Licensing Programme Memorandum

To: Mr. Dara Lynott, Director
FROM: Gavin Clabby
C.C: Frank Clinton
DATE: 27 May 2015
RE: Request for a Technical Amendment to Industrial Emissions licence Register No. P0700-02, held by Tynagh Energy Limited, CRO No. 378735

Background

Tynagh Energy Limited (hereafter referred to as TEL) has requested a Technical Amendment (TA) to Industrial Emissions Licence Reg No. P0700-02, relating to emissions to air.

TEL was originally licensed (as P0700-01) on the 27th May 2004 under class 2.11 of the First Schedule of the EPA Act 1992 as amended. A revised licence (P0700-02) was issued by the Agency on the 5th December 2012. This licence was amended on 19th December 2013 under Section 82A(11)2 of the same Act. The licensable activity is the operation of a Combined Cycle Gas Turbine (CCGT) power plant, with a nominal capacity of 400 Megawatts (MW).

The installation is located at Derryfrench, Loughrea, County Galway and operates on a 24 hour basis, using natural gas as fuel, with gasoil as a backup in the event of gas supply failure.

Technical Amendment Request

TEL submitted a request to the Agency, on the 11th December 2014, for a TA to its licence, relating to the following:

Emissions to air: to change the Carbon Monoxide (CO) emission limit value (ELV) from 25 mg/Nm³ to 100 mg/Nm³ at operational loads over 70%.

According to the licensee, this requested change is linked to the viability of a plant upgrade to reduce the plants minimum generation level and to provide for new requirements for renewable energy generation on the National Grid (hereafter the Grid).

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1 Class 2.1: Combustion of fuels in installations with a total rated thermal input of 50 MW or more.
2 An amendment made with the aim of achieving conformity with the requirements of the Industrial Emissions Directive (2010/75/EU).
Assessment

Emissions to air: The licensee has requested a change to the Carbon Monoxide (CO) emission limit value (ELV) at emission point A2-1, from 25 mg/Nm³ to 100 mg/Nm³, at operational loads over 70%.

As part of this TA request, the licensee provided the following information:

- A detailed review of the site’s need for the increased CO ELV along with the regulatory background.
- Modelling details on the potential environmental impact of an increased CO ELV.
- A letter from the Commission for Energy Regulation outlining the wider policy context and the need for plant operation at lower minimum loads.

In the above, the licensee highlighted that, in line with national policy for renewable energy production for the Grid, expected future load demands for this type of power plant will be cyclical (i.e. high and low, rather than steady state.) This would lead to increased CO production in CCGT plants during required low load cycles, when renewable energy sources (e.g. wind energy) are peaking on the Grid.

The licensee also stated that although similar large combustion facilities do not have a CO ELV, the applicable CO ELV in any event would be 100 mg/Nm³ (which should only apply when plants operate above 70% load.) This 100 mg/Nm³ CO limit is specified in the Industrial Emissions Directive and the European Union (Large Combustion Plants) Regulations 2012³.

The air dispersion modelling for the proposed increased CO ELV found that all predicted CO ground level concentrations were below the relevant EU and Irish air quality standards⁴. The relevant CO air quality standard (AQS) is 10,000 µg /m³. This AQS, as specified in the regulations, is calculated over an 8-hour averaging period.

Whilst acknowledging the above information, the Agency cannot provide for the increase in emissions from an installation by way of technical amendment. The appropriate mechanism for such an alteration would be a review of the licence.

However, as an interim measure, it is considered useful to amend the licence, by giving the requested 100 mg/Nm³ CO concentration limit, but maintaining the current allowable mass emissions of CO from the installation, by specifying an additional 8-hour mass limit of 434 Kg CO⁵. This combination of increased CO ELV and new CO mass emission limit will ensure that no additional CO is emitted to the environment over an 8-hour interval, whilst allowing some degree of additional flexibility in the operation of the installation.

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³ S.I. 566/2012
⁵ Calculated by multiplying the current CO ELV (25mg/Nm³) by eight times the current hourly volumetric flow limit (8 x 2.17 x 10⁶ m³); limits as specified in licence Reg. No. P0700-02.
Appropriate Assessment

A screening for Appropriate Assessment was undertaken to assess, in view of best scientific knowledge and the conservation objectives of the site, if the activity, individually or in combination with other plans or projects, is likely to have a significant effect on a European Site(s). In this context, particular attention was paid to the European site(s) at Lough Rea (SAC site code: 000304, SPA site code: 4134), Sonnagh Bog (SAC site code: 01913), Ardgraigue Bog (SAC site code: 002356), Barroughter Bog (SAC site code: 000231), Cloonmoylan Bog (SAC site code: 000248), Poulaknockaun Wood Nature Reserve (SAC site code: 000304), Derrycrag Wood Nature Reserve (SAC site code: 000319), Lough Derg (SAC site code: 002241, SPA site code: 004096), River Shannon Callows (SAC site code: 000216, SPA site code: 004096), Slieve Aughty Mountains (SPA site code: 004168). The Agency considered, for the reasons set out below, that the activity is not directly connected with or necessary to the management of the site as a European site and that it can be excluded, on the basis of objective information, that the activity, individually or in combination with other plans or projects will have a significant effect on a European site, and accordingly the Agency determined that an Appropriate Assessment of the activity was not required.

This determination is based on the nature and scale of the activity, and the distance between the installation and the European Sites. The licence, as altered by this technical amendment, is not expected to result in the activity having an impact on the European sites listed above. The altered licence does not permit any additional discharge of pollutants to the receiving environment.

Recommendation

For the reasons outlined above I recommend that the requested licence amendment be approved under Section 96(1)(c) of the EPA Acts as amended, as set out in the attached Recommended Technical Amendment.

Signed:

Gavin Clabby
Inspector, OCLR.