Table 1. 1.
Matriks Identifikasi Potential impact Studi EIA Enhancement Capasity PLTG/PLTMG Duri in Balai Pungut Village, Distric Pinggir, Bengkalis Regency, Provinsi Riau

No.	KOMPONEN LINGKUNGAN PENERIMA DAMPAK	KOMPONEN KEGIATAN (SUMBER DAMPAK)																			
		TAHAP PRA KONSTRUKSI			KONSTRUKSI						PASCA KONTRUKSI		OPERASI						PASCA OPERASI		
		Pengurusan Perizinan	Konsultasi Publik	Penerimaan Tenaga Kerja	Mobilisasi Peralatan & Material	Pematangan Lahan	Pembangunan Pondasi	Pemasangan Generator, Turbin dan Kompresor	Konstruksi Switch Yard	Pengujian dan Uji Coba	Demobilisasi Peralatan	Pemutusan Tenaga Kerja	Penerimaan Tenaga Kerja	Produksi Energi Listrik	Pemeliharaan Mesin	Pengelolaan Limbah (Termasuk Limbah B3)	Penghijauan	Tanggung Jawab Sosial Perusahaan (CSR)	Pembongkaran Pembangkit PLTG/MG	Pemutusan Hubungan Kerja (PHK)	Demobilisasi Peralatan PLTG/MG Duri
A.	**GEOFISIK-KIMIA**																				
1.	Kualitas Udara				√	√				√	√			√	√	√	√		√		√
2.	Getaran									√				√	√						
3.	Kebisingan				√	√				√	√			√	√		√		√		√
4.	Kualitas Tanah							√							√						
5.	Aliran Air Permukaan					√	√														
6.	Kualitas Air Permukaan					√	√	√	√						√	√					
7.	Transportasi Darat/Lalu Lintas Darat				√						√										√
8.	Ketersediaan Energi Listrik													√							
9.	Kualitas Lingkungan Kerja									√				√	√						
B.	**BIOLOGI**																				
1.	Vegetasi Darat					√											√				
2.	Fauna Darat					√															
3	Biota Air (plankton, bentos, nekton)					√	√	√	√						√	√					
C.	**SOSEKBUD-KESMAS**																				
1.	Kesempatan Kerja & Peluang Berusaha			√								√	√							√	
2	Pendapatan Masyarakat			√								√	√							√	
3	Ekonomi Regional & PAD													√							
4	Sikap dan Persepsi Masyarakat		√	√	√	√				√		√	√			√		√		√	
5	Kesehatan Masyarakat				√	√															
6	Kecelakaan Kerja						√	√	√	√											

1.1.1.1. Evaluation of Potential impact

A. Pre-Construction Phase

Public Consultation

- **Attitudes and Public Perception**

The impact arising from the preparation stage in the form of public consultation is the emergence of public perception. The plan to increase plant capacity PLTG/PLTMG spines of 200 MW, is the further plans of the plant with a capacity of 160 MW. Operation of the Power Plant PLTG/PLTMG has been appearance negative perception of society, where these perceptions arise from feeling disturbance convenience of the public resulting from the impact of noise and vibration, lack of local labor is used, damage to roads and rivers that occur during this time. These conditions will lead to rejection of the plan to increase plant capacity PLTG/PLTMG of 200 MW, if this condition is not corrected by the PT. PLN (Persero) and its partners

The impact of this negative perception is local to the community about the location of activities and lasts for the demands of local communities can be repaired by the PT. PLN (Persero) and its partners and after the operation of the plant capacity increase PLTG/PLTMG Duri. Relative with the above, the public perception is an important impact hopotetik of public consultation activities.

Acceptance of Labor

- **Employment and Opportunities Sought**

The process of recruitment of manpower for these action plans have the potential to create opportunities and employment opportunities. The potential positive impact will be spread throughout the region about the action plan. It is given that the environmental components play an important role in the daily life of the local community (social and economic value), based on the Law of the Republic of Indonesia Number 13 year 2003. the impact of the SIH that require management and environmental monitoring

- **Increased revenue**

Impacts associated with people's income as a result of the recruitment activity, is a positive impact to improve the welfare of the community. These impacts are direct impacts (primary) and is predicted to take place in the short term or temporary (lasts for labor recruitment process). The potential positive impact will be spread throughout the region about the action plan, predicted the number of job seekers at the moment is about 160 people. So the environmental components play an important role in the daily life of the local community (social and economic value). The process of hiring will refer to the Law of the Republic of Indonesia Number 13 Year 2003 on Employment. Impact SIH requiring an environmental management and monitoring activities

- **Attitudes and Public Perception**

Impacts associated with the recruitment plan of action would cause no concern of society will not be involved because the activities did not exist before the local

workforce involved. Impact SIH requiring an environmental management and monitoring activities.

B. Construction phase

- **Mobilization of equipment and materials**

Mobilization of equipment and materials used vehicle dump truck with a frequency of about 5 trips per day during the construction period. This mobilization will pass through the road being close to population centers, with the condition of the road to be traversed in the form of an asphalt road. The type of vehicle that often pass through these roads at this time is the two-wheeled vehicles, four-wheeled public transport and pick up truck with a relatively small frequency. In addition, air quality (dust) around the road to be traversed relatively well. From this it can be stated that the mobilization of equipment and material potential in the improvement of road dust and physical damage to the road. This mobilization activities will indirectly contribute to the impact of air quality deterioration, elevated concentrations of dust, increasing the intensity of noise, and traffic generation.

- **Air Quality**

The mobilization of equipment and materials potentially cause a decrease in air quality, namely the increase in road dust, especially during the dry season. This impact is the negative impact that could undermine the convenience of the public, especially communities surrounding the mobilization pathways. Furthermore, this kind of impact is the impact of direct (primary) of the various activities, and is predicted to take place in the short term or temporary (lasts for the mobilization of equipment and materials) The potential negative impacts can be dispersed around the track mobilization of materials and equipment or locally, particularly near settlements. Seeing these conditions are expected to concern the high society of the environmental component,

The mobilization of equipment and materials potentially cause a decrease in air quality, namely the increase in road dust, especially during the dry season. This impact is the negative impact that could undermine the convenience of the public, especially communities surrounding the mobilization pathways. Furthermore, this kind of impact is the impact of direct (primary) of the various activities, and is predicted to take place in the short term or temporary (lasts for mobilization of tools and materials) and temporary.

Potential negative impacts can be spread around the track mobilization of materials and equipment or locally, particularly near settlements. With the road to be traversed in the form of a paved road, which is widely used types of wheeled vehicles 4 and 6, vehicle speed of 30 km/h. Based on empirical equations of EPA (center, 1996):

E = (0,81 d) [s/30][(365-w)/365]

Where: :
E = emission factor, lb perkendaraan- mile
d = amount of dust on the surface of the road,%
s = speed of an average vehicle mile / hour
w = the average of rainy days in a year

the estimated concentration of dust generated from passing vehicles is about 7.5 ppm. Increasing the concentration of relatively kecil. with into account the increase in the concentration of dust and long lasting impact only when the mobilization of materials and equipment, it can be stated that the impact is categorized as not SIH, but the necessary management and environmental monitoring.

- **Improved Noise**

  Changes noise at the time of mobilization tools and materials are sourced from trasnportasi tools such as dump trucks and pick-ups. This impact is negative and direct impact (primary). The noise generated from the dump truck around 59.20 Db kepemukiman population will spread around the street with a noise level of 50 Db. With the intensity of the vehicle 10 unti/day and lasts for a short term or temporary (lasts for mobilization of materials and tools) and temporary, it can be stated that the increase of noise is not a significant impact on the hypothetical mobilization of materials and tools. Impact categorized as not SIH, but the necessary management and environmental monitoring.

- **Ground Transportation/Traffic Army**

  Impacts associated with seizures due to road traffic and vehicle transporting materials and tools. It is estimated that the number of vehicles that will be passing to and exit from the planned location of the construction of about 20 unit/hari. Impact a negative impact that can disturb the comfort of the local community. Furthermore, this kind of impact is the impact of direct (primary) on the mobilization of the tools and materials, and is predicted to take place in the short term (held for the mobilization of materials and tools, and will end with the cessation of the construction phase).

  The location is the path towards the construction area with a density of 25 units of vehicles/hour with the dominant type of two-wheeled vehicles. With the mobilization activity materials and heavy equipment, then the condition of the road will increase 20 units/day or 2 unit/ hour (12 hours). The increase in traffic is still relatively small. The company also plans to install road signs and adjust the vehicle speed to the location of activities with a speed of 30 km/h.

