

*Environmental Impact Assessment of the Proposed Jamaica Energy Partners 60 Megawatt West Kingston Power Plant at Industrial Terrace, Kingston, Jamaica*

Table 1 Comparison of anticipated noise readings with NEPA and World Bank guidelines

No.	STATION		DAY TIME (7 am. – 10 pm.) (dBA)				NIGHT TIME (10 pm. – 7 am.) (dBA)			
	LOCATION	CATEGORY	BASELINE	PREDICTED NOISE FROM THE PLANT	NEPA STD.	WORLD BANK GUIDELINE	BASELINE	PREDICTED NOISE FROM THE PLANT	NEPA STD.	WORLD BANK GUIDELINE
1	Railway	Industrial	55.7	58.5	75	70	53.8	58.5	70	70
2	Seprod Wall	Industrial	53.9	66.7	75	70	55.6	66.7	70	70
3	Marcus Garvey Drive	Industrial	57.2	62.5	75	70	57.6	62.5	70	70
4	Industrial Terrace	Industrial	61.6	70.0	75	70	59.9	70.0	70	70
5	Tivoli Gardens High School	Institutional	59.5	39.5	50	55	51.9	39.5	40	45
		2 <sup>nd</sup> Floor		40.1				40.1		
		3 <sup>rd</sup> Floor		43.5				43.5		
6	Charles Chinloy Preschool & Day Care	Institutional	58.1	58.3	50	55	53.3	58.3	40	45
7	Tivoli Gardens Community	Residential	61.9	57.2	55	55	58.0	57.2	50	45
		2 <sup>nd</sup> Floor		56.5				56.5		
		3 <sup>rd</sup> Floor		56.4				56.4		
		4 <sup>th</sup> Floor		54.8				54.8		
8	Factories Corporation of Jamaica	Industrial	62.4	60.5	75	70	57.0	60.5	70	70

