Industrial Emissions Directive: Are you IN or OUT?

The Industrial Emissions Directive (IED) is implemented and enforced in the UK by the Environment Agency (EA) through Environmental Permitting Regulations (EPR). It applies to sites with generating capacity over 50MWth, irrespective of the function of this plant. It is a measure aimed to control the release of pollutants and requires a permit to be in place before generating capacity over certain thresholds can become operational. If you do not have the necessary permits then it is technically illegal for you to operate your generators. There are two levels: Chapter III is the most onerous and applies only when units of 15MWth add up to or exceed 50MWth. This is aimed at power stations and is unlikely to trouble data centres. Chapter II applies to sites where generating capacity is over 50MWth in units of 2.5MWth or above and will apply to larger sites. The notes below provide rules of thumb to help you decide how worried you should be about IED. Permitting is a non-trivial exercise considered by most to be more onerous than ETS. This is particularly the case for sites that participate in STOR or other demand reduction schemes, are in AQMAs, are near SSSIs or have underground oil stores. At time of writing we are developing guidance to make the permitting process more user-friendly for data centres. Check our **website** for updates. For more information on compliance requirements relating to generator emissions see our **Compliance Roadmap** or contact emma.fryer@techuk.org

If your generating capacity is over 20MWelec in units of 1MWelec or above then you are almost certainly **IN**. Check your permitting status and if it is not what it should be, seek help. Translated to EA language the MWth equivalents are 50MWth in units of 2.5 MWth and above.

OR, put another way…If you have combustion plant on a 2n basis to provide standby for around 8MVA customer specified load then you are at risk of being **IN** (i.e. being 50 * 0.5 (for double engines installed) * 0.8 (pf) * 0.4 (efficiency) = 8MVA).

If your generating capacity is over 15MWelec in units of at least 0.5MWelec then you are **borderline** and you need to seek advice.

If you have no units above 0.3MWelec OR your generating capacity is below 15MWelec you are most probably **OUT** and all you have to worry about are ETS, MCPD, ESOS, CRC, Carbon accounting, new EPR activity if providing a STOR offering, plus the things you do for fun like ISO 50001, 14001, 9001, EU COC and CDP.

Important note: The EA measure capacity in MW thermal input (MWth) and NOT electrical output. Technically, thermal input is the rate at which fuel can be burned at the maximum continuous rating of the appliance multiplied by the net calorific value of the fuel. As a rule of thumb generators are about 30% efficient at turning thermal input into electrical output, so the MWelec rating is likely to be between 25% and 40% of the MWth rating. Don't forget that EA consider that generators can be run at 110% for the purpose of this calculation.

Emma Fryer, 2016

Approximate conversion values for MVA to MWTh

The following table, kindly prepared by the Environment Agency, show approximate conversions for generators. The range highlighted in pink in the top table indicates aggregated capacity that may meet the threshold. The range highlighted in brown in the bottom table shows where individual capacity may exceed the *de minimus* and must therefore be included in any aggregation.

		Site's MWth input based on approximate thermal to elec efficiencies (30% to 40%): Red at Risk for 50MWth permit		
MVA at 0.8 power factor	Site Total MWelec	0.3	0.35	0.4
27.5	22	73.3	62.9	55.0
26.3	21	70.0	60.0	52.5
25.0	20	66.7	57.1	50.0
23.8	19	63.3	54.3	47.5
22.5	18	60.0	51.4	45.0
21.3	17	56.7	48.6	42.5
20.0	16	53.3	45.7	40.0
18.8	15	50.0	42.9	37.5
17.5	14	46.7	40.0	35.0
16.3	13	43.3	37.1	32.5
15.6	12.5	41.7	35.7	31.3
15.0	12	40.0	34.3	30.0
Site individual Generators kVA	Site individual Generators MWelec (standby rating)	Individual Generator based on approximate thermal to elec efficiencies (25% to 40%): Red at Risk for inclusion is aggregation at 1MWth		
250	0.20	0.7	0.6	0.5
375	0.30	1.0	0.9	0.8
500	0.40	1.3	1.1	1.0
625	0.50	1.7	1.4	1.3
1250	1.00	3.3	2.9	2.5
2500	2.00	6.7	5.7	5.0

These notes are ONLY intended as a rule of thumb and do NOT constitute legal advice. Aggregation for IED is fiendishly complex. The ranges are large but even so there are other factors to consider, such as the rating of the generators. If you are near or within the thresholds indicated in this document then you should definitely pay attention to EPR / IED even if just to satisfy yourself that it does not apply.

To check your permitting status externally then visit: https://www.gov.uk/government/collections/industrial-emissions-directive-ied-environmental-permits-issued

Or use the "what's in my back yard" site to identify permitted activity: http://maps.environment-agency.gov.uk/wiyby/wiybyController?ep=maptopics&lang=_e