  In connection with the intensity of an increasing number of small vehicles (2 unit/hour) and their impact management plan from the company PT. PLN (Persero), it can be stated that the traffic generation is not an impact hypothetic important mobilization of materials and tools.

- **Attitudes and Public Perception**

  The impact derived from the consequences of environmental degradation resulting from the mobilization of equipment and materials for the construction of the Power Plant PLTG/MG Duri will be felt by the people around due to the rise of traffic. Impact Be SIH so necessary management and environmental monitoring activities.

- **Public health**

  This impact is the impact derived from increased concentration of dust due to the rise of traffic and activity outside activities. Increased dust and increase the intensity of noise will affect the health of the surrounding community. But its impact

is small and only temporary, so it is classified as a non SIH, but still needed management and environmental monitoring.

Maturation Land

Construction activities began with land clearance. The condition of land cover on the site plan development is largely dominated by crops such as oil palm and rubber as well as smaller tree (Mahang. Once the land is clean, then carried landfill to flatten the high ground, where soil used came from outside. Opening and hoarding of land will lead to the loss of forest cover and disturbance to the flora and fauna land. this will indirectly increase the erodibility of land, which would result in increased sedimentation and turbidity in the waters of lowering the quality of the waters. the decline in water quality is caused by a disturbance in aquatic biota ,

To reduce the pool of water at the construction site, will be made drainage channels leading to the nearby river. This darainase development as well as to reduce the sediment carried by runoff rain water directly into the river.

Land clearing activities, hoarding, creation of drainage channels will be carried out using mechanical or electrical equipment which is expected to have an impact on air quality, dust and noise.

- **Air Quality**

  The decline in air quality at the time of preparation (land clearing) derived from the operation of equipment such as chain saw, loader, backhoe, excavator and dump truck. This impact is negative and direct impact (primary) and does not disturb the comfort of the public when viewed from the magnitude and distribution of impact. Land clearing gradually, so the impact is predicted to take place in the short term or temporary. In connection with the above, it can be stated that the impact is not a SIH, but it is necessary to manage and monitor.

- **Noise**

  Temporary during the construction phase of the operation where heavy equipment and vehicle weight capacity that can trigger the noise levels predicted accumulative raised~93 dB (A). however, the noise level will be reduced according to the distance from the source. The noise level is 55 dB (A) will be detected at a distance of 80 m from the noise source, while the distance settlements closest to the project site ± 100 meters. impact not a SIH, but it is necessary to manage and monitor.

- **Surface Water Flow**

  Land clearing activities has the potential to increase soil erosion as a result of the increase in the volume of runoff water (run off). The volume of runoff water that is formed is directly proportional to the area of land cleared. Land clearing activities has the potential to increase soil erosion as a result of the increase in the volume of runoff water (run off). The volume of runoff water that is formed is directly proportional to the area of land cleared. Judging from the condition of this land is a plain land so that the impacts of soil erosion can not be categorized as large and the condition is expected to very minimal sedimentation in the river around. Land clearing and backfilling activities will potentially cause soil erosion. Impact of soil erosion is a negative and direct impact (primary) and further disrupt the river water

quality and aquatic biota. The negative potential can be spread around the development area or local course, which lasts only for the duration of estab atangan land. To solve the soil erosion, the proponent will construct drainage channels first. Making the drainage channel serves as one way to minimize the entry of soil erosion directly into water bodies.

With the management of the impacts associated with loss of vegetation and soil erosion mentioned above, it can be stated that soil erosion is not a hypothetical significant impact on the activities of the stripping and removal of top soil and cover. As previously described above, that the activities of estab hoarding land and the site area action plan will increase soil erosion. Indirectly, increased soil erosion will cause sedimentation and turbidity water the river as a result of the carryover layer of surface soil-borne water runoff during the rainy season. Land clearing activities and stockpiling area will next action plan with drainage around him. Drainage development is intended to regulate the flow of rain water runoff and as a place for sedimentary soil-borne rain water, so sediment does not directly enter into the waters of the river and do not cause turbidity in the river. With the management of the impacts associated with loss of vegetation and soil erosion above, the impact is categorized as SIH requiring environmental management and monitoring activities.

- **Surface Water Quality**

  Impacts associated with increased turbidity of river water due to increased soil erosion due to land clearing, so the level of turbidity that occur in water bodies is proportional to the amount of soil erosion. Impacts are categorized as SIH requiring environmental management and monitoring activities.

- **Vegetasi Army**

  Impacts associated with the loss of vegetation and fauna habitat disturbance as a result of the preparation of the land, came as the preparatory phase will be done to the building construction. This impact is the negative impact that may disturb the vegetation and fauna habitat. Furthermore, this kind of impact is the impact of direct (primary) of the activities and permanent vegetation and animals that take place within the next because of the changing function of land into a regional power. The condition of land cover is dominated by plants shrubs and trees such as j enis little fauna that is in the location of the Power Plant PLTG/PLTMG Duri form of mammal species such as long-tail era k, b abi m forest and outdated, and reptiles such as snakes, lizards. Where the status of the animals, including not protected. In connection with the type and amount of tree stands is missing, it can be stated that the loss of vegetation and terrestrial fauna habitat disturbance is not an important impact on the hypothetical land Land clearing activities. Impact categorized as not SIH, but needs to be managed and monitored.

- **fauna Army**

  Preparation will remove vegetation cover on it s ehingga existence of terrestrial vegetation will be lost. The vegetation existing Power Plant PLTG/MG Duri form of shrubs and no plants are protected. Thus also will disrupt the lives of the surrounding land fauna. Impact categorized as not SIH, but needs to be managed and monitored.

- **Biological Water**

  The impact on aquatic biota disturbance due to increased turbidity in the river waters. High turbidity will interfere with the presence of Biological water. According to Quinn et. al. (1992) in Bilotta and Brazier (2008), TSS concentration of 10 ppm in dal am waters can reduce 41% of the phytoplankton biomass with time uncovered during 1,344 hours. Furthermore, Alabaster and Lloyd (1982) stated that the TSS concentrations <25 ppm no effect on the survival of fish. With the management of the impacts associated with loss of vegetation and soil erosion mentioned above, it can be stated that soil erosion is not a hypothetical significant impact on the activities of Land clearing land, hoarding, and drainage. Impact categorized as not significant impacts hypothetic, but needs to be managed and monitored.

- **Attitudes and Public Perception**

  The impact of derivatives due to changes in components other opportunities that change the quality of rivers, increased sedimentation, soil erosion. But seen from the spreading impact of the distribution is still considered outside influence and temporary. categorized as not significant impacts hypothetic, but the impact is still managed and monitored.

- **Public Health**

  The impact of public health problems caused by elevated concentrations of dust resulting in decreased air quality. Judging from spreading this condition is not expected to interfere with public health and temporary. categorized as not Significant Impacts Hypothetic, but the impact is still managed and monitored.

The foundation of the development Plant Power Plant PLTG /MG Duri

Foundation construction activities PLTG/PLTMG Duri will impact the flow of surface water, surface water quality, aquatic biota, and accidents.

- **Surface Water Flow**

  The flow rate will be determined the ability of the soil surface (Infiltration) into the body of the ground in the rain, in addition to rainfall intensity and volume. Changes in surface flow is due in part to utilities to compacted soil surface and partly for building foundations Power Plant PLTG/MG Duri. Reduction of the area or ground to rainfall infiltration and surface characteristic changes affect the coefficient of surface water runoff. The impact is the impact that requires significant impacts hypothetic environmental management and monitoring activities.

- **Surface Water Quality**

  Surface water quality degradation caused by the construction of the foundation PTLG/MG Duri using building materials and solids as well as other liquid material which when residual or cecerannya during foundation work will pollute the marine environment. The impact is the impact that requires significant impacts hypothetic environmental management and monitoring activities.

- **Biological water**

  The development activities PLTG/MG Duri an impact on water biota, because at this stage will do the job leveling, digging a hole for the foundation, excavation of cable channels, waterways and pipelines, casting the foundation, floor molding foundations and casting for area utilities, These activities will result in the waste of the materials used and the rest of the excavation, in the event of a runoff, the waste materials will be washed into the body of water and surface water thus polluting the water bodies. The impact is the impact that requires significant impacts hypothetic, environmental management and monitoring activities.

