8.2.13 Industrial amenity overlay code

8.2.13.1 Application

1. This code applies to assessing development in the Industrial amenity overlay, if:
2. assessable development where this code is an applicable code identified in the assessment benchmarks column of a table of assessment for an overlay (section 5.10); or
3. impact assessable development.
4. Land in the Industrial amenity overlay is identified on the Industrial amenity overlay map and is included in the following sub-categories:
5. Industrial amenity investigation area sub-category;
6. Industrial hazard investigation area sub-category.
7. When using this code, reference should be made to section 1.5 and section 5.3.3.

Note—The following purpose, overall outcomes, performance outcomes and acceptable outcomes comprise the assessment benchmarks of this code.

Note—Where this code includes performance outcomes or acceptable outcomes that relate to:

* air quality assessment, guidance is provided in the Air quality planning scheme policy;
* hazard and risk assessment, guidance is provided in the Industrial hazard and risk assessment planning scheme policy;
* noise impact assessment, guidance is provided in the Noise impact assessment planning scheme policy.

8.2.13.2 Purpose

1. The purpose of the Industrial amenity overlay code is to:
2. Implement the policy direction in the Strategic framework, in particular:
3. Theme 1: Brisbane’s globally competitive economy and Element 1.2 Brisbane’s industrial economy;
4. Theme 3: Brisbane’s clean and green leading environmental performance and Element 3.2 – Brisbane’s environmental quality and sustainable design;
5. Theme 4: Brisbane's highly effective transport and infrastructure and Element 4.2 – Brisbane's other infrastructure networks:
6. Theme 5: Brisbane’s CityShape and Element 5.2 – Brisbane’s Major Industry Areas.
7. Provide for the assessment of the suitability of development of land within the Industrial amenity overlay considering the health and wellbeing of occupants.
8. The purpose of the code will be achieved through the following overall outcomes:
9. Development protects Brisbane's industrial areas to ensure their integrity and effective operation.
10. Development for new premises within the Industrial hazard investigation area sub-category is compatible with existing declared major hazard facilities and facilities storing 10% or more than the major hazard facilities quantity threshold and does not adversely impact on the continued operation of those existing uses.
11. Development for a sensitive use within the Industrial amenity investigation area sub-category is compatible with nearby existing uses that have the potential for off-site air or noise emissions and does not adversely impact on the continued operation of those existing uses.

8.2.13.3 Performance outcomes and acceptable outcomes

Table 8.2.13.3.A—Performance outcomes and acceptable outcomes

|  |  |
| --- | --- |
| Performance outcomes | Acceptable outcomes |
| Section A—If in the Industrial amenity investigation area sub-category | |
| PO1  Development of sensitive uses outside of sensitive zones is prevented from encroaching upon land in the Industry zones category. | AO1  Development for a sensitive use is located no closer than:  (a) 250m to an Industry zone, General industry B zone precinct boundary;  (b) 500m to an Industry zone, General industry C zone precinct boundary;  (d) 1500m to a Special industry zone boundary. |
| PO2  Development is located, designed and constructed to achieve the air quality (planning) criteria in Table 8.2.13.3.B, odour criteria in Table 8.2.13.3.C and health risk criteria in Table 8.2.13.3.D.  Note—An air quality impact report prepared in accordance with the Air quality planning scheme policy can assist in demonstrating achievement of this performance outcome. | AO2  Development for a sensitive use is located no closer than the distance stated in Table 8.2.13.3.G. |
| PO3  Development is located, designed and constructed to achieve the noise (planning) criteria in Table 8.2.13.3.E to protect the development from adverse noise impacts.  Note—A noise impact assessment report prepared in accordance with the Noise impact assessment planning scheme policy can assist in demonstrating achievement of this performance outcome. | AO3  Development for a sensitive use is located no closer than:   1. 150m to a medium impact industry A or sewage treatment plant; 2. 250m to a medium impact industry B, waste transfer station or landfill; 3. 500m to a high impact industry or special industry. |
| Section B—If in the Industrial hazard investigation area sub-category | |
| PO4  Development is located, designed and constructed to achieve the hazard and risk criteria in Table 8.2.13.3.F to protect the development from:   1. technological hazards (fire, explosion and toxic release); 2. major hazard facilities; 3. facilities storing 10% or more than the major hazard facilities quantity threshold.   Editor's note—Applicants should contact Council for advice. | AO4  No acceptable outcome is prescribed. |