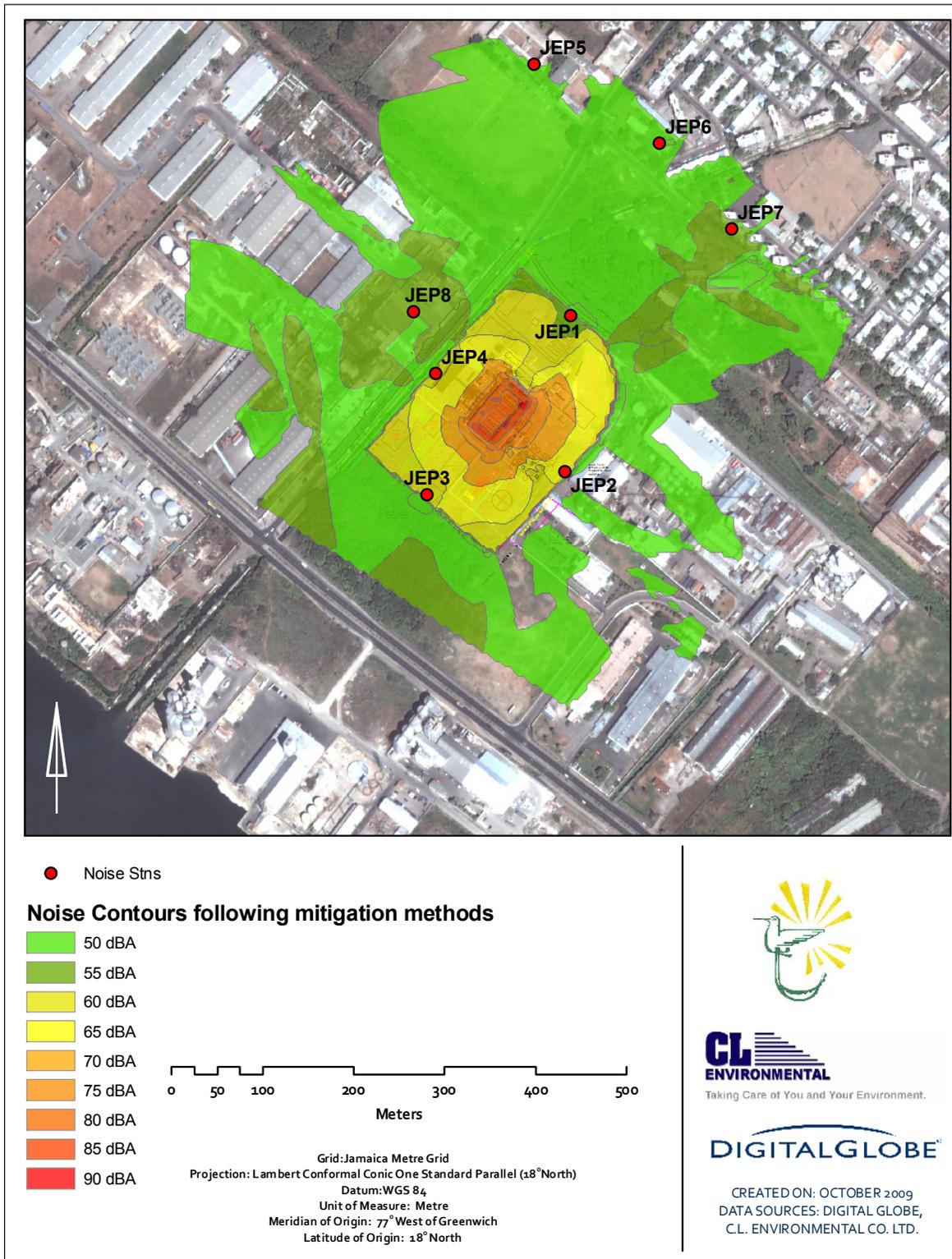


Figure 1 Modelled noise results

## 6.2 Noise

The operation of the proposed 60 MW power plant will result in an increase in the existing noise level (cumulative) (Table 84 and Table 85).

The cumulative noise impact takes into account all the existing background noise sources which include the Jamaica Public Service power plant, the Factories Corporation of Jamaica Garmex Freezone, and the existing noise within the community (Tivoli). Noise from the new noise source (the proposed power plant) is then added to the existing noise levels to determine what if any impact this new development would have on the surrounding community.

Table 2 Results of noise measurements during (19:00 hrs Tuesday 28th, to 7:00 hrs Thursday 30th, July 2009)

STATION			DAY TIME (7 am. – 10 pm.) (dBA)				NIGHT TIME (10 pm. – 7 am.) (dBA)			
No.	LOCATION	CATEGORY	BASELINE	CUMM	NEPA STD.	WORLD BANK GUIDELINE	BASELINE	CUMM	NEPA STD.	WORLD BANK GUIDELINE
1	Railway	Industrial	55.7	60.4	75	70	53.8	59.8	70	70
2	Seprod	Industrial	53.9	66.7	75	70	55.6	66.7	70	70
3	Marcus Garvey Drive	Industrial	57.2	63.6	75	70	57.6	63.7	70	70
4	Industrial Terrace	Industrial	61.6	70.6	75	70	59.9	70.0	70	70
5	Tivoli Gardens High School	Institutional	59.5	59.5	50	55	51.9	51.9	40	45
		2 <sup>nd</sup> Floor		59.5				51.9		
		3 <sup>rd</sup> Floor		59.5				52.7		
6	Charles Chinloy Preschool & Day Care	Institutional	58.1	60.9	50	55	53.3	59.5	40	45
7	Tivoli Gardens Community	Residential	61.9	63.2	55	55	58.0	60.6	50	45
		2 <sup>nd</sup> Floor		63.0				60.3		
		3 <sup>rd</sup> Floor		63.0				60.3		
		4 <sup>th</sup> Floor		62.7				59.7		

NB: Numbers in red indicate non-compliance with both NEPA and World Bank guidelines. Numbers in green indicate non-compliance with NEPA guidelines but compliance with World Bank guidelines when the 3 dBA rule is applied. The number in blue is non-compliant only with World Bank guidelines.