- **Work accident**

  Activity foundation construction Power Plant PLTG/MG Duri form of employment land leveling, digging a hole for the foundation, excavation of cable channels, waterways and pipelines, casting the foundation, floor molding foundations and casting for area utilities. This activity will potentially work accident on stage this construction. The impact is the impact of not significant impacts hypothetic, but necessary environmental management and monitoring activities.

Installation of Generator, Turbine and Compressor

Activities to install the generator, turbine and compressor power generation Power Plant PLTG/PLTMG Duri will affect quality of soil, surface water quality, aquatic biota, and accidents.

- **Soil Quality**

  Activities to install the generator, turbine and compressor would produce waste such as grease, oil, rubber scraps/wire and other things that will affect the surrounding soil fertility. Waste generated at this stage of the activity in relatively small amounts. Significant Impacts Hypothetic, impact is not, and is not required environmental management and monitoring activities.

- **Surface Water Quality**

  Activities to install the generator, turbine and compressor would produce waste such as grease, oil, rubber scraps/wire and so on. By the time the rain will carry over into the water body so that it will contaminate. Waste generated at this stage of the activity in relatively small amounts. The impact is not a significant impacts hypothetic, but the necessary management and environmental monitoring.

- **Biological water**

  Activities to install the generator, turbine and compressor would produce waste such as grease, oil, rubber scraps/wire and so on. By the time the rain will carry over into the water body so that it will contaminate and disrupt aquatic life. Waste generated at this stage of the activity in relatively small amounts.

The impact is not a significant impacts hypothetic, but the necessary management and environmental monitoring.

- **Work accident**

  Activities to install the generator, turbine and compressor requires special skills, so it will potentially cause a work accident, if it does not comply with standard operating procedures that have been set. The impact is not a significant impacts hypothetic, but the necessary management and environmental monitoring.

Construction Switch Yard

Construction activities switch yard power generation Power Plant PLTG/PLTMG Duri will impact on surface water quality, aquatic biota, and accidents.

- **Surface Water Quality**

  Construction activities will result in a switch yard waste such as cement, sand, residual cable/wire, the rest of gerindaan steel, iron and so on. By the time the rain will carry over into the water body so that it will contaminate. Waste generated at this stage of the activity in relatively small amounts. The impact is not a significant impacts hypothetic, but the necessary management and environmental monitoring.

- **Biological water Surface**

  Construction activities will result in a switch yard waste such as cement, sand, residual cable/wire, the rest of gerindaan steel, iron and so on. By the time the rain will carry over into the water body so that it will contaminate and disrupt aquatic life. Waste generated at this stage of the activity in relatively small amounts. The impact is not a significant impacts hypothetic, but the necessary management and environmental monitoring.

- **Work accident**

  Construction yard switching activities require special skills, so it will potentially cause a work accident, if it does not comply with standard operating procedures that have been set. The impact is not a significant impacts hypothetic, but the necessary management and environmental monitoring.

Testing and Trials

Testing and test Power Plant PLTG/PLTMG Duri will have an impact on air quality, vibration, noise, quality of the physical work environment, attitudes and perceptions, and accidents.

- **Air Quality**

  Testing and trial will produce flue gases in the form of NO2, NH3, SO2 and particulate matter (dust) that will pollute the surrounding environment. Impact is

the significant impacts hypothetic, so that the necessary management and environmental monitoring.

- **Vibration**

  Testing and test the reliability of the machine PLTG/MG Duri will cause mechanical vibration caused by the spindle axis and blades and turbine generator plant. Changes in the vibration caused due to an increase in the speed or frequency of vibration. Impact is the significant impacts hypothetic, so that the necessary management and environmental monitoring.

- **Noise**

  Testing and trials will increase the noise by increasing the frequency of the sound or noise of do not disturb being unwanted noise during the testing and test the reliability of the Power Plant PLTG generation systems/MG Duri. Impact is the significant impacts hypothetic, so that the necessary management and environmental monitoring.

- **Physical Work Environment Quality**

  Testing and test the reliability of the generation systems Power Plant PLTG /MG Duri will change some of the parameters of the quality of the physical work environment of increased noise, air quality deterioration and the onset of vibration (increased vibration). The decline in the quality of the work physical environment will have an impact on communities around the plant site and the workforce or employees of the plant. Impact is the significant impacts hypothetic, so that the necessary management and environmental monitoring.

- **Attitudes and Public Perception**

  Testing and test the reliability of the generation systems Power Plant PLTG/MG Duri will change some of the parameters of the quality of the physical work environment of increased noise, air quality deterioration and the onset of vibration (increased vibration). The decline in the quality of the work environment fiisik will have an impact on communities around the plant site and the workforce or employees of the power plant. So that will give rise to the attitudes and perceptions of people living around the plant site. Impact is the significant impacts hypothetic, so that the necessary management and environmental monitoring.

- **Work accident**

  Testing and test the reliability of the generation systems Power Plant PLTG/MG Duri require special skills, so it will be prone to potentially cause a work accident, if it does not comply with Standard Operating Procedure(SOP) Occupational Health and Safety has been set. Impact is the significant impacts hypothetic, so that the necessary management and environmental monitoring.

C. Post-Construction Phase

In the post-construction phase will be conducted demobilization of heavy equipment are not required and termination of employment both with contractors and local labor is involved in a Power Plant PLTG/MG Duri.

Demobilization of Equipment

Demobilization activities for the construction of the equipment Power Plant PLTG/MG Duri will potentially impact on air quality deterioration, increased noise and disturbance ground transportation/traffic land.

- **Air Quality**

  The decline in air quality sourced from the activities of the demobilization of equipment Power Plant PLTG/PLTMG Duri. impact a negative impact and direct (primary), takes place in the short term or temporary, modest improvement dust levels along the path of the demobilization of equipment Power Plant PLTG/PLTMG Duri. impact is an impact negative and direct (primary), takes place in the short term or temporary. The impact is not a significant impacts hypothetic, but still required environmental management and monitoring activities.

- **Noise**

  Deficits improve noise levels along the path of the equipment demobilization Power Plant PLTG/PLTMG Duri. impact a negative impact and direct (primary), takes place in the short term or temporary. The impact is not a significant impacts hypothetic, but still required environmental management and monitoring activities.

- **Ground Transportation / Traffic Army**

  Impacts associated with seizures due to road traffic and vehicles equipment. It is estimated that the number of vehicles that will be passing to and exit from the building site plan about 5 units/day. This impact is the negative impact that may disturb the comfort of the local community. Furthermore, this kind of impact is the impact of direct (primary) of demobilization activities and forecasted tool takes place in the short term (held for demobilization activities tools).

  With the addition of the intensity of the vehicles 5 units/day and vehicle speed of 30 km/h, it can be stated that the traffic generation of equipment demobilization activities is not a hypothetical important impact on the activities of the demobilization of heavy equipment.

Work termination

Demobilization activities for the construction of the equipment Power Plant PLTG/MG Duri will potentially have an impact on employment and business opportunity, increasing people's incomes, and the attitudes and perceptions.

- **Employment and Opportunities Sought**

  Activity termination of employment at the post-construction stage will have an impact in the form of loss of employment and opportunities for the community berusha place. While maintaining the local workforce in the operation phase will minimize the impact. The impact is not a significant impacts hypothetic, but the necessary management and environmental monitoring.

- **Community revenues**

  Activity termination of employment at the post-construction stage will have an impact in the form of a decline in income for the local communities, especially the people who work at the construction stage. With the employment training the local workforce is expected to be able to entrepreneurship. The impact is not a SIH, but the necessary management and environmental monitoring.

- **Attitudes and Public Perception**

  Activity termination of employment at the post stage of construction will affect the attitudes and perceptions of the emergence of the community, especially for people who work in the construction phase. Giving money layoff in accordance with the Act is not expected to lead to social conflict and social unrest. The impact is not a significant impacts hypothetic, but the necessary management and environmental monitoring.

D. Operation phase

The activities at this stage of the operations Power Plant PLTG/MG Duri form of recruitment, the production of electrical energy, machine maintenance, waste management (Including Hazardous and Toxic Materials), reforestation, and Corporate Social Responsibility(CSR).

Acceptance of Labor

- **Employment and Seek**

  Total receipts of labor is relatively small, but have a big impact if it did not involve the local workforce. The impact of the significant impacts hypothetic, so that the necessary management and environmental monitoring.

- **Community revenues**

  With the opening of employment opportunities for local employment and opportunities for people diekitarnya will be able to increase people's income. The impact of the significant impacts hypothetic, so that the necessary management and environmental monitoring.