Table 8.2.13.3.B—Air quality (planning) criteria

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Pollutant | Averaging time | Health outcome protected | Criteria including background (µg/m³) | Criteria including background (ppm) |
| Nitrogen dioxide | 1 hour | Health and wellbeing | 250 | 0.12 |
| Annual | Health and wellbeing | 62 | 0.03 |
| Sulfur dioxide | 1 hour | Health and wellbeing | 570 | 0.2 |
| 24 hours | Health and wellbeing | 230 | 0.08 |
| Annual | Health and wellbeing | 57 | 0.02 |
| Particulate matter (PM) as total suspended particulates (TSP) | Annual | Health and wellbeing | 90 | - |
| Particulate matter less than 10µm (PM10) | 24 hours | Health and wellbeing | 50 | - |
| Particulate matter less than 2.5µm (PM2.5) | 24 hours | Health and wellbeing | 25 | - |
| Annual | Health and wellbeing | 8 | - |
| Carbon monoxide | 8 hour | Health and wellbeing | 11,000 | 9 |
| Dust deposition as insoluble solids | Annual | Protecting aesthetic environment | 4g/m2/month | - |
| 1,1,1-trichloroethane (methyl chloroform) | 1 hour | Health and wellbeing | 12,500 | 2.3 |
| 1,1,2-trichloroethane | 1 hour | Health and wellbeing | 1,000 | 0.18 |
| 1,1-biphenyl | 1 hour | Health and wellbeing | 24 | 0.0037 |
| 1,2-dichloroethane | 24 hours | Health and wellbeing | 750 | 0.17 |
| 1,3-butadiene | Annual | Health and wellbeing | 2.4 | 0.001 |
| Acetaldehyde | 1 hour | Odour | 42 | 0.023 |
| Acetic acid | 1 hour | Odour | 270 | 0.11 |
| Acetone | 1 hour | Health and wellbeing | 22,000 | 9.2 |
| Acrolein | 1 hour | USEPA extremely toxic | 0.42 | 0.00018 |
| Acrylonitrile | 1 hour | USEPA Group B1 carcinogen (probable human carcinogen) | 8 | 0.0037 |
| Alpha chlorinated toluenes and benzoyl chloride | 1 hour | IARC Group 1 carcinogen (known human carcinogen) | 9 | 0.0018 |
| Ammonia | 1 hour | Health and wellbeing | 330 | 0.46 |
| Antimony and compounds | 1 hour | Health and wellbeing | 9 | - |
| Arsenic and compounds (as total metal content in PM10) | 1 hour | IARC Group 1 carcinogen (known human carcinogen) | 0.09 | - |
| Annual | Health and wellbeing | 6ng/m³ | - |
| Benzene | Annual | Health and wellbeing | 10 | 0.003 |
| Benzo(a)pyrene (as marker for PAH) | Annual | Health and wellbeing | 0.3ng/m³ | - |
| Beryllium and compounds | 1 hour | IARC Group 1 carcinogen (known human carcinogen) | 0.004 | - |
| Bromochloromethane | 1 hour | Health and wellbeing | 19,000 | 3.7 |
| Bromoform (tribromomethane) | 1 hour | Health and wellbeing | 90 | 0.009 |
| Bromotrifluoromethane | 1 hour | Health and wellbeing | 112,000 | 18 |
| Butyl acrylate | 1 hour | Odour | 100 | 0.019 |
| Butyl mercaptan | 1 hour | Odour | 7 | 0.002 |
| Cadmium and compounds (as total metal content in PM10) | Annual | Health and wellbeing | 5ng/m³ | - |
| Carbon disulfide | 1 hour | Odour | 183 | 0.0055 |
| 24 hours | Health and wellbeing | 110 | 0.032 |
| Chlorine | 1 hour | Health and wellbeing | 50 | 0.018 |
| Chlorine dioxide | 1 hour | Health and wellbeing | 5.1 | 0.0018 |
| Chlorobenzene | 1 hour | Odour | 100 | 0.023 |
| Chloroform | 1 hour | Health and wellbeing | 900 | 0.18 |
| Chromium III compounds | 1 hour | Health and wellbeing | 9 | - |
| Chromium VI compounds | 1 hour | IARC Group 1 carcinogen (known human carcinogen) | 0.09 | - |
| Copper dusts and mists | 1 hour | Health and wellbeing | 18 | - |
| Copper fumes | 1 hour | Health and wellbeing | 3.7 | - |
| Cumene (isopropyl benzene) | 1 hour | Odour | 21 | 0.004 |
| Cyanide (as CN) | 1 hour | Health and wellbeing | 90 | - |
| Cyclohexane | 1 hour | Health and wellbeing | 19,000 | 5 |
| Cyclohexanone | 1 hour | Odour | 260 | 0.07 |
| Diacetone alcohol | 1 hour | Odour | 700 | 0.15 |
| Dichloromethane (methylene chloride) | 24 hours | Health and wellbeing | 3,200 | 0.85 |
| 7 days | Health and wellbeing | 480 | 0.13 |
| Diethylamine | 1 hour | Odour | 30 | 0.01 |
| Dimethylamine | 1 hour | Odour | 9 | 0.0052 |
