File ▸ 189937A Orange Line - Station Hazards Pml Mfl 210729_1714 3.xlsx
Tab ▸ 2 Station Hazard Rating

Hazard exposure is quantified on the basis of computing the: [a] occurrence-probability, [b] exposure-frequency & [c] consequence-severity values for up to 60x asset operational parameters including available installed protection systems, projected extent of physical damage to assets [% of NRV component cost [main damage]], probable degree of collateral impact to adjacent assets [peripheral damage], prospective duration of plant downtime caused, etc, for each of the identified & demarcated hazard zones

Individual Hazard Exposure Rating: 1 = Negligible || 2 = Low || 3 = Moderate || 4 = Substantial || 5 = High || 6 = Very-High / Critical

						Max Rating =>	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	84.00					
Station #	Location Name	Covered Area m2	Lat / Lon	Building Component Pkr	Equipment Component Pkr	Sum-Insured Nrv Sub-Total Pkr	Fire	MD / RSD	AD / Flood	HB	EEE	Theft	Cash-in-Safe	Cash-in-Transit	Public Liability / 3rd-Party	Impact	Explosion	Lightning	Aircraft & Aerial Objects	Terrorism	Hazard Rating Total	Hazard Rating % of Max	Probable Max Loss Pkr	Pml % of SI	Max Foreseeable Loss Pkr	Mfl % of SI
1	Dera Gujran	2,346	31°35'23.2"N 74°25'51.9"E	378,007,000	3,962,500,000	4,340,507,000	3.17	4.03	3.09	3.45	3.09	3.24	3.14	3.23	4.16	2.75	1.00	2.50	3.25	4.59	44.51	52.99%	5,022,000,000	2.34%	9,075,000,000	4.22%
2	Islam Pura	2,346	31°35'20.6"N 74°25'22.0"E	378,007,000	3,962,500,000	4,340,507,000	3.33	4.22	3.09	3.45	3.09	3.42	3.30	3.40	4.33	3.36	1.00	2.50	3.50	4.59	46.25	55.05%	5,022,000,000	2.34%	9,075,000,000	4.22%
3	Salamatpura	2,346	31°35'18.0"N 74°24'50.1"E	378,007,000	3,962,500,000	4,340,507,000	3.33	4.22	3.09	3.45	3.09	3.42	3.30	3.40	4.33	3.36	1.00	2.50	3.50	4.59	46.25	55.05%	5,022,000,000	2.34%	9,075,000,000	4.22%
4	Mehmood Booti	2,346	31°35'12.6"N 74°24'08.9"E	378,007,000	3,962,500,000	4,340,507,000	3.33	4.22	3.09	3.45	3.09	3.42	3.30	3.40	4.33	3.36	1.00	2.50	3.50	4.59	46.25	55.05%	5,022,000,000	2.34%	9,075,000,000	4.22%
5	Pakistan Mint	2,346	31°35'07.7"N 74°23'20.5"E	378,007,000	3,962,500,000	4,340,507,000	3.33	4.22	3.09	3.45	3.09	3.42	3.30	3.40	4.33	3.36	1.00	2.50	3.50	4.59	46.25	55.05%	5,022,000,000	2.34%	9,075,000,000	4.22%
6	Shalimar Garden	2,346	31°35'01.4"N 74°22'48.2"E	378,007,000	3,962,500,000	4,340,507,000	4.00	4.95	3.09	3.45	3.09	4.14	3.96	4.08	5.03	4.58	1.00	2.50	4.50	4.59	51.95	61.85%	5,022,000,000	2.34%	9,075,000,000	4.22%
7	Baghbanpura	2,346	31°34'45.9"N 74°22'14.1"E	378,007,000	3,962,500,000	4,340,507,000	4.00	4.95	3.09	3.45	3.09	4.14	3.96	4.08	5.03	4.58	1.00	2.50	4.50	4.59	51.95	61.85%	5,022,000,000	2.34%	9,075,000,000	4.22%
8	UET station	2,346	31°34'38.5"N 74°21'38.1"E	378,007,000	3,962,500,000	4,340,507,000	3.67	4.58	3.09	3.45	3.09	3.78	3.63	3.74	4.68	3.97	1.00	2.50	4.00	4.59	49.10	58.45%	5,022,000,000	2.34%	9,075,000,000	4.22%
9	Sultanpura	2,346	31 34 33.48 N 74 21 03.88	378,007,000	3,962,500,000	4,340,507,000	3.67	4.58	3.09	3.45	3.09	3.78	3.63	3.74	4.68	3.97	1.00	2.50	4.00	4.59	49.10	58.45%	5,022,000,000	2.34%	9,075,000,000	4.22%
10	Railway station	2,346	31°34'20.4"N 74°20'10.0"E	378,007,000	3,962,500,000	4,340,507,000	4.83	5.87	3.09	3.45	3.09	5.04	4.79	4.93	5.89	4.88	1.00	2.50	5.75	4.59	57.87	68.89%	5,022,000,000	2.34%	9,075,000,000	4.22%