- **Attitudes and Public Perception**

  With the opening of employment opportunities for local employment and opportunities for people diekitarnya will give a positive attitude and perception of the public. Instead it will give you an attitude and a negative perception of the public and can even provide impact advanced form of social conflict and social unrest, which is an accumulation of other impacts (damage to the road and traffic accidents). The impact of the significant impacts hypothetic, so that the necessary management and environmental monitoring ,

Electrical Energy Production

- **Air Quality**

  Operating activities PLTG/MG Duri will produce exhaust gas in the form of NO_2, NH_3, SO_2 and particulate matter (dust) that will pollute the surrounding environment. Impact is the significant impacts hypothetic, so that the necessary management and environmental monitoring.

- **Vibration**

  Operating activities PLTG/MG Duri will cause mechanical vibration caused by the spindle axis and blades and turbine generator plant. Changes in the vibration caused due to an increase in the speed or frequency of vibration. Impact is the significant impacts hypothetic, so that the necessary management and environmental monitoring.

- **Noise**

  Testing and trials will increase the noise by increasing the frequency of the sound or noise of do not disturb being unwanted noise during the testing and test the reliability of the Power Plant PLTG generation systems/MG Duri. Impact is the significant impacts hypothetic, so that the necessary management and environmental monitoring.

- **Availability of Electrical Energy**

  The activities of the plant operation Power Plant PLTG/MG Duri will increase the availability of 200 MW of electrical energy to meet the needs of society as well Bengkalis Riau Province as a whole. With the availability of electrical energy will have a positive impact on the electrical energy needs of society

Impact of the significant impacts hypothetic, so that the necessary management and environmental monitoring.

- **Regional Economy & Locally-Generated Revenue**

  Production of electrical energy Power Plant PLTG/PLTMG provide contribution to the electricity supply, thus supporting local and regional economies. Ensuring the production of electrical energy and current will cause the industry, trade and services is growing rapidly. So as to improve local and regional economies have been much better. The impact of the significant impacts hypothetic, so that the necessary management and environmental monitoring.

Maintenance Engineering

- **Air Quality**

  The maintenance of the generating machine Power Plant PLTG/MG Duri will make an impact in the form of changes in the ambient air quality in the form of decreased levels of pollutants going into the air. The length of time the maintenance of plant machinery is quite short. The impact is not a significant impacts hypothetic and does not need to do management and environmental monitoring.

- **Vibration**

  When plants die machine (in maintenance), then automatically there is no vibration or vibrations produced from plant engine derived from the blades and the turbine generator. The impact is not a significant impacts hypothetic and does not need to do management and environmental monitoring.

- **Noise**

  When plants die machine (in maintenance), then automatically there is no sound or noise is causing the noise coming from the engine generator. The impact is not a significant impacts hypothetic, and does not need to do management and environmental monitoring.

- **Soil Quality**

  Activity maintenance plant will produce waste such as grease, oil, and so forth. Oil and grease will contaminate the surrounding soil. Waste generated at this stage of the activity in relatively small amounts. The impact is not a significant impacts hypothetic, and it required no activity management and environmental monitoring.

- **Surface Water Quality**

  Generating machine maintenance activities to optimize the work of the engine after operating for a certain time, at the turn of the action parts, lubricant replacement, giving GEMU and so forth. These residual materials and cleaning

materials used in the maintenance of the machine, is certainly not all of them carefully can be accommodated in the containers provided. Most will flow to other places along the movement of the water and into the WWTP and ultimately discharged into waters. Impact is the significant impacts hypothetic, so that the necessary management and environmental monitoring.

- **Physical Work Environment Quality**

  Maintenance PLTG/MG Duri performed when the machine is turned off or not operating. When do the maintenance of plant machinery then there is no waste from the combustion exhaust gas generated from the power plant. Plant maintenance activities have a positive impact on the change in the quality of the physical work environment, where the impact is small and insignificant. The impact is not a significant impacts hypothetic and unnecessary management and environmental monitoring.

- **Biological water**

  Generating machine maintenance activities to optimize the work of the engine after operating for a certain time, at the turn of the action parts, lubricant replacement, giving GEMU and so on. These activities will reduce the quality of surface water and eventually disturb aquatic life. The impact is a secondary impact . The impact is not a significant impacts hypothetic, but the necessary management and environmental monitoring.

Waste Management (Including Hazardous and Toxic Materials)

- **Air Quality**

  Changes in the ambient air quality comes from waste management activity as flue gases coming from generating activities Power Plant PLTG/MG Duri. The flue gas produced in the form of dust (particulate matter), gas NO_2,NH_3 and SO_2. Impact is the significant impacts hypothetic, so that the necessary management and environmental monitoring.

- **Surface Water Quality**

  Event handling of liquid and solid wastes originating from the operational activity PLTG/MG Duri will reduce the quality of surface water. Waste generated liquid waste, solid, Hazardous And Toxic Materials waste and domestic waste. Before being discharged into the waters in advance of such waste will be treated in a wastewater pond. Impact is the significant impacts hypothetic, so that the necessary management and environmental monitoring.

- **Biological water**

  Waste management activities including Hazardous and Toxic Materials waste will reduce the impact on surface water quality and will also eventually disrupt

microbial life in water. The impact is not a significant impacts hypothetic, but the necessary management and environmental monitoring.

- **Attitudes and Public Perception**

  Waste management activities including Hazardous and Toxic Materials waste will cause attitudes and perceptions, both positive and negative. If management is done properly will lead to positive attitudes and perceptions of society. Conversely, if the management is not done properly, it will cause the attitudes and perceptions were negative. Impact is the significant impacts hypothetic, so that the necessary management and environmental monitoring.

Corporate Social Responsibility (CSR)

- **Attitudes and Public Perception**

  CSR program will be conducted by the proponent in accordance with the ability of the company and the needs of the surrounding community. The implementation of CSR program is mandated by the Law of the Republic of Indonesia No. 40 Year 2007 regarding Limited Liability Company. The event is a corporate concern on the surrounding environment. CSR proper management will have an impact on the attitudes and positive perception of society, so that social conflicts will be minimized. Impact is the significant impacts hypothetic, so that the necessary management and environmental monitoring.

E. Phase Post-Operation

Activity in the postoperative phase electricity generation Power Plant PLTG/MG Duri form of dismantling plants, termination of employment (FLE) and demobilization of equipment PLTG/MG Duri.

Generating Power Plant PLTG demolition/MG Duri

- **Air Quality**

  Activity de mobilization of equipment and materials potentially cause a decrease in air quality, namely the increase in road dust, especially during the dry season. This impact is the negative impact that could undermine the convenience of the public, especially communities around the demobilization track. Furthermore, this kind of impact is the impact of direct (primary) of the various activities, and is predicted to take place in the short term or temporary (lasts for demobilization activities of tools and materials). The impact is not a significant impacts hypothetic, but the necessary management and environmental monitoring.

- **Noise**

  Deficits improve noise levels around the site demolition activities Power Plant PLTG/PLTMG Duri. impact a negative impact and direct (primary), takes place

in the short term or temporary. The impact is not a significant impacts hypothetic and not necessary management and environmental monitoring.

Termination (PHK)

- **Employment and Opportunities Sought**

  Activity layoffs would eliminate job and business opportunities for the local workforce, thereby decreasing the income and welfare of their families. The impact is not a significant impacts hypothetic, but the necessary management and environmental monitoring.

- **Community revenues**

  Activity termination of employment at the post stage of the operation will have an impact in the form of a decline in income for the local communities, especially the people who work at the construction stage. With the employment training the local workforce is expected to be able to entrepreneurship. The impact is not a significant impacts hypothetic, but the necessary management and environmental monitoring.

- **Attitudes and Perceptions Peoples,**

  Activity termination of employment at the postoperative stage will affect the attitudes and perceptions of the emergence of the community, especially for people who work in the construction phase. Giving money layoff in accordance with the Act is not expected to lead to social conflict and social unrest. The impact is not a significant impacts hypothetic significant impacts hypothetic, but the necessary management and environmental monitoring.

Demobilization of Equipment Power Plant PLTG/MG Duri

- **Air Quality**

  Activity de mobilization of equipment and materials potentially cause a decrease in air quality, namely the increase in road dust, especially during the dry season. This impact is the negative impact that could undermine the convenience of the public, especially communities around the demobilization track. Furthermore, this kind of impact is the impact of direct (primary) of the various activities, and is predicted to take place in the short term or temporary (lasts for demobilization activities of tools and materials). The impact is not a significant impacts hypothetic, but the necessary management and environmental monitoring.