| Dioxins and furans (as TCDD TEF) | 1 hour | IARC Group 1 carcinogen (known human carcinogen) | 0.000002 | - |
| Diphenyl ether | 1 hour | Odour | 80 | 0.01 |
| Ethanol | 1 hour | Odour | 2,100 | 1.1 |
| Ethyl acetate | 1 hour | Odour | 12,100 | 3.5 |
| Ethyl acrylate | 1 hour | Odour | 0.4 | 0.0001 |
| Ethyl butyl ketone | 1 hour | Health and wellbeing | 4,200 | 0.9 |
| Ethyl chloride (chloroethane) | 1 hour | Health and wellbeing | 48,000 | 18 |
| Ethylbenzene | 1 hour | Health and wellbeing | 8,000 | 1.8 |
| Ethylene oxide | 1 hour | IARC Group 1 carcinogen (known human carcinogen) | 3.3 | 0.0018 |
| Formaldehyde | 1 hour | Protecting aesthetic environment | 96 | 0.07 |
| 24 hours | Health and wellbeing | 54 | 0.04 |
| Hydrogen chloride | 1 hour | Health and wellbeing | 140 | 0.09 |
| Hydrogen cyanide | 1 hour | USEPA extremely toxic | 200 | 0.18 |
| Hydrogen sulfide | 24 hours | Health and wellbeing | 160 | 0.11 |
| 1 hour | Odour | 6.5 | 0.0043 |
| Lead and compounds (as total metal content in TSP) | Annual | Health and wellbeing | 0.5 | - |
| Magnesium oxide fumes | 1 hour | Health and wellbeing | 180 | - |
| Manganese and compounds (as total metal content in PM10) | Annual | Health and wellbeing | 0.16 | - |
| MDI (diphenylmethane diisocyanate) | 1 hour | USEPA extremely toxic | 0.04 | - |
| Mercury inorganic | 1 hour | Health and wellbeing | 1.8 | - |
| Annual | Health and wellbeing | 1.1 | - |
| Mercury organic | 1 hour | Health and wellbeing | 0.18 | - |
| Methanol | 1 hour | Odour | 3,000 | 2.4 |
| Methyl ethyl ketone | 1 hour | Odour | 3,200 | 1.1 |
| Methyl isobutyl ketone | 1 hour | Odour | 230 | 0.05 |
| Methyl mercaptan | 1 hour | Odour | 0.46 | 0.00023 |
| Methyl methacrylate | 1 hour | Odour | 120 | 0.027 |
| Methyl styrene | 1 hour | Odour | 140 | 0.029 |
| Methylamine | 1 hour | Odour | 2.7 | 0.0023 |
| n-Butanol | 1 hour | Odour | 500 | 0.16 |
| n-Butyl acetate | 1 hour | Odour | 1,020 | 0.21 |
| n-Hexane | 1 hour | Health and wellbeing | 3,200 | 0.9 |
| Nickel and compounds (as total metal content in PM10) | Annual | Health and wellbeing | 0.02 | - |
| Nitric acid | 1 hour | Health and wellbeing | 90 | 0.037 |
| Nitrobenzene | 1 hour | Odour | 2.6 | 0.00052 |
| n-Propanol | 1 hour | Odour | 41 | 0.016 |
| Pentachlorophenol | 1 hour | USEPA extremely toxic | 0.9 | - |
| Phenol | 1 hour | Odour | 20 | 0.0052 |
| Phosgene | 1 hour | USEPA extremely toxic | 7 | 0.0018 |
| Phosphine | 1 hour | Odour | 3.1 | 0.0023 |
| Propylene oxide | 1 hour | USEPA Group B1 carcinogen (probable human carcinogen) | 90 | 0.037 |
| Pyridine | 1 hour | Odour | 7 | 0.0023 |
| Styrene | 1 hour | Odour | 65 | 0.014 |
| 7 days | Health and wellbeing | 280 | 0.06 |
| Sulfate | 24 hours | Health and wellbeing | 27 | - |
| Sulfuric acid | 1 hour | Health and wellbeing | 18 | - |
| TDI (toluene-2,4-diisocyanate; toluene-2,6-diisocyanate) | 1 hour | USEPA extremely toxic | 0.04 | - |
| Tetrachloroethylene (perchloroethylene) | 1 hour | Odour | 7,487 | 1.01 |
| Annual | Health and wellbeing | 270 | 0.036 |
| Toluene | 1 hour | Odour | 958 | 0.23 |
| 24 hours | Health and wellbeing | 4,100 | 1 |
| Annual | Health and wellbeing | 410 | 0.1 |
| Trichloroethylene | 1 hour | IARC Group 2A carcinogen (probable human carcinogen) | 500 | 0.09 |
| Triethylamine | 1 hour | Odour | 200 | 0.05 |
| Vanadium and compounds (as total metal content in PM10) | 24 hours | Health and wellbeing | 1.1 | - |
| Vinyl chloride monomer | 24 hours | Health and wellbeing | 28 | 0.01 |
| Vinyl toluene | 1 hour | Health and wellbeing | 4,400 | 0.9 |
| Welding fumes (total particulate) | 1 hour | Health and wellbeing | 90 | - |
| Xylenes (as a total of ortho, meta and para isomers) | 24 hours | Health and wellbeing | 1,200 | 0.25 |
| Annual | Health and wellbeing | 950 | 0.2 |
| Zinc chloride fumes | 1 hour | Health and wellbeing | 18 | - |
| Zinc oxide fumes | 1 hour | Health and wellbeing | 90 | - |

