
1200	1200
1300	1300
1400	1400
1500	1500
1600	1600
1700	1700
1800	1800
1900	1900
2000	2000
2100	2100
2200	2200
2300	2300
2400	2400
2500	2500
2600	2600
2700	2700
2800	2800
2900	2900
3000	3000
3100	3100
3200	3200
3300	3300
3400	3400
3500	3500
3600	3600
3700	3700
3800	3800
3900	3900
4000	4000
4100	4100
4200	4200
4300	4300
4400	4400
4500	4500
4600	4600
4700	4700
4800	4800
4900	4900
5000	5000
5100	5100
5200	5200
5300	5300
5400	5400
5500	5500
5600	5600
5700	5700
5800	5800
5900	5900
6000	6000
6100	6100
6200	6200
6300	6300
6400	6400
6500	6500
6600	6600
6700	6700
6800	6800
6900	6900
7000	7000
7100	7100
7200	7200
7300	7300
7400	7400
7500	7500
7600	7600
7700	7700
7800	7800
7900	7900
8000	8000
8100	8100
8200	8200
8300	8300
8400	8400
8500	8500
8600	8600
8700	8700
8800	8800
8900	8900
9000	9000
9100	9100
9200	9200
9300	9300
9400	9400
9500	9500
9600	9600
9700	9700
9800	9800
9900	9900
10000	10000

TIME AFTER RELEASE, HOURS	DRYWELL MONITOR DOSE RATE (100X NOBLES PLUS PER METER/SECOND, FOR PASQUILL STABILITY CLASS						F	E	G
	A	B	C	D	E	F			
.167	6.63+06	1.34+06	5.97+05	2.43+05	1.37+05	8.11+04			5.41+04
.333	5.41+06	1.10+06	4.87+05	1.98+05	1.12+05	6.62+04			4.41+04
.500	4.78+06	9.69+05	4.30+05	1.75+05	9.87+04	5.85+04			3.90+04
.667	4.36+06	8.83+05	3.92+05	1.59+05	9.00+04	5.23+04			3.55+04
.833	4.05+06	8.21+05	3.64+05	1.48+05	8.36+04	4.95+04			3.30+04
1.000	3.81+06	7.72+05	3.43+05	1.39+05	7.86+04	4.66+04			3.10+04
1.250	3.53+06	7.14+05	3.17+05	1.29+05	7.27+04	4.31+04			2.87+04
1.500	3.30+06	6.68+05	2.97+05	1.21+05	6.81+04	4.03+04			2.69+04
1.750	3.11+06	6.29+05	2.79+05	1.14+05	6.41+04	3.80+04			2.53+04
2.000	2.94+06	5.95+05	2.66+05	1.07+05	6.06+04	3.59+04			2.39+04
2.250	2.78+06	5.64+05	2.50+05	1.02+05	5.74+04	3.40+04			2.27+04
2.500	2.64+06	5.36+05	2.38+05	9.67+04	5.43+04	3.23+04			2.15+04
2.750	2.51+06	5.09+05	2.26+05	9.19+04	5.19+04	3.07+04			2.05+04
3.000	2.39+06	4.85+05	2.15+05	8.76+04	4.94+04	2.93+04			1.95+04
3.250	2.28+06	4.63+05	2.05+05	8.35+04	4.71+04	2.79+04			1.86+04
3.500	2.18+06	4.42+05	1.96+05	7.97+04	4.50+04	2.68+04			1.78+04
3.750	2.08+06	4.22+05	1.87+05	7.62+04	4.30+04	2.55+04			1.70+04
4.000	1.99+06	4.04+05	1.79+05	7.29+04	4.11+04	2.44+04			1.62+04
4.250	1.91+06	3.87+05	1.72+05	6.98+04	3.94+04	2.33+04			1.56+04
4.500	1.83+06	3.71+05	1.65+05	6.69+04	3.77+04	2.24+04			1.49+04
4.750	1.75+06	3.56+05	1.58+05	6.42+04	3.62+04	2.14+04			1.43+04
5.000	1.69+06	3.41+05	1.52+05	6.16+04	3.48+04	2.06+04			1.37+04
5.333	1.60+06	3.24+05	1.44+05	5.85+04	3.30+04	1.95+04			1.30+04
5.667	1.52+06	3.08+05	1.37+05	5.56+04	3.13+04	1.86+04			1.24+04
6.000	1.45+06	2.93+05	1.30+05	5.29+04	2.98+04	1.77+04			1.18+04
6.500	1.35+06	2.73+05	1.21+05	4.92+04	2.78+04	1.65+04			1.10+04
7.000	1.26+06	2.55+05	1.13+05	4.60+04	2.60+04	1.54+04			1.03+04
8.000	1.11+06	2.24+05	9.96+04	4.05+04	2.28+04	1.35+04			9.03+03
16.000	5.58+05	1.13+05	5.02+04	2.04+04	1.15+04	6.83+03			4.55+03
44.000	3.94+05	7.99+04	3.55+04	1.44+04	8.14+03	4.82+03			3.22+03