- **Noise**

  Increased noise levels along the path of the equipment demobilization Power Plant PLTG/PLTMG Duri. impact a negative impact and direct (primary), takes place in the short term or temporary. The impact is not a significant impacts hypothetic, but the necessary management and environmental monitoring.

Table 1. 2.
Matriks Evaluasi Significant Impacts Hypothetic aktifity Enhancement Kapasity PLTG/PLTMG Duri in Balai Pungut Village, Pinggir Distric, Bengkalis Regency, Provinsi Riau

No.	KOMPONEN LINGKUNGAN PENERIMA DAMPAK		KOMPONEN KEGIATAN (SUMBER DAMPAK)																			
			TAHAP PRA KONSTRUKSI		KONSTRUKSI						PASCA KONTRUKSI		OPERASI						PASCA OPERASI		
			Konsultasi Publik	Penerimaan Tenaga Kerja	Mobilisasi Peralatan & Material	Pematangan Lahan	Pembangunan Pondasi	Pemasangan Generator, Turbin dan Kompresor	Konstruksi Switch Yard	Pengujian dan Uji Coba	Demobilisasi Peralatan	Pemutusan Tenaga Kerja	Penerimaan Tenaga Kerja	Produksi Energi Listrik	Pemeliharaan Mesin	Pengelolaan Limbah (Termasuk	Penghijauan	Tanggung Jawab Sosial Perusahaan (CSR)	Pembongkaran Pembangkit PLTG/MG	Pemutusan Hubungan Kerja (PHK)	Demobilisasi Peralatan PLTG/MG Duri
A.	**GEOFISIK-KIMIA**																				
1.	Kualitas Udara				B	B				A	B			A	C	A	A		B		B
2.	Getaran									A				A	C						
3.	Kebisingan				B	B				A	B			A	C		A		B		B
4.	Kualitas Tanah							C							C						
5.	Aliran Air Permukaan					A	A														
6.	Kualitas Air Permukaan					A	A	B	B						A	A					
7.	Transportasi Darat/Lalu Lintas Darat				B						B										B
8.	Ketersediaan Energi Listrik													A							
9.	Kualitas Lingkungan Kerja Fisik									A				A	B						
B.	**BIOLOGI**																				
1.	Vegetasi Darat					B											A				
2.	Fauna Darat					B															
3	Biota Air (plankton, bentos, nekton)					B	B	B	B						B	B					
C.	**SOSEKBUD-KESMAS**																				
1.	Kesempatan Kerja & Peluang Berusaha			A								B	A							B	
2	Pendapatan Masyarakat			A								B	A							B	
3	Ekonomi Regional & PAD													A							
4	Sikap dan Persepsi Masyarakat		A	A	A	B				A		B	A			A		A		B	
5	Kesehatan Masyarakat				B	B															
6	Kecelakaan Kerja						B	B	B	B											

Cat : A = Significant Impacts hypothetical (SIH)
B = No Significant Impacts hypothetical, Need Managed and Monitored
C = No Significant Impacts hypothetical, No Need Managed and Monitored

- **Ground Transportation/Traffic Army**

Increasing the flow of road traffic along the path of the equipment demobilization Power Plant PLTG/PLTMG Duri. impact a negative impact and direct (primary), takes place in the short term or temporary. The impact is not a significant impacts hypothetic, but the necessary management and environmental monitoring.

Important significant impacts hypothetic komponen affected environment capacity building activities power generation Power Plant PLTG/MG Duri based on the results of the scoping process is as follows :

A. Component-Chemical Environmental Geophysics

1. The decline in Air Quality
2. Improved Vibration
3. Increased intensity noise
4. Changes in Surface Water Flow
5. Decrease in Surface Water Quality
6. Availability of Electrical Energy
7. Physical Work Environment Quality

B. Biological components

1. Vegetation Army

C. Komponen social culture and public health affected

1. Employment & Opportunities Sought
2. Revenue Improvement Society
3. Improvement of Regional Economic and locally-generated revenue
4. Attitudes and Public Perception

From the results of that environment will be used as guidelines in the preparation of the document Environmental Impact Analysis (EIA), Environmental Management Plan and Environmental Monitoring Plan. Flowchart of the results of the scoping activities to increase power generating capacity of the Power Plant PLTG/MG spines can be seen in the picture below.

1.1.1.2. Classification and Priority Important Impact of hypothetical

1.6.1.3.1. Classification hypothetical Important Impacts

Referring to Candy LH 16 Year 2012 , the last stage in the scoping and impact is a priority classification. The goal is to "classify/organize significant impacts that have been formulated from the previous stage". The essence of this step is to show how the impacts will be studied in a format that is easy to digest. The benefits of classification and priority hypothetical significant impacts are:

- ✓ To sharpen the EIA study directions so that the selection strategy and methodology of the study could be sharper; and
- ✓ To facilitate Assessor/decision-makers see the themes or potential impacts that require special attention.

PT. PLN (Persero)
Unit Induk Pembangunan I
Jl. Kasuari No. 8 Sunggal Medan

DESCRIPTION OF ACTIVITY PLAN

PRE-CONSTRUCTION
1. Licensing Arrangements
2. Public Consultation
3. Acceptance of Labor

CONSTRUCTION PHASE
1. Mobilization of Equipment and Materials
2. Maturation Land
3. Development Foundation
4. Installation of Generator, Turbine and Compressor
5. Construction Switch Yard
6. Testing and Trials

POST-CONSTRUCTION PHASE
1. Demobilization of Equipment
2. Termination

PHASE OF OPERATIONS
1. Acceptance of Labor
2. Production of Electrical Energy
3. Maintenance Engineering Plant
4. Waste Management (Including Hazardous and Toxic Materials)
5. Greening
6. Cape Social Responsibility (CSR)

STAGE AFTER OPERATION
1. Demolition Plant power plant/MG Duri
2. Termination (PHK)

RONA ENVIRONMENT

Geophysical-CHEMICAL COMPONENTS
1. Air Quality
2. Vibration
3. Noise
4. Soil Quality
5. Surface Water Flow
6. Surface Water Quality
7. Ground Transportation/Traffic Army
8. Availability of Energy
9. Environmental Quality Physical Work

BIOLOGICAL COMPONENTS
1. Terrestrial Vegetation
2. Fauna Army
3. Biota Water (Plankton, Benthos and Nekton)

CULTURAL AND SOCIAL COMPONENT OF PUBLIC HEALTH

Identification

POTENTIAL IMPACT: GEOPHYSICAL-CHEMICAL COMPONENTS
1. Air Quality
2. Vibration
3. Noise
4. Soil Quality
5. Surface Water Flow
6. Surface Water Quality
7. Ground Transportation/Traffic Army
8. Availability of Energy
9. Environmental Quality Physical Work

BIOLOGICAL COMPONENTS
1. Terrestrial Vegetation
2. Fauna Army
3. Biota Water (Plankton, Benthos and Nekton)

CULTURAL AND SOCIAL COMPONENT OF PUBLIC HEALTH
1. Employment and Opportunities Sought
2. Income Communities
3. Regional Economic and PAD
4. Attitudes and Public Perception
5. Public HealthKecelakaan Kerja

Evaluation

IMPACT O
HYPOTH
GEOPHYS
COMPON
1. Air Quali
2. Vibration
3. Noise
4. Surface
5. Surface
6. Availabili
7. Environm
Work

BIOLOGI
1. Vegetati

CULTURA
COMPONE
HEALTH
1. Employm Sought
2. Income
3. Regiona
4. Attitudes

Picture 1. 2 Matric Results of Scoping

Classification is an attempt to classify impacts by relevance one with the other. The relationship between the source of the impact, the impact of primary, secondary, and tertiary (and beyond) will be visible and packaged in a 'theme' that describe the most significant issue and its related impacts. This grouping simplify implementing EIA study to understand the overall impact of the map. 'Scene' or this classification may influence the selection of methodology predicted impacts.

To perform the classification used tools matrix or flow chart can help give structure to the impacts to be assessed. Once compiled, the matrix or flow chart could bring major themes that bind to and relate to the impact of another. The themes relevant used for the classification of impact are:

A. Society For Economic Growth

a. Employment and Opportunities Sought
b. Increased revenue community
c. Improvement of Regional Economic and Locally-Generated Revenue
d. Availability of Electrical Energy

B. Decrease Marine Productivity and Biodiversity

a. Changes in Surface Water Flow
b. Decrease Water Quality Surface
c. Repair Vegetation Army

C. Changes in Environmental Quality

a. The decline in Air Quality
b. Improved Vibration
c. Increased Intensity Noise
d. Physical Work Environment Quality Changes
e. The emergence of Attitudes and Public Perception

1.6.1.3.2. Important Impact of hypothetical priority

Priority significant impacts hypothetical done using methods that predict the magnitude of the chances of impact (probability) and predict the magnitude of a result or consequence that may occur. Opportunities incident created a gradation value which represents gradation chance events 'almost certain' to 'rarely'. The amount due was made gradation gradation value representing the magnitude of the consequences, dariyang 'catastrophic' up to 'incidental'). The example below uses gradation consisting of five grades.