Note—

* Criteria that are stated in µg/m³ are to be referenced to 0°C.
* Criteria that are stated in ppm are to be expressed as volume/volume.
* Averaging times of 1 hour or less are to be presented using the 99.9th percentile concentration of the total site impact from dispersion modelling and background concentration for all pollutants in the above table, or the maximum concentration from dispersion modelling if no background concentration is available.
* Averaging times of greater than 1 hour are to be presented using the maximum concentration of the total site impact from dispersion modelling and background concentration.
* Dust deposition is the maximum allowable level from new and existing sources, calculated from annualised modelling data.
* Polycyclic aromatic compounds (PAH) are assessed as Benzo(a)pyrene equivalent using potency equivalency factors as listed in the Air quality planning scheme policy.
* Dioxins and furans are assessed as 2,3,7,8-tetrachlorodibenzodioxin equivalent (TCDD) using toxic equivalency factors (TEF) as listed in the Air quality planning scheme policy.
* ng – nanograms

Table 8.2.13.3.C—Odour criteria

| Pollutant | Averaging time | Health outcome protected | Criteria (odour units-OU) |
| --- | --- | --- | --- |
| Odour | 1 hour | Odour | 0.5OU for tall stacks |
| Odour | 1 hour | Odour | 2.5OU for ground level and wake-affected plumes from short stacks |

Note—Odour criteria are to be evaluated using the 99.5th percentile concentration from dispersion modelling.

