Appendix 1

Additional information to the proposed JCM methodology "Replacement of diffuser with aerator in aeration pond" Shaft power determination method with the performance table of blower

1. Outline of the performance table of blower

The Performance table of blower consists of rotation per minutes (RPM, rotation/min), discharge pressure (mmAq), air flow (m^3/min) and shaft power (kW) of blower. Air flow and shaft power data in the performance table of blower, which is provided by blower manufacturer, depend on blower characteristics. In general, higher discharge pressure or RPM causes higher shaft power.

Table 1 Image of the performance table of blower

		Discharge pressure (mmAq)									
		1,000		2,000		3,000		4,000		5,000	
		Airflow (m^3/min)	Shaft power (kW)	Airflow (m^3/min)	Shaft power (kW)	Airflow (m^3/min)	Shaft power (kW)	Airflow (m^3/min)	Shaft power (kW)	Airflow (m^3/min)	Shaft power (kW)
RPM (rotation/min)	500										
	600										
	700										
	800										
	900										
	1,000										

Unit of discharge pressure in the performance table (mmAq) is calculated from monitored discharge pressure (Pa(G)), shown in the methodology, based on the following equation.

$$PS_{mmAq} = PS_{Pa} \div 9.807$$

PS_{mmAq} : Discharge pressure of the blower [mmAq]

PS_{Pa} : Discharge pressure of the blower [Pa (G)] (gauge pressure)

2. How to determine shaft power

RPM of blower can be monitored by digital tachometer. Also, discharge pressure of blower can be monitored by pressure gauge installed at airflow pipe of blower. Based on RPM data and discharge pressure data, shaft power of blower can be selected from its own performance table.