Table 1. 3.
Mechanical Impact Priority Based on Probability & Consequence

AMOUNT OF OPPORTUNITIES EVENTS (PROBABILITY)		AMOUNT DUE (CONSEQUENCES)				
		Insidental (1)	Small (2)	Secondary (3)	Big (4)	Disaster (5)
	Almost Definitely (5)	5	10	15	20	25
	Most likely (4)	4	8	12	16	20
	moderate (3)	3	6	9	12	15
	Small possibility (2)	2	4	6	8	10
	Rarely (1)	1	2	3	4	5

The table above shows the mapping of the results of the impact assessment. Figures in the cells is the result of multiplying the value of magnitude Opportunities Genesis with a value of magnitude result . Its highest level (25) indicate the impact that Opportunity It happened most and magnitude of a result of the most severe. Score the lowest (1) indicates the impact that Opportunity It happened most small and a result most minimal. The area between these two opposite corner is the area that can be divided into several categories of priority. In the example above, the area is divided into three regions distinguished by color:

- Red, as High Priority ;
- Yellow, as Priority Medium ; and
- Green, as a Low Priority .

List of the impact to be assessed, respectively the impact in advance by the 'value' to represent the amount of Opportunity Genesis and for the magnitude of a result . Both of these values are multiplied, in order to obtain the 'total value' for these impacts.

Table 1. 8. Priority Decrease Impact of Air Quality (KU)

		ASSESSMENT				
		1	2	3	4	5
PROBABILITY	The amount of Occurrence Impact Opportunities					
CONSTANT	Due to the magnitude of impact					
TOTAL VALUE	**= 20**					

Table 1. 9. Priority Impact of Improved Vibration (PG)

		ASSESSMENT				
		1	2	3	4	5
PROBABILITY	The amount of Occurrence Impact Opportunities					
CONSTANT	Due to the magnitude of impact					
TOTAL VALUE	= 16					

Table 1. 10. Priority Impact of Increased Intensity Noise (IB))

		ASSESSMENT				
		1	2	3	4	5
PROBABILITY	The amount of Occurrence Impact Opportunities					
CONSTANT	Due to the magnitude of impact					
TOTAL VALUE	= 16					

Table 1. 11. Priority Change Impacts on Surface Water Flow (AAP)

		ASSESSMENT				
		1	2	3	4	5
PROBABILITY	The amount of Occurrence Impact Opportunities					
CONSTANT	Due to the magnitude of impact					
TOTAL VALUE	= 12					

Table 1. 12. Priority Decrease Impact of Surface Water Quality (KAP)

		ASSESSMENT				
		1	2	3	4	5
PROBABILITY	The amount of Occurrence Impact Opportunities					
CONSTANT	Due to the magnitude of impact					
TOTAL VALUE	= 12					

Table 1. 13. Priority Impact of Increased Availability of Electric Energy (KEL)

		ASSESSMENT				
		1	2	3	4	5
PROBABILITY	The amount of Occurrence Impact Opportunities					
CONSTANT	Due to the magnitude of impact					
TOTAL VALUE	= 25					

Table 1. 14. Priority Environmental Change Impacts Physical Work (LKF)

		ASSESSMENT				
		1	2	3	4	5
PROBABILITY	The amount of Occurrence Impact Opportunities		■			
CONSTANT	Due to the magnitude of impact			■		
TOTAL VALUE	= 6					

Table 1. 15. Priority Impacts of Vegetation Land Improvement (VD)

		ASSESSMENT				
		1	2	3	4	5
PROBABILITY	The amount of Occurrence Impact Opportunities			■		
CONSTANT	Due to the magnitude of impact			■		
TOTAL VALUE	= 9					

Table 1. 16. Priority Impacts and Opportunities Employment Sought (KKPB)

		ASSESSMENT				
		1	2	3	4	5
PROBABILITY	The amount of Occurrence Impact Opportunities				■	
CONSTANT	Due to the magnitude of impact				■	
TOTAL VALUE	= 16					

Table 1. 17. Priority Impact Revenue Improvement Society (PPM)

		ASSESSMENT				
		1	2	3	4	5
PROBABILITY	The amount of Occurrence Impact Opportunities				■	
CONSTANT	Due to the magnitude of impact				■	
TOTAL VALUE	= 16					

Table 1. 18. Priority Impact of Regional Economic Development and LOCALLY-GENERATED REVENUE (ER)

		ASSESSMENT				
		1	2	3	4	5
PROBABILITY	The amount of Occurrence Impact Opportunities					■
CONSTANT	Due to the magnitude of impact					■
TOTAL VALUE	= 25					

Table 1. 4. Priority Impact Incidence of Public Attitudes and Perception (SPM)

		ASSESSMENT				
		1	2	3	4	5
PROBABILITY	The amount of Occurrence Impact Opportunities					
CONSTANT	Due to the magnitude of impact					
TOTAL VALUE	= 16					

Table 1. 20 . Results Event Priority Significant Impacts hypothetical Capacity Power Plant PLTG/MG Duri Balai Pungut Village, District Pingir, Bengkalis Regency, Riau Province

AMOUNT OF OPPORTUNITIES EVENTS (PROBABILITY)		(KONSEKUENSI				
		Insidental (1)	Small (2)	Secondary (3)	Big (4)	Disaster (5)
	Almost Definitely (5)	5	10	15	KU	KEL, ER
	Most likely (4)	4	8	12	PG, IB, KKPB, PPM, SPM	20
	Sedang (3)	3	6	VD	AAP, KAP	15
	Small possibility (2)	2	4	LKF	8	10
	Rarely (1)	1	2	3	4	5

1.1.2. Results of Scoping Process

1.1.2.1. Results of Scoping Important Impact of hypothetical

Significant impacts hypothetical environmental components affected by the increase of electricity generation capacity Power Plant PLTG/MG Duri Balai Pungut Village, Pingir District, Bengkalis Regency, Riau Province include:

A. Society for Economic Growth

1. Employment and Opportunities Sought
2. Revenue Improvement Society
3. Improvement of Regional Economic and Locally-Generated Revenue
4. Availability of Electrical Energy

B. Decrease Marine Productivity and Biodiversity

1. Changes in Surface Water Flow
2. Decrease Water Quality Surface

3. Repair Vegetation Army

C. Changes in Environmental Quality

1. The decline in Air Quality
2. Improved Vibration
3. Increased Intensity Noise
4. Physical Work Environment Quality Changes
5. The emergence of Attitudes and Public Perception

1.1.2.2. Results of Classification and priorities Important Impact of hypothetical

The results of the classification and prioritization of significant impacts of hypothetical scoping results by using themes binder as follows:

A. Society for Economic Growth

1. Availability of Electric Energy (25)
2. Improvement of Regional Economic and Locally-Generated Revenue (25)
3. Trying Employment and Opportunity (16)
4. Revenue Improvement Society (16)

B. Decrease Marine Productivity and Biodiversity

1. Changes in Surface Water Flow (12)
2. Decrease Water Quality Surface (12)
3. Repair Vegetation Land (9)

C. Changes in Environmental Quality

1. Decrease Air Quality (20)
2. Improved Vibration (16)
3. Increased Intensity Noise (16)
4. Incidence of Public Attitudes and Perceptions (16)
5. Changes in Environmental Quality Physical Work (6)

1.7. Boundaries and Limits Study Time Study

Limit of the study area is the outer limit of the results of overlaying from the boundary of the project area, ecological, social and administrative after considering technical constraints encountered. Limits the scope of the study area determination is adapted to implementing capabilities that typically have limited sources of data, such as time, money, personnel, technical, and research paper method.

Limit of the study area is formed of four elements that are related to the environmental impact plan increase plant capacity PLTG/MG Duri, the project boundaries, ecological boundaries, social boundaries and administrative boundaries.

1.7.1. Boundaries Project

Project boundary, ie the space in which all components of the plant capacity additions planned activities PLTG/MG Duri will be conducted, including the components of the pre-construction activities, construction, operation and post-operation. From the space business and/or activity is sourced impact on the environment around it. Limit the project in the form of land Power Plant PLTG/MG spines of 20.6 hectares.