Table 8.2.13.3.D—Health risk assessment criteria

|  |  |  |
| --- | --- | --- |
| Risk type | Incremental health risk criteria for development in isolation | Cumulative health risk criteria for development with background sources of pollutants |
| Lifetime cancer risk | Less than 1 in 1,000,000 | Less than 1 in 100,000 |
| Chronic hazard index | Less than 0.5 | Less than 1 |
| Acute hazard index | Less than 0.5 | Less than 1 |

Note—

* Lifetime cancer risk and chronic hazard index are to be evaluated using the annual average concentration from dispersion modelling.
* Acute hazard index is to be evaluated using the maximum 1 hour average concentration from dispersion modelling.
* The methodology for evaluating health risk in isolation or with background sources of pollutants is outlined in the Air quality planning scheme policy.

Table 8.2.13.3.E—Noise (planning) criteria

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Location where the criteria applies inside a sensitive use | Adjusted equivalent continuous sound pressure level (LAeq,adj,T) to be achieved during day, evening and night-time periods | | | Maximum sound pressure level (LAmax) to be achieved during the night-time period |
| Day 7am–6pm  LAeq,adj,11hr | Evening 6pm–10pm  LAeq,adj,4hr | Night 10pm–7am  LAeq,adj,9hr | Night  10pm–7am |
| Sleeping areas | 35dB(A) | 35dB(A) | 30dB(A) | 45dB(A) |
| Other habitable rooms | 35dB(A) | 35dB(A) | 35dB(A) | - |
| Low frequency noise criteria for specified sources | | | | |
| Noise intrusion into habitable rooms | 60dB(C) | 60dB(C) | Sleeping areas: 55dB(C)  Other habitable rooms: 60dB(C) | N/A |

Note—

* LAeq,adj,T: The adjusted A-weighted equivalent continuous sound pressure level of the development during the time period T, where T is an 11-hour day (7am–6pm), 4-hour evening (6pm–10pm) and 9-hour night (10pm–7am), determined in accordance with the methodology described in the Noise impact assessment planning scheme policy.
* LAmax: The adjusted A-weighted maximum sound pressure level determined in accordance with the methodology described in the Noise impact assessment planning scheme policy.
* dB(A): A-weighted decibels
* dB(C): C-weighted decibels