11	Lakshmi chowk	2,346	31°34'07.3"N 74°19'38.2"E	378,007,000	3,962,500,000	4,340,507,000	3.33	4.22	3.09	3.45	3.09	3.42	3.30	3.40	4.33	4.58	1.00	2.50	3.50	4.59	47.47	56.51%	5,022,000,000	2.34%	9,075,000,000	4.22%
12	GPO	8,100	31 34 00.05 N 74 19 19.07	1,466,025,000	3,962,500,000	5,428,525,000	2.33	3.12	5.97	3.45	3.09	2.34	2.31	2.38	3.43	2.75	1.00	2.50	2.00	4.59	41.93	49.91%	5,274,000,000	2.45%	10,331,000,000	4.81%
13	Anarkali	1,830	31°33'44.3"N 74°18'35.7"E	353,807,000	3,962,500,000	4,316,307,000	2.50	3.30	5.87	3.45	3.09	2.52	2.48	2.55	3.54	3.05	1.00	2.50	2.25	4.59	43.18	51.41%	5,016,000,000	2.33%	9,047,000,000	4.21%
14	Chauburji	2,346	31°33'08.4"N 74°18'11.3"E	378,007,000	3,962,500,000	4,340,507,000	3.17	4.03	3.09	3.45	3.09	3.24	3.14	3.23	4.16	3.36	1.00	2.50	3.25	4.59	45.12	53.72%	5,022,000,000	2.34%	9,075,000,000	4.22%
15	Gulshan-e-Ravi	2,346	31 32 43.29 N 74 17 43.07	378,007,000	3,962,500,000	4,340,507,000	3.50	4.40	3.09	3.45	3.09	3.60	3.47	3.57	4.51	3.66	1.00	2.50	3.75	4.59	47.67	56.75%	5,022,000,000	2.34%	9,075,000,000	4.22%
16	Samanabad	2,346	31°32'24.0"N 74°17'34.8"E	378,007,000	3,962,500,000	4,340,507,000	3.50	4.40	3.09	3.45	3.09	3.60	3.47	3.57	4.51	3.66	1.00	2.50	3.75	4.59	47.67	56.75%	5,022,000,000	2.34%	9,075,000,000	4.22%
17	Bund Road	2,346	31°31'55.7"N 74°17'15.4"E	378,007,000	3,962,500,000	4,340,507,000	4.33	5.32	3.09	3.45	3.09	4.50	4.29	4.42	5.37	4.58	1.00	2.50	5.00	5.71	55.32	65.85%	5,022,000,000	2.34%	9,075,000,000	4.22%
18	Salahudin	2,346	31°31'15.3"N 74°16'12.4"E	378,007,000	3,962,500,000	4,340,507,000	4.00	4.95	3.09	3.45	3.09	4.14	3.96	4.08	5.03	3.97	1.00	2.50	4.50	4.59	51.34	61.12%	5,022,000,000	2.34%	9,075,000,000	4.22%
19	Sabzazar	2,346	31°31'03.8"N 74°16'39.8"E	378,007,000	3,962,500,000	4,340,507,000	3.17	4.03	3.09	3.45	3.09	3.24	3.14	3.23	4.16	3.97	1.00	2.50	3.25	4.59	45.73	54.44%	5,022,000,000	2.34%	9,075,000,000	4.22%
20	Shahnoor	2,346	31 30 37.71 N 74 16 23.15	378,007,000	3,962,500,000	4,340,507,000	3.33	4.22	3.09	3.45	3.09	3.42	3.30	3.40	4.33	3.66	1.00	2.50	3.50	4.59	46.55	55.42%	5,022,000,000	2.34%	9,075,000,000	4.22%
21	Awan Town	2,346	31°30'12.1"N 74°16'06.0"E	378,007,000	3,962,500,000	4,340,507,000	3.67	4.58	3.09	3.45	3.09	3.78	3.63	3.74	4.68	3.97	1.00	2.50	4.00	4.59	49.10	58.45%	5,022,000,000	2.34%	9,075,000,000	4.22%
22	Vahdat Road	2,346	31°29'41.0"N 74°15'48.3"E	378,007,000	3,962,500,000	4,340,507,000	3.33	4.22	3.09	3.45	3.09	3.42	3.30	3.40	4.33	4.27	1.00	2.50	3.50	4.59	47.16	56.14%	5,022,000,000	2.34%	9,075,000,000	4.22%
23	Hanjarwal	2,346	31°29'10.9"N 74°15'30.9"E	378,007,000	3,962,500,000	4,340,507,000	3.50	4.40	3.09	3.45	3.09	3.60	3.47	3.57	4.51	3.97	1.00	2.50	3.75	4.59	47.98	57.12%	5,022,000,000	2.34%	9,075,000,000	4.22%
24	Canal view	2,346	31°28'50.4"N 74°14'56.7"E	378,007,000	3,962,500,000	4,340,507,000	1.83	2.57	3.09	3.45	3.09	1.80	1.82	1.87	2.77	2.44	1.00	2.50	1.25	4.59	35.24	41.95%	5,022,000,000	2.34%	9,075,000,000	4.22%
25	Thokar Niaz	2,346	31°28'23.5"N 74°14'29.9"E	378,007,000	3,962,500,000	4,340,507,000	3.67	4.58	3.09	3.45	3.09	3.78	3.63	3.74	4.68	3.36	1.00	2.50	4.00	5.71	49.61	59.06%	5,022,000,000	2.34%	9,075,000,000	4.22%
26	Ali Town	2,346	31°27'51.5"N 74°14'37.8"E	378,007,000	3,962,500,000	4,340,507,000	2.67	3.48	3.09	3.45	3.09	2.70	2.64	2.72	3.64	3.36	1.00	2.50	2.50	4.59	41.76	49.71%	5,022,000,000	2.34%	9,075,000,000	4.22%