1.7.2. Limit Ecological

Ecological boundary, namely the occurrence of spread of the environmental impacts of the planned increase in plant capacity PLTG/MG Duri to be reviewed, following media each environment (such as water and air), where natural processes that take place in these spaces is expected to undergo fundamental changes. Ecological boundary will direct determination of the location of the initial environmental setting data collection and analysis of the distribution of impact. Determination of ecological limits by considering each component of biophysical-chemical environment affected (list of critical impacts hypothetical). For each impact, spreading boundaries can be plotted on the map so that the ecological boundary has some boundaries, in accordance with the number of significant impacts hypothetical. Ecological boundary in the form of air space which will be affected by the smoke chimney Power Plant PLTG/MG Duri leading to the Northeast and distribution of liquid waste in the waters of the river and the river Pelintai Kulim and River Mandau

1.7.3. Limits of Social

Social boundaries, namely the space around plans to increase plant capacity PLTG/MG Duri which is the venue for various social interactions that contain norms and values of a certain well-established (including systems and social structures), in accordance with the process and the social dynamics of a community, which is expected to undergone fundamental changes as a result of the action plan. This limit is basically a space where the public, environmental impacts such as waste, emissions or environmental damage, living or doing activities. Social boundaries will affect the identification of groups of people affected by socio-economic and public health, social barriers in the form of community Balai Pungut Village, Pingir District, Bengkalis Regency, Riau Province

1.7.4. Limit Administration

Administrative boundaries in question is a space where people can freely carry out activities keadministrasian connection with an increase in plant capacity PLTG/MG Duri. Administrative boundaries are determined by considerations scale social and economic communities expected to be affected by activities, administrative boundaries, ie the region Balai Pungut Village, Pingir District, Bengkalis Regency, Riau Province, whose territory covered by the project boundaries, boundaries of ecological and social limits.

1.7.5. Deadlines Study

The deadline of this study will be used in forecasting and evaluation of the impact in the EIA study and then used as a basis for determining the hue changes the environment in the absence of a business plan and/or activities or to their business and/or activities . Learn deadline studies can be seen in the table below.

Table 1. 21 .
Deadlines Activity Assessment EIA Study Capacity Power Plant PLTG/MG Duri Balai Pungut Village, District Pingir, Bengkalis Regency, Riau Province.

No.	Source Of Impact	Component Environment	Significant Impacts Hypothetic	Time Study
Pre-Construction Phase				
1.	Public Consultation	Attitudes and Public Perception	The emergence of Attitudes and Public Perception	During the public consultation activities
2.	Acceptance of Labor	Employment and Opportunities Sought	Their employment and business opportunity	During the hiring
		Revenue Improvement Society	An increase in people's income	During the hiring
		Attitudes and Public Perception	The emergence of Attitudes and Public Perception	During the hiring
Construction phase				
1.	Mobilization of Equipment and Materials	Attitudes and Public Perception	Damage to water bodies and roads	During the mobilization of equipment and material
2.	Maturation Land	Surface Water Flow	The occurrence of flowing water (Run Off)	During maturation Land
		Surface Water Quality	Decrease River Water Quality	During maturation Land
3.	development foundation	Surface Water Flow	The occurrence of flowing water (Run Off)	SDuring the construction of the foundation
		Surface Water Quality	Decrease River Water Quality	SDuring the construction of the foundation
4.	Testing and Trials	Air Quality	ReductionAir Quality	During the testing and trials
		Vibration	Enhancement Vibration	During the testing and trials
		Noise	Enhancement Intensitas Noise	During the testing and trials
		Physical Work Environment	Changes in Physical Work Environment	During the testing and trials
		Attitudes and Public Perception	The emergence of Attitudes and Public Perception	During the testing and trials
Operation phase				
1.	Acceptance of Labor	Employment and Opportunities Sought	Their employment and business opportunity	During the hiring
		Enhancement	Enhancement the public	During the hiring

No.	Source Of Impact	Component Environment	Significant Impacts Hypothetic	Time Study
		Community revenues	revenue	
		Attitudes and Public Perception	The emergence of Attitudes and Public Perception	During the hiring
2.	Electrical Energy Production	Air Quality	ReductionAir Quality	During the operating phase
		Vibration	Enhancement Vibration	During the operating phase
		Noise	Enhancement intensitas Noise	During the operating phase
		Availability of Electrical Energy	Enhancement availability energi listrik	During the operating phase
		Physical Work Environment	Change the physical work environment	During the operating phase
		Regional economic and Locally-Generated Revenue	Enhancement ekonomi regional dan Locally-Generated Revenue	During the operating phase
3.	Regional economic and Locally-Generated Revenue	Surface Water Quality	ReductionSurface Water Quality	During the operating phase
4.	Waste Management (Including Hazardous and Toxic Materials)	Air Quality		During the operating phase
		Surface Water Quality	ReductionSurface Water Quality	During the operating phase
		Attitudes and Public Perception	The emergence of Attitudes and Public Perception	During the operating phase
5.	Greening	Air Quality	Air Quality Improvements	During the operating phase
		Noise	Noise absorbers	During the operating phase
		Vegetasi Darat	Terrestrial vegetation recovery	During the operating phase
6.	Corporate Social Responsibility (CSR)	Attitudes and Public Perception	The emergence of Attitudes and Public Perception	During the operating phase

Table 1. 22.
Summary EIA Study Scoping Process Capacity Enhancement Power Plant PLTG/PLTMG Duri In the Balai Village, District Pingir, Bengkalis District, Riau Province

No.	Description of Planned Activities Potentially Potential Environmental Impacts	Environment Management Planned Early As Part Of Planned Activities	Environmental Components Affected	Scoping			Study Areas	Deadlines Study
				Potential impact	Evaluation of Potential impact	Significant Impacts Hypothetic		
A. Tahap Pra Konstruksi								
1.	Public Consultation	Promoting the public demands can be addressed prior to construction activities	Attitudes and Public Perception	The emergence of Attitudes and Public Perception	Impacts related to public consultation activity plan would cause no concern of society. This is expected because previous activities will provide both positive and negative information.	Be significant impacts hypothetic,	Balai Pungut Village, distric Pinggir	During the pre-construction phase
2.	Acceptance of Construction Workers	Law of the Republic of Indonesia Number 13 Year 2003 on Manpower.	Employment & Opportunities Sought	Their employment opportunities and strive	Labor recruitment process for these action plans have the potential to create opportunities andemployment. The potential positive impact will be spread throughout the region surrounding this aktifity hal plan given that	Be Significant Impacts Hypothetic,	Balai Pungut Village, distric Pinggir	During the pre-construction phase
			Revenue enhancement	Increased revenue and or local host communities.	The environmental components play an important role in the daily life of the local community (social and economic value). based on the Law of the Republic of Indonesia Number 13 Year 2003	Be Significant Impacts Hypothetic,	Balai Pungut Village, distric Pinggir	During the pre-construction phase
			Attitudes and Public Perception	The emergence of Attitudes and Public Perception	Impacts associated with the recruitment plan of action would cause no concern of society will not be involved because the activities did not exist before the local workforce involved.	Be Significant Impacts Hypothetic,	Balai Pungut Village, distric Pinggir	During the pre-construction phase

No.	Description of Planned Activities Potentially Potential Environmental Impacts	Environment Management Planned Early As Part Of Planned Activities	Environmental Components Affected	Scoping			Study Areas	Deadlines Study
				Potential impact	Evaluation of Potential impact	Significant Impacts Hypothetic		
B. Construction phase								
1.	Mobilization of Heavy Equipment and Material And Machines Plant	Indonesian Government Regulation No. 8 of 2011 On Multimodal Transport Government Regulation Indonesia Nomor 55 Tahun 2012 Tentang Kendaraan	Air Quality	ReductionAir Quality (Enhancement of dust)	The mobilization of equipment and materials that could potentially cause reductionAir Quality Enhancement dust of the road, especially during the dry season. This impact is the negative impact that could undermine the convenience of the public, especially communities surrounding the mobilization pathways. Furthermore, this kind of impact is the impact of direct (primary) of the various activities, and is predicted to take place in short term or temporary (lasts for the mobilization of equipment and materials) The potential negative impacts can be dispersed around the track mobilization of materials and equipment or locally, particularly near settlements. Seeing these conditions are expected to concern the high society of the environmental component.	Not being Significant Impacts Hypothetic, but the impact is still managed and monitored	Hiking mobilize equipment dan material	During the construction phase
			Noise	Enhancement Noise	Mobilization of equipment and materials is expected to generate operational Enhancement Noise from heavy equipment and vehicle weight capacity that can trigger Noise levels are predicted accumulative raised ~ 93 dB (A). however, the level of this noise will be reduced according to the distance from the source. Noise	Not being Significant Impacts Hypothetic, but the impact is still managed and monitored.	Paths mobilization of equipment and material	During the construction phase