DRYWELL MONITOR READINGS-GENERAL EMERGENCY
FOR RELEASE AT .000 HR AFTER SHUTDOWN

THYROID INHALATION DOSE RATE EMERGENCY (EAB DOSE RATE .GE. 5.0 RAD/HR)

TIME AFTER RELEASE, HOURS	WAD/HOUR A	B	C	D	E	F	G
.167	9.62+07	1.14+07	5.05+06	2.05+06	1.16+06	6.86+05	4.98+05
.333	4.84+07	9.82+06	4.38+06	1.77+06	9.99+05	5.92+05	3.95+05
.500	4.39+07	8.89+06	3.95+06	1.60+06	9.05+05	5.36+05	3.58+05
.667	4.05+07	8.20+06	3.84+06	1.48+06	8.35+05	4.95+05	3.30+05
.833	3.78+07	7.66+06	3.40+06	1.38+06	7.80+05	4.62+05	3.08+05
1.000	3.56+07	7.21+06	3.20+06	1.30+06	7.34+05	4.35+05	2.90+05
1.250	3.28+07	6.65+06	2.95+06	1.20+06	6.77+05	4.01+05	2.68+05
1.500	3.05+07	6.19+06	2.75+06	1.12+06	6.30+05	3.73+05	2.43+05
1.750	2.86+07	5.79+06	2.57+06	1.04+06	5.90+05	3.49+05	2.33+05
2.000	2.69+07	5.44+06	2.42+06	9.82+05	5.54+05	3.28+05	2.19+05
2.250	2.53+07	5.13+06	2.28+06	9.26+05	5.23+05	3.10+05	2.07+05
2.500	2.40+07	4.86+06	2.16+06	8.76+05	4.95+05	2.93+05	1.95+05
2.750	2.27+07	4.61+06	2.05+06	8.31+05	4.69+05	2.78+05	1.85+05
3.000	2.16+07	4.38+06	1.95+06	7.90+05	4.46+05	2.64+05	1.76+05
3.250	2.08+07	4.17+06	1.85+06	7.53+05	4.25+05	2.52+05	1.68+05
3.500	1.97+07	3.98+06	1.77+06	7.19+05	4.06+05	2.40+05	1.60+05
3.750	1.88+07	3.81+06	1.69+06	6.88+05	3.88+05	2.30+05	1.53+05
4.000	1.80+07	3.65+06	1.62+06	6.59+05	3.72+05	2.20+05	1.47+05
4.250	1.73+07	3.50+06	1.56+06	6.32+05	3.57+05	2.11+05	1.41+05
4.500	1.66+07	3.36+06	1.49+06	6.07+05	3.43+05	2.03+05	1.35+05
4.750	1.60+07	3.24+06	1.44+06	5.84+05	3.30+05	1.95+05	1.30+05
5.000	1.54+07	3.12+06	1.38+06	5.63+05	3.17+05	1.88+05	1.25+05
5.333	1.47+07	2.97+06	1.32+06	5.36+05	3.03+05	1.79+05	1.20+05
5.667	1.40+07	2.84+06	1.26+06	5.12+05	2.89+05	1.71+05	1.14+05
6.000	1.34+07	2.71+06	1.21+06	4.90+05	2.76+05	1.64+05	1.09+05
6.500	1.26+07	2.55+06	1.13+06	4.60+05	2.59+05	1.54+05	1.02+05
7.000	1.18+07	2.40+06	1.06+06	4.33+05	2.44+05	1.45+05	9.65+04
8.000	1.06+07	2.14+06	9.52+05	3.87+05	2.18+05	1.29+05	8.63+04
16.000	5.74+05	1.16+06	5.17+05	2.10+05	1.18+05	7.02+04	4.68+04
24.000	4.04+06	8.18+05	3.63+05	1.48+05	8.33+04	4.94+04	3.29+04