Table 3 Results of noise measurements during (19:00 hrs Saturday 1st, to 7:00 hrs Tuesday 4th, August 2009)

STATION			DAY TIME (7 am. – 10 pm.) (dBA)				NIGHT TIME (10 pm. – 7 am.) (dBA)			
No.	LOCATION	CATEGORY	BASELINE	CUMM	NEPA STD.	WORLD BANK GUIDELINE	BASELINE	CUMM	NEPA STD.	WORLD BANK GUIDELINE
1	Railway	Industrial	56.2	60.5	75	70	51.2	59.2	70	70
2	Seprod	Industrial	53.3	66.7	75	70	51.5	66.7	70	70
3	Marcus Garvey Drive	Industrial	56.3	63.5	75	70	51.7	62.5	70	70
4	Industrial Terrace	Industrial	59.5	70.0	75	70	53.7	70.0	70	70
5	Tivoli Gardens High School	Institutional	57.0	57.0	50	55	48.0	48.6	40	45
		2 <sup>nd</sup> Floor		57.0				48.6		
		3 <sup>rd</sup> Floor		57.0				49.4		
6	Charles Chinloy Preschool & Day Care	Institutional	58.0	60.7	50	55	55.9	57.9	40	45
7	Tivoli Gardens Community	Residential	61.9	63.2	55	55	58.0	60.6	50	45
		2 <sup>nd</sup> Floor		63.0				60.3		
		3 <sup>rd</sup> Floor		63.0				60.3		
		4 <sup>th</sup> Floor		62.7				59.7		
8	Factories Corporation of Jamaica	Industrial	62.4	64.5	75	70	57.0	58.7	70	70

**NB:** Numbers in red indicate non-compliance with both NEPA and World Bank guidelines. Numbers in green indicate non-compliance with NEPA guidelines but compliance with World Bank guidelines when the 3 dBA rule is applied. The number in blue is non-compliant only with World Bank guidelines.

### *6.2.1 Comparison with NEPA Guidelines*

#### *6.2.1.1 28<sup>th</sup> – 30<sup>th</sup> July, 2009*

Stations 5, 6 and 7 would exceed the NEPA day and night time guidelines when the cumulative noise levels are calculated, but the NEPA Guidelines were being exceeded at these locations prior to the addition of the proposed project.

#### *6.2.1.2 1<sup>st</sup> – 4<sup>th</sup> August, 2009*

Stations 5, 6 and 7 would exceed the NEPA day and night time guidelines when the cumulative noise levels are calculated, but the NEPA Guidelines were being exceeded these locations prior to the addition of the proposed project.

### *6.2.2 Comparison with World Bank*

#### *6.2.2.1 28<sup>th</sup> – 30<sup>th</sup> July, 2009*

Stations 4 (day time), 5, 6, 7 would exceed the World Bank day and night time guidelines when the cumulative noise levels are calculated. Stations 5, 6 (daytime) and 7 would comply with the 3dBA rule, thus compliance with World Bank guidelines.

Station 4 is located close to where the radiators will be located and although the noise exceeds the guideline (due to its closeness to the noise source), the fact that it is in an industrial area and that the influence on the noise climate at the closest receptor (Factories Corporation of Jamaica Complex) is minimal, the potential negative impact is negligible.

Station 6 (night time) will exceed the 3 dBA rule the guideline by 3 dBA, however it is not at the level (5 dBA above baseline) that would cause a community reaction. Although it exceeds the night time guideline at this station, the fact that during those hours the school would not be in operation and also there is an expected 10-15 dBA attenuation as the noise travels from outdoors to indoors suggest that the potential negative impact would be minimal.

6.2.2.2 1<sup>st</sup> – 4<sup>th</sup> August, 2009

Stations 5, 6 and 7 would exceed the World Bank day and night time guidelines when the cumulative noise levels are calculated. The stations would however comply with the 3dBA rule, thus compliance with World Bank guidelines.