Table 8.2.13.3.F—Hazard and risk criteria

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Fatality risk | | | | |
| Land use | | | Fatality risk  (risk in a million per year) | |
| Hospital, educational establishment, childcare centre, community care centre, residential care facility, retirement facility and health care service | | | 0.5 | |
| Dwelling house, Dual occupancy, multiple dwelling, community residence, short-term accommodation, rooming accommodation, tourist park, or relocatable home park | | | 1  Note—Residential intensification may be appropriate where mitigating measures can be implemented to reduce risk exposure to less than the one in a million per year individual fatality risk level, provided the pre-mitigation residual risk levels are below the 10 in a million per year individual fatality risk level. However, no residential intensification should take place where pre-mitigation residual risk levels are in excess of the 10 in a million per year individual fatality risk level. | |
| Commercial developments including shop and shopping centre, food and drink outlet, office, theatre and tourist attraction | | | 5 unless mitigating measures are implemented to reduce risk exposure to less than this individual fatality risk level | |
| Indoor sport and recreation, outdoor sport and recreation | | | 10 | |
| Industry activities | | | 50 unless mitigating measures are implemented to reduce risk exposure to less than the individual fatality risk level | |
| Injury risk | | | | |
| Type of risk | | Injury risk | | |
| Heat radiation | | Incident heat flux radiation does not exceed 4.7kW/m2 at a frequency of more than 50 chances in a million per year | | |
| Explosion overpressure | | Incident explosion overpressure does not exceed 7kPa at frequencies of more than 50 chances in a million per year. | | |
| Toxic exposure | | Toxic concentrations do not exceed a level which would be seriously injurious to sensitive members of the community following a relatively short period of exposure at a maximum frequency of 10 in a million per year.  Toxic concentrations will not cause irritation to eyes or throat, coughing or other acute physiological responses in sensitive members of the community over a maximum frequency of 50 in a million per year. | | |
| Risk of property damage and accident propagation | | | | |
| Type of property damage and accident propagation risk | Land use | | | Property damage and accident propagation risk criteria |
| Heat radiation | Neighbouring potentially hazardous installations or at land zoned to accommodation such installations | | | Incident heat flux radiation is not to exceed a risk of 50 in a million per year for the 23kW/m2 heat flux level |
| Explosion overpressure | Neighbouring potentially hazardous installations, at land zoned to accommodate such installations, or at nearest public buildings | | | Incident explosion overpressure is not to exceed a risk of 50 in a million per year for the 14kPa explosion overpressure level. |
| Societal risk | | | | |
| If development involves a significant intensification of population including medium density or high density residential; indoor sport and recreation or outdoor sport and recreation where large numbers of spectators are likely to be present; or shopping centre. Societal risk criteria (see Figure a):   1. below the negligible line societal risk is not considered significant provided other individual criteria are met; 2. above the intolerable line is considered undesirable even if individual risk criteria are met; 3. within the ALARP region, the emphasis is on reducing risks as far as possible towards the negligible line. Provided other hazard and risk criteria are met, the risks would be considered tolerable in the ALARP region.   Note—Societal risk criteria particularly focus on multiple fatality situations. Hence, it is generally not meaningful to address societal risk when considering a development application for a single dwelling in the vicinity of a potentially hazardous facility. | | | | |

Table 8.2.13.3.G—Minimum separation distances in the Industrial amenity investigation area

|  |  |
| --- | --- |
| Established use | Minimum separation distance (measured to the property boundary of the development) |
| Medium impact industry A | 150m |
| Medium impact industry B | 250m |
| High impact industry except where noted below | 500m |
| Special industry except where noted below | 1,500m |
| Service station with annual throughput of motor spirit not exceeding 1.2 ML, measured from the dispensing area and fuel storage vents | 10m |
| Service station with annual throughput of motor spirit not exceeding 9 ML and including Stage 1 vapour recovery, measured from the dispensing area and fuel storage vents | 50m |
| Service station with annual throughput of motor spirit not exceeding 12 ML and including Stage 1 and Stage 2 vapour recovery, measured from the dispensing area and fuel storage vents | 20m |
| Service station not otherwise listed | 100m |
| 274 Stanworth Rd, Boondall, excluding access road | 490m |
| 206 Brisbane Corso, Fairfield | 240m |
| 69A Nalya Cres, Karana Downs | 160m |
| Tanker Street, Lytton | 350m |
| 188 Paringa Road, Murarrie  178 Paringa Road, Murarrie | 650m |
| 200 Main Beach Road, Pinkenba | 960m |
| 32 Dunn Road, Rocklea  240 Donaldson Road, Rocklea  229 Donaldson Road, Rocklea | 690m |
| 176A Grindle Road, Wacol | 570m |
| 491 Gooderham Rd, Willawong, measured from stack | 800m |
| 1402 Nudgee Rd, Nudgee  1512 Nudgee Rd, Nudgee, measured from active waste transfer area | 500m |
| 168 Paringa Rd, Murarrie | 930m |
| 168A, 282, 285 Paringa Road, Murarrie | 950m |
| 194 Paringa Road, Murarrie | 950m |
| 89 Harcourt Rd Darra  99 Harcourt Rd Darra | 300m |