Column subtotals: 10,892,000,000 | 103,025,000,000 | 113,917,000,000

Total Sum-Insured [SI] = 214,994,000,000

Modal Mean 47.30 56.31%

Collision incident involving 2x trains at a typical station accident with extensive damage to the station & equipment. No subsequent fire. Additional loss figures cover 2x trains & peripheral collateral damage.

Collision incident involving 2x trains at a typical station accident with extensive damage to the station & equipment. Subsequent fire destroys complete station & installed equipment. Additional loss figures cover 2x trains &

Projected Sum-Insured Summary
The estimated projected sum-insured / New Replacement Value [NRV] for insurance purposes is listed summarized head-wise as under:

Generation Description	PKR
Equipment-1 | 26x stations	103,025,000,000
Equipment-2 | Depot	13,523,000,000
Equipment-3 | Stabling yard	3,946,000,000
Equipment-4 | Substations	1,290,000,000
Track | Complete 27.10km	25,018,000,000
Trains | 27x modules	46,092,000,000
Spares | For all control, IT, misc equipment, track, trains & ancillar	7,303,000,000
Civil structures-1 [apart from track structures] | 26x stations	10,892,000,000
Civil structures-2 [apart from track structures] | Depot	2,665,000,000
Civil structures-3 [apart from track structures] | Stabling yard	1,240,000,000
Total New Replacement Value PKR	**214,994,000,000**

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Tab ► 2 Station Hazard Rating

Probable Maximum Loss [PML]
1) The anticipated maximum property loss that could result given the normal functioning of protective features [firewalls, sprinklers, a responsive fire department, etc.], as opposed to MFL [Maximum Foreseeable Loss], which would be similar valuation, but on a worst-case basis with respect to the functioning of the protective features.
2) The most plausible scenario, involving a collision incident involving 2x trains at a typical station accident with extensive damage to the station & equipment, indicates a PML [property loss only] that is estimated at PKR 5,274,000,000. The PML as percentage of the total Sum-Insured is 2.45%.

Items	*Extent of Loss*
[All figures rounded up to nearest PKR 1,000,000 as applicable]	
Main equipment &/or structural damage	4,567,000,000
Ancillaries & peripheral damage	707,000,000
PML PD component PKR	**5,274,000,000**

Maximum Foreseeable Loss [MFL]
1) The anticipated maximum property fire loss that could result given unusual or the worst circumstances with respect to the non-functioning of protective features [firewalls, sprinklers, a responsive fire department, etc].
2) The most plausible scenario involving a massive & catastrophic fire incident at the main depot with extensive damage to the resident trains, station & equipment, indicates a PML [property loss only] that is estimated at PKR 23,019,000,000. The MFL as percentage of the total Sum-Insured is 10.71%.
3) For the purpose of the MFL for the stations alone, the individual MFL listed in the last column apply as extensions of the PML, but with fire subsequently destroying the subject station & installed equipment

Items	*Extent of Loss*
[All figures rounded up to nearest PKR 1,000,000 as applicable]	
Main equipment &/or structural damage	19,274,000,000
Ancillaries & peripheral damage	3,745,000,000
MFL PD component PKR	**23,019,000,000**

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