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Title Project : Industrial relocation

Created by : Ilyes Ben Elgharat

Type : Prevention

Département : Industrial

Probability Scale

| Relative concentration of risk | | Probability of occurrence |
|--------------------------------|------|---------------------------|
| 0.0 | 0.15 | 0.1 |
| 0.15 | 0.25 | 0.3 |
| 0.25 | 0.5 | 0.5 |
| 0.5 | 0.75 | 0.7 |
| 0.75 | 0.9 | 0.9 |

Estimation of Impact

| | Impact : IP | Impact : IC | Impact : ID | Impact : IE |
|----|-------------|-------------|-------------|-------------|
| E1 | 7 | 7 | 3 | 1 |
| E2 | 9 | 7 | 6 | 1 |
| E3 | 7 | 6 | 6 | 1 |
| E4 | 6 | 6 | 4 | 5 |
| E5 | 7 | 5 | 2 | 9 |
| E6 | 7 | 7 | 7 | 8 |

Les Matrices AHP

E1

| | F1 | F2 | F3 | F4 | Weight |
|----|--------------------|-------------------|-------------------|------|---------------------|
| F1 | 1.0 | 5.0 | 3.0 | 0.5 | 0.28399639469803273 |
| F2 | 0.2 | 1.0 | 0.5 | 0.13 | 0.05860181631781908 |
| F3 | 0.3333333333333333 | 2.0 | 1.0 | 0.14 | 0.09579574540112974 |
| F4 | 2.0 | 7.692307692307692 | 7.142857142857142 | 1.0 | 0.5616060435830185 |

E2

| | F1 | F2 | F3 | F4 | Weight |
|----|--------------------|-------------------|------|------|---------------------|
| F1 | 1.0 | 3.0 | 0.25 | 0.5 | 0.139023850491032 |
| F2 | 0.3333333333333333 | 1.0 | 0.11 | 0.14 | 0.04786580671065815 |
| F3 | 4.0 | 9.090909090909092 | 1.0 | 2.0 | 0.5214532087793806 |
| F4 | 2.0 | 7.142857142857142 | 0.5 | 1.0 | 0.29165713401892923 |

E3

| | F1 | F2 | F3 | F4 | Weight |
|----|--------------------|-------------------|---------------------|-----|----------------------|
| F1 | 1.0 | 4.0 | 0.33 | 2.0 | 0.21739181139952285 |
| F2 | 0.25 | 1.0 | 0.13 | 0.5 | 0.061592599959238735 |
| F3 | 3.0303030303030303 | 7.692307692307692 | 1.0 | 7.0 | 0.6156968868571177 |
| F4 | 0.5 | 2.0 | 0.14285714285714285 | 1.0 | 0.10531870178412082 |

E4

| | F1 | F2 | F3 | F4 | Weight |
|----|---------------------|--------------------|-----|-----|---------------------|
| F1 | 1.0 | 2.0 | 4.0 | 7.0 | 0.5093201086157916 |
| F2 | 0.5 | 1.0 | 3.0 | 5.0 | 0.3080435997204182 |
| F3 | 0.25 | 0.3333333333333333 | 1.0 | 2.0 | 0.11854757507297145 |
| F4 | 0.14285714285714285 | 0.2 | 0.5 | 1.0 | 0.06408871659081858 |

E5

| | F1 | F2 | F3 | F4 | Weight |
|----|---------------------|--------------------|-----|------|---------------------|
| F1 | 1.0 | 6.0 | 8.0 | 2.0 | 0.5427266918939231 |
| F2 | 0.16666666666666666 | 1.0 | 3.0 | 0.33 | 0.11098424562978977 |
| F3 | 0.125 | 0.3333333333333333 | 1.0 | 0.17 | 0.05063739197677129 |

| | F1 | F2 | F3 | F4 | Weight |
|----|-----|--------------------|------------------|-----|--------------------|
| F4 | 0.5 | 3.0303030303030303 | 5.88235294117647 | 1.0 | 0.2956516704995158 |

E6

| | F1 | F2 | F3 | F4 | Weight |
|----|--------------------|---------------------|-----|-----|---------------------|
| F1 | 1.0 | 0.33 | 3.0 | 4.0 | 0.2525456624186355 |
| F2 | 3.0303030303030303 | 1.0 | 5.0 | 7.0 | 0.5747914666838356 |
| F3 | 0.3333333333333333 | 0.2 | 1.0 | 2.0 | 0.10760738795087073 |
| F4 | 0.25 | 0.14285714285714285 | 0.5 | 1.0 | 0.06505548294665812 |

Calculation of the risk factor concentration for each undesirable event

| Undesirable event | Linked risk factor category | Factors of category X_i | Weighting: Y_i | $X_i \cdot Y_i$ | Fraction of total Eq | Probability of Occurrence | Max Impact | Level of Risk |
|-------------------|-----------------------------|---------------------------|------------------|-----------------|----------------------|---------------------------|------------|---------------|
| E1 | F1 | 7 | 4.0 | 28.0 | -- | -- | -- | -- |
| | F4 | 7 | 3.0 | 21.0 | -- | -- | -- | -- |
| | | | Sub-Total E1 | 49.0 | 0.23333333 | 0.3 | 7.0 | 2.1000001 |
| E2 | F3 | 3 | 2.0 | 6.0 | -- | -- | -- | -- |
| | F4 | 7 | 3.0 | 21.0 | -- | -- | -- | -- |
| | F1 | 7 | 4.0 | 28.0 | -- | -- | -- | -- |
| | | | Sub-Total E2 | 55.0 | 0.26190478 | 0.5 | 9.0 | 4.5 |
| E3 | F3 | 3 | 2.0 | 6.0 | -- | -- | -- | -- |
| | | | Sub-Total E3 | 6.0 | 0.028571429 | 0.1 | 7.0 | 0.7 |
| E4 | F4 | 7 | 3.0 | 21.0 | -- | -- | -- | -- |
| | | | Sub-Total E4 | 21.0 | 0.1 | 0.1 | 6.0 | 0.6 |
| E5 | F1 | 7 | 4.0 | 28.0 | -- | -- | -- | -- |
| | F4 | 7 | 3.0 | 21.0 | -- | -- | -- | -- |
| | | | Sub-Total E5 | 49.0 | 0.23333333 | 0.3 | 9.0 | 2.7 |
| E6 | F2 | 2 | 1.0 | 2.0 | -- | -- | -- | -- |
| | F1 | 7 | 4.0 | 28.0 | -- | -- | -- | -- |
| | | | Sub-Total E6 | 30.0 | 0.14285715 | 0.1 | 8.0 | 0.8 |
| | | | Total | 210.0 | 100 % | | | |

Result : Limit ACCEPT = 2.5

| Accepted Risks | |
|----------------|----------------------|
| Code | Description |
| E1 | Work-related illness |
| E3 | Drop in quality |
| E4 | Inadequate design |
| E6 | Explosion and fire |

| Risks à reduire | |
|-----------------|----------------------|
| Code | Description |
| E2 | Drop in productivity |
| E5 | Pollution |