EUROPEAN TURBINE NETWORK

Briefing Note
Medium Combustion Plant Directive
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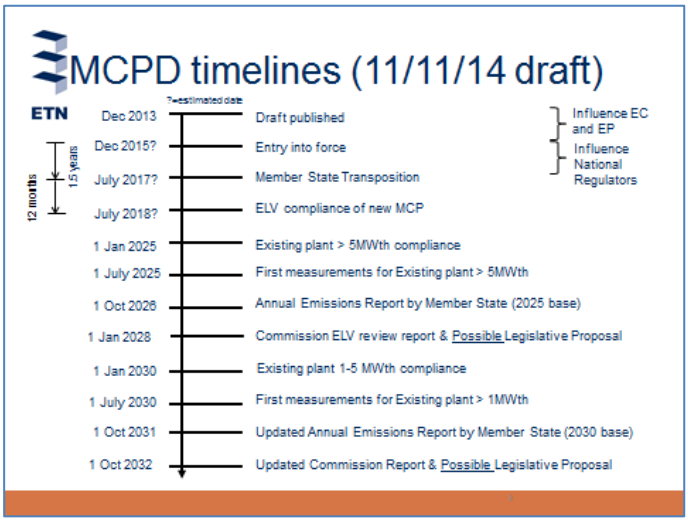
Background

The Industrial Emissions Directive (IED[1]) was adopted in 2010 and merges a number of former directives into one, setting Emission Limit Values (ELVs) for a number of GT fired plant[2]. The IED applies to installations of 50MWth or above, and can incorporate units of 15MWth where they are aggregated to a total of 50MWth or more. These are termed Large Combustion Plant, or LCPs. In the eyes of the European Commission this has left a gap with a large number of sub 50MWth plants not being included in regulation (although this will also be a function of member state policy). To fill this gap, and bring plant into regulation, a new Medium Combustion Plant Directive is being proposed. This seeks to bring plant in the range of 1-50MWth under regulation, setting Emission Limit Values (ELVs) for plant by fuel and type. As it is still in development, its final form is not known. The following text is based on the most recent commission proposals (11/11/2014).

Timeline

The passage of the proposal through the Commission has been rapid with the intention to adoption in 2015. This is seen as urgent as once this is finalised it sets an important boundary condition for the development of the other part of the EU Air Quality Package, the revised National Emissions Ceiling Directive (which sets tonnage caps for various pollutants at national level).



The figure to the right gives an *indication* of the timeline for proposal development and implementation – though this is still subject to change in the development and adoption process. Key dates are:

- new MCPD compliance by July 2018 (estimate based on 12 months after Member State transposition in July 2017),
- existing plant 5-50MWth compliance by 2025 and,
- existing plant 1-5MWth compliance by 2030.

These dates may appear distant, but are within the asset planning and new asset development cycle in many cases. Also, once the Directive is adopted, the details are fixed and they cannot be altered, which can lead to problems, as we have seen with the IED and the ELVs set for liquid fuel firing in Gas Turbines being beyond the current state of the art for burner design.

Emission Limit Values

The limits proposed by the Commission for Gas Turbine based packages are given in the following tables on next page:

Existing Plant mg/Nm^3 at 15% O_2, dry	**Gas Oil**	**Other Liquid Fuels**	**Natural Gas**	**Other Gaseous Fuels**

[1] DIRECTIVE 2010/75/EU OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 24 November 2010 on industrial emissions (integrated pollution prevention and control)

[2] Note, the LCPD did not actually set ELVs for most existing GT plant.

SOx	GTs & Engines	-	120	-	15
NOx	Engines	250	250	190	190
	GTs	250	200	150	150
Dust	GTs & Engines	-	10	-	

New Plant mg/Nm^3 at 15% O_2, dry		**Gas Oil**	**Other Liquid Fuels**	**Natural Gas**	**Other Gaseous Fuels**
SOx	GTs & Engines	-	120	-	15
NOx	Engines	190	190	95	190
	GTs	75	75	50	75
Dust	GTs & Engines	-	10	-	

However, the Directive is currently being negotiated with the European Parliament Environment and Industry committees both having substantial numbers of proposed amendments to both the required emissions performance of MCP Units and the scope of application of the Directive.

Aggregation
Like the IED the draft text now includes (following addition during the drafting process) a proposal for aggregation of units to apply where a common stack is used or the regulator deems they could be considered common. Here, the stack would be the compliance point, not the GT/engine/boiler exhaust. The inclusion of omission of aggregation for existing and new plant is another area of contention between the involved parties – generally no aggregation is the favoured outcome from industry.

Large Combustion Plant
There is a concern that MCPs on sites regulated under the IED would be under double regulation. This looks to have been addressed, and MCPs on LCP sites will be regulated under the IED (where they are subject to BAT Conclusions). This would be relevant for example for black start GTs on power station sites. Interestingly the revised BAT Conclusions from the LCP BREF appear to have clarified that combustion plant <50MWth are out of scope for that document.

Off-shore
This Commission proposal does not apply to "Gas Turbines and gas engines used on offshore platforms, with the exception of new gas engines and new Gas Turbines which are used for mechanical drives". Total exclusion remains a lobbying point.

Potential Implications
A report by AMEC for the European Commission[3] shows that, based on their previous work, there are >113,000 plant across Europe in the range of 1-5MWth, >23,000, of 5-20MWth and around 5,300 20-50MWth units. Therefore the implications across the Continent are large. It is not clear what proportion of these are Gas Turbines but in the region of 20% overall are not boiler based – so GTs will be a subset of these.

ETN Next Steps
The following next steps are recommended:

- ETN maintains an active engagement with the process of developing this directive via its membership and the IED Committee.
- ETN continues to keep its membership aware of the MCPD's passage from proposal to adoption.
- Dialogue to be maintained with other sectorial organisations on the topic (i.e. EUturbines, Eurelectric, CHP Association, International Association of Oil and Gas Producers (OGP), etc.).
- If not clear from work by others, technology gaps need to be identified if ELVs cannot currently be met by GT technology or penalise it in comparison to, for example, combustion engines.

[3] Analysis of the Impacts of Various Options to Control Emissions from the Combustion of Fuels in Installations with a Total Rated Thermal Input below 50 MW;.AMEC Environment And Infrastructure UK Limited February 2014