RELEASE AT .000 HR AFTER SHUTDOWN
PASQUILL STABILITY CLASS G
WIND SPEED = 1.0 M/SEC

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-----SGTS MONITOR READINGS-GENERAL EMERGENCY
FOR RELEASE AT .000 HR AFTER SHUTDOWN

WHOLE BODY GAMMA DOSE RATE EMERGENCY (EAB DOSE RATE .GE. 1.0 RAD/HR)

TIME AFTER RELEASE, HOURS	-----SGTS MICRO CI/CC PER METER/SEC.	MONITOR DOSE RATE (100% NOBLES PLUS FOR PASQUILL STABILITY CLASS	-----SGTS MICRO CI/CC PER METER/SEC.	MONITOR DOSE RATE (100% NOBLES PLUS FOR PASQUILL STABILITY CLASS	-----SGTS MICRO CI/CC PER METER/SEC.	MONITOR DOSE RATE (100% NOBLES PLUS FOR PASQUILL STABILITY CLASS
	A	B	C	D	E	F
1.67	2.10+03	4.25+02	1.89+02	7.66+01	4.32+01	2.58+01
3.33	1.70+03	3.44+02	1.53+02	6.22+01	3.51+01	2.08+01
5.00	1.50+03	3.03+02	1.35+02	5.47+01	3.09+01	1.83+01
6.67	1.36+03	2.75+02	1.22+02	4.96+01	2.80+01	1.66+01
8.33	1.26+03	2.55+02	1.13+02	4.59+01	2.59+01	1.54+01
1.000	1.18+03	2.38+02	1.06+02	4.30+01	2.43+01	1.44+01
1.250	1.08+03	2.19+02	9.74+01	3.96+01	2.23+01	1.32+01
1.500	1.01+03	2.04+02	9.07+01	3.68+01	2.08+01	1.23+01
1.750	9.44+02	1.91+02	8.49+01	3.45+01	1.95+01	1.15+01
2.000	8.87+02	1.80+02	7.98+01	3.24+01	1.83+01	1.08+01
2.250	8.36+02	1.69+02	7.52+01	3.06+01	1.72+01	1.02+01
2.500	7.89+02	1.60+02	7.10+01	2.89+01	1.63+01	9.65+00
2.750	7.46+02	1.51+02	6.71+01	2.73+01	1.54+01	9.12+00
3.000	7.06+02	1.43+02	6.35+01	2.58+01	1.46+01	8.63+00
3.250	6.69+02	1.36+02	6.02+01	2.45+01	1.38+01	8.18+00
3.500	6.35+02	1.29+02	5.71+01	2.32+01	1.21+01	7.76+00
3.750	6.02+02	1.22+02	5.42+01	2.20+01	1.24+01	7.36+00
4.000	5.72+02	1.16+02	5.15+01	2.09+01	1.18+01	7.00+00
4.250	5.44+02	1.10+02	4.90+01	1.99+01	1.12+01	6.66+00
4.500	5.18+02	1.05+02	4.66+01	1.90+01	1.07+01	6.34+00
4.750	4.94+02	1.00+02	4.44+01	1.81+01	1.02+01	6.04+00
5.000	4.71+02	9.54+01	4.24+01	1.72+01	9.72+00	5.76+00
5.333	4.43+02	8.97+01	3.98+01	1.62+01	9.13+00	5.41+00
5.667	4.16+02	8.44+01	3.75+01	1.52+01	8.59+00	5.09+00
6.000	3.92+02	7.95+01	3.53+01	1.43+01	8.10+00	4.80+00
6.500	3.60+02	7.29+01	3.24+01	1.32+01	7.43+00	4.40+00
7.000	3.31+02	6.71+01	2.98+01	1.21+01	6.83+00	4.05+00
8.000	2.83+02	5.73+01	2.54+01	1.03+01	5.83+00	3.45+00
16.000	1.13+02	2.29+01	1.02+01	4.13+00	2.33+00	1.38+00
24.000	6.80+01	1.38+01	6.11+00	2.49+00	1.40+00	8.31-01
						5.54-01

-----SGTS MONITOR READINGS-GENERAL EMERGENCY
FOR RELEASE AT .000 HR AFTER SHUTDOWN

THYROID INHALATION DOSE RATE EMERGENCY (EAB DOSE RATE .GE. 5.0 RAD/HR)

TIME AFTER RELEASE, HOURS	-----SGTS MICRO CI/CC PER METER/SEC. FOR PASQUILL STABILITY CLASS							MONITOR DOSE RATE (100% MOBLES PLUS 25.00% IODINES), FOR PASQUILL STABILITY CLASS						
	A	B	C	D	E	F	G	A	B	C	D	E	F	G
167	1.08+04	2.18+03	9.57+02	3.89+02	2.20+02	1.30+02	8.87+01	1.08+04	2.18+03	9.57+02	3.89+02	2.20+02	1.30+02	8.87+01
333	8.84+03	1.75+03	7.77+02	3.16+02	1.78+02	1.06+02	7.04+01	8.84+03	1.75+03	7.77+02	3.16+02	1.78+02	1.06+02	7.04+01
500	7.60+03	1.54+03	6.84+02	2.78+02	1.57+02	9.29+01	6.20+01	7.60+03	1.54+03	6.84+02	2.78+02	1.57+02	9.29+01	6.20+01
667	6.90+03	1.40+03	6.21+02	2.52+02	1.42+02	8.44+01	5.63+01	6.90+03	1.40+03	6.21+02	2.52+02	1.42+02	8.44+01	5.63+01
833	6.39+03	1.29+03	5.75+02	2.34+02	1.32+02	7.81+01	5.21+01	6.39+03	1.29+03	5.75+02	2.34+02	1.32+02	7.81+01	5.21+01
1000	5.99+03	1.21+03	5.39+02	2.19+02	1.23+02	7.32+01	4.88+01	5.99+03	1.21+03	5.39+02	2.19+02	1.23+02	7.32+01	4.88+01
1250	5.51+03	1.12+03	4.96+02	2.01+02	1.14+02	6.73+01	4.49+01	5.51+03	1.12+03	4.96+02	2.01+02	1.14+02	6.73+01	4.49+01
1500	5.13+03	1.04+03	4.61+02	1.87+02	1.06+02	6.26+01	4.18+01	5.13+03	1.04+03	4.61+02	1.87+02	1.06+02	6.26+01	4.18+01
1750	4.80+03	9.72+02	4.32+02	1.75+02	9.90+01	5.87+01	3.71+01	4.80+03	9.72+02	4.32+02	1.75+02	9.90+01	5.87+01	3.71+01
2000	4.51+03	9.14+02	4.06+02	1.65+02	9.31+01	5.51+01	3.38+01	4.51+03	9.14+02	4.06+02	1.65+02	9.31+01	5.51+01	3.38+01
2250	4.25+03	8.61+02	3.82+02	1.55+02	8.77+01	5.20+01	3.47+01	4.25+03	8.61+02	3.82+02	1.55+02	8.77+01	5.20+01	3.47+01
2500	4.01+03	8.13+02	3.61+02	1.47+02	8.28+01	4.91+01	3.27+01	4.01+03	8.13+02	3.61+02	1.47+02	8.28+01	4.91+01	3.27+01
2750	3.79+03	7.69+02	3.41+02	1.39+02	7.83+01	4.64+01	3.09+01	3.79+03	7.69+02	3.41+02	1.39+02	7.83+01	4.64+01	3.09+01
3000	3.59+03	7.28+02	3.23+02	1.31+02	7.41+01	4.39+01	2.93+01	3.59+03	7.28+02	3.23+02	1.31+02	7.41+01	4.39+01	2.93+01
3250	3.40+03	6.89+02	3.06+02	1.24+02	7.02+01	4.16+01	2.77+01	3.40+03	6.89+02	3.06+02	1.24+02	7.02+01	4.16+01	2.77+01
3500	3.23+03	6.54+02	2.90+02	1.18+02	6.66+01	3.95+01	2.63+01	3.23+03	6.54+02	2.90+02	1.18+02	6.66+01	3.95+01	2.63+01
3750	3.06+03	6.21+02	2.76+02	1.12+02	6.32+01	3.75+01	2.50+01	3.06+03	6.21+02	2.76+02	1.12+02	6.32+01	3.75+01	2.50+01
4000	2.91+03	5.90+02	2.62+02	1.06+02	6.01+01	3.56+01	2.37+01	2.91+03	5.90+02	2.62+02	1.06+02	6.01+01	3.56+01	2.37+01
4250	2.77+03	5.61+02	2.49+02	1.01+02	5.72+01	3.39+01	2.26+01	4.250	2.77+03	5.61+02	2.49+02	1.01+02	5.72+01	3.39+01
4500	2.64+03	5.34+02	2.37+02	9.64+01	5.44+01	3.22+01	2.15+01	4500	2.64+03	5.34+02	2.37+02	9.64+01	5.44+01	3.22+01
4750	2.51+03	5.05+02	2.26+02	9.13+01	5.18+01	3.07+01	2.05+01	4750	2.51+03	5.05+02	2.26+02	9.13+01	5.18+01	3.07+01
5000	2.40+03	4.86+02	2.16+02	8.76+01	4.94+01	2.93+01	1.95+01	5000	2.40+03	4.86+02	2.16+02	8.76+01	4.94+01	2.93+01
5333	2.25+03	4.56+02	2.03+02	8.24+01	4.65+01	2.75+01	1.84+01	5333	2.25+03	4.56+02	2.03+02	8.24+01	4.65+01	2.75+01
5667	2.12+03	4.29+02	1.91+02	7.75+01	4.37+01	2.59+01	1.73+01	5667	2.12+03	4.29+02	1.91+02	7.75+01	4.37+01	2.59+01
6000	2.00+03	4.05+02	1.80+02	7.31+01	4.12+01	2.44+01	1.63+01	6000	2.00+03	4.05+02	1.80+02	7.31+01	4.12+01	2.44+01
6500	1.83+03	3.71+02	1.65+02	6.70+01	3.78+01	2.24+01	1.49+01	6500	1.83+03	3.71+02	1.65+02	6.70+01	3.78+01	2.24+01
7000	1.69+03	3.42+02	1.52+02	6.17+01	3.48+01	2.06+01	1.37+01	7000	1.69+03	3.42+02	1.52+02	6.17+01	3.48+01	2.06+01
8000	1.44+03	2.92+02	1.30+02	5.27+01	2.97+01	1.76+01	1.17+01	8000	1.44+03	2.92+02	1.30+02	5.27+01	2.97+01	1.76+01
16000	5.78+02	1.17+02	5.20+01	2.11+01	1.19+01	7.06+00	4.71+00	16000	5.78+02	1.17+02	5.20+01	2.11+01	1.19+01	7.06+00
24000	3.49+02	7.07+01	3.14+01	1.28+01	7.19+00	4.26+00	2.84+00	24000	3.49+02	7.07+01	3.14+01	1.28+01	7.19+00	4.26+00

-----SGTS MONITOR READINGS-SITE EMERGENCY

RELEASE AT .000 HR AFTER SHUTDOWN
PASQUILL STABILITY CLASS G
WIND SPEED = 1.0 M/SEC

TIME AFTER RELEASE, HOURS	100% NOBLES PLUS 25.00% IODINES THYROID INHALATION DOSE RATE EMERGENCY 30 MINUTE PERIOD	SGTS MONITOR DOSE RATE, MICRO CI/CC----- 100% NOBLES PLUS 100% IODINES WHOLE BODY GAMMA DOSE RATE EMERGENCY 30 MINUTE PERIOD
.167	4.34+01	8.54+00
.333	3.52+01	6.93+00
.500	3.10+01	6.09+00
.667	2.81+01	5.53+00
.833	2.60+01	5.12+00
1.000	2.44+01	4.80+00
1.250	2.29+01	4.41+00
1.500	2.09+01	4.11+00
1.750	1.96+01	3.85+00
2.000	1.84+01	3.62+00
2.250	1.73+01	3.41+00
2.500	1.64+01	3.22+00
2.750	1.55+01	3.04+00
3.000	1.46+01	2.88+00
3.250	1.39+01	2.73+00
3.500	1.32+01	2.59+00
3.750	1.25+01	2.46+00
4.000	1.19+01	2.33+00
4.250	1.13+01	2.22+00
4.500	1.07+01	2.11+00
4.750	1.02+01	2.01+00
5.000	9.77+00	1.92+00
5.333	9.18+00	1.80+00
5.667	8.64+00	1.70+00
6.000	8.14+00	1.60+00
6.500	7.47+00	1.47+00
7.000	6.87+00	1.35+00
8.000	5.87+00	1.15+00
16.000	2.35+00	4.60-01
24.000	1.42+00	2.77-01