No.	Description of Planned Activities Potentially Potential Environmental Impacts	Environment Management Planned Early As Part Of Planned Activities	Environmental Components Affected	Scoping			Study Areas	Deadlines Study
				Potential impact	Evaluation of Potential impact	Significant Impacts Hypothetic		
					level 55 dB (A) will be detected at a distance of 80 m from the source of noise, while the distance settlements closest to the project site and ± 500 m.			
			traffic generation, road damage and traffic accidents	Enhancement rise of traffic, road damage and traffic accidents	Impacts associated with seizures Enhancement traffic will indirectly cause physical damage due to road and vehicle lalangnya dump truck transporting tools and materials, occurred at a time when their generation Enhancement traffic and capacity of vehicles that are not in accordance with road conditions. Physical damage this road will be exacerbated during the rainy season. This impact is the negative impact that may disturb the comfort of the local community.	The impact in the form of Significant Impacts Hypothetic.	Paths mobilization of equipment and material	During the construction phase
			Attitudes and Public Perception	The emergence of negative public perception.	The impact of the derivative due to reduction quality environment resulting from the mobilization of equipment and materials for the construction of the Power Plant PLTG/MG Duri will be felt by the people around due to the rise of traffic	Be Significant Impacts Hypothetic	Hiking mobilization of equipment and material	During the construction phase
			Public health	Public health problems	This impact is the impact of derivative Enhancement dust concentrations rise as a result of traffic, especially around settlements.	Not being Significant Impacts Hypothetic, need to be managed and monitored.	Hiking mobilization of equipment and material	During the construction phase

No.	Description of Planned Activities Potentially Potential Environmental Impacts	Environment Management Planned Early As Part Of Planned Activities	Environmental Components Affected	Scoping			Study Areas	Deadlines Study
				Potential impact	Evaluation of Potential impact	Significant Impacts Hypothetic		
2.	Maturation Land		Air Quality	ReductionAir Quality	ReductionAir Quality at the time of preparation (land clearing) derived from the operation of equipment such as chain saw, loader, backhoe, excavator and dump truck. This impact is negative and direct impact (primary) and does not disturb the comfort of the public when viewed from the magnitude and distribution of impact. Land clearing gradually, so the impact is predicted to take place in the short term or temporary. In connection with the above, it can be stated that the impact on reduction Air Quality not an important impact hipotetik from land clearing activities, and needs to be managed and monitored. This activity is potentially reductionAir Quality Enhancement dust of the road, especially during the dry season. This impact is the negative impact that could undermine the convenience of the public, especially people around. Seeing these conditions are expected to concern the high society of the environmental component.	Not being Significant Impacts Hypothetic, but the impact is still managed and monitored.	Tread project	During the construction phase
			Noise	Noise intensity enhancement in areas surrounding the project Tread.	Temporary during the construction phase of the operation where heavy equipment and vehicle weight capacity that can trigger Noise levels are predicted accumulative raised ~ 93 dB (A). however, the level of this	Not Be SIH, but the impact is still managed and monitored.	Tread project	During the construction phase

No.	Description of Planned Activities Potentially Potential Environmental Impacts	Environment Management Planned Early As Part Of Planned Activities	Environmental Components Affected	Scoping			Study Areas	Deadlines Study
				Potential impact	Evaluation of Potential impact	Significant Impacts Hypothetic		
					noise will be reduced according to the distance from the source. Noise level 55 dB (A) will be detected at a distance of 80 m from the source of noise, while the distance of a nearby residential project Tread ±100 meters.			
			Surface Water Flow	Soil erosion and sedimentation Enhancement	Land clearing activities has the potential to increase soil erosion as a result of runoff water volume Enhancement. The volume of runoff water that is formed is directly proportional to the area of land cleared. Land clearing activities has the potential to increase soil erosion as a result of runoff water volume Enhancement. The volume of water runoff formed is directly proportional to the area of land cleared. Judging from the condition of this land is a plain land so that the impacts of soil erosion can not be categorized as large and the condition is expected to very minimal sedimentation in the river around.	Be SIH,	The rivers around the Power Plant PLTG / MG Duri	During the construction phase
			Surface Water Quality	Enhancement of surface water turbidity	Enhancement impacts associated with the river water turbidity caused by the Enhancement of soil erosion due to land clearing, so the level of turbidity that occur in water bodies is proportional to the amount of soil erosion.	Be SIH.	The rivers around the Power Plant PLTG / MG Duri	During the construction phase

No.	Description of Planned Activities Potentially Potential Environmental Impacts	Environment Management Planned Early As Part Of Planned Activities	Environmental Components Affected	Scoping			Study Areas	Deadlines Study
				Potential impact	Evaluation of Potential impact	Significant Impacts Hypothetic		
			vegetation Army		Preparation will remove vegetation cover on it, so the existence of terrestrial vegetation will be lost. Existing vegetation diThe location of the Power Plant PLTG/MG Duri form of shrubs and no plants are protected.	Not SIH, but needs to be managed and monitored	The location of the Power Plant PLTG / MG Duri	During the construction phase
			Fauna Army		Preparation will remove vegetation cover on it, so the existence of terrestrial vegetation will be lost. Existing vegetation in The location of the Power Plant PLTG/MG Duri form of shrubs and no plants are protected. Thus also will disrupt the lives of the surrounding land fauna.	Not SIH, but needs to be managed and monitored	The location of the Power Plant PLTG / MG Duri	During the construction phase
			Biota Air	Impaired microbial life in water	Enhancement impact of river water turbidity caused by the Enhancement of soil erosion due to land clearing, so the level of turbidity that occur in water bodies is proportional to the amount of soil erosion. This event will give the disruption of aquatic biota.	Not SIH, but needs to be managed and monitored	The rivers around The location of the Power Plant PLTG / MG Duri	During the construction phase
			Attitudes and Public Perception	The emergence of public perception.	The impact of derivatives due to changes in components other opportunities that change the quality of the river, Enhancement sedimentation, soil erosion. But seen from the spreading impact of the distribution is still considered outside influence and temporary	Not Be SIH, but the impact is still managed and monitored.	The rivers around the Power Plant PLTG / MG Duri	During the construction phase
			Public health	ReductionPublic health	The impact of public health problems caused by dust resulting concentration Enhancement	Not DPT, but the impact is still managed	Nearby Residents	During the construction phase

No.	Description of Planned Activities Potentially Potential Environmental Impacts	Environment Management Planned Early As Part Of Planned Activities	Environmental Components Affected	Scoping			Study Areas	Deadlines Study
				Potential impact	Evaluation of Potential impact	Significant Impacts Hypothetic		
					reduction Air Quality. Judging from spreading this condition is not expected to interfere with public health and temporary.	and monitored.		
3.	The foundation of the Power Plant PLTG development Plant / MG Duri		Surface Water Flow	Changes in Surface Water Flow	The flow rate will be determined the ability of the soil surface (infiltration) into the body of the ground in the rain, in addition to rainfall intensity and volume. Changes in surface flow is due in part to utilities to compacted soil surface and partly for building foundations Power Plant PLTG/MG Duri. Reduction of the area or ground to rainfall infiltration and surface characteristic changes influence coefficient of Surface Water Flow.	SIH	The location of the Power Plant PLTG / MG Duri	During the construction phase
			Surface Water Quality	ReductionSurface Water Quality	ReductionSurface Water Quality caused by the construction of the foundation PTLG/MG Duri using building materials and solids as well as other liquid material which when residual or cecerannya during foundation work will pollute the marine environment.	SIH	The rivers around the Power Plant PLTG / MG Duri	During the construction phase
			Biological water	Disturbance aquatic biota	The development activities PLTG/MG Duri an impact on water biota, because at this stage will do the job leveling, digging a hole for the foundation, excavation of cable channels, waterways and pipelines, casting the foundation, floor molding foundations and casting for area utilities , These activities will result in the waste of the materials used and	Not Be SIH, but the impact is still managed and monitored.	The rivers around the Power Plant PLTG / MG Duri	During the construction phase

No.	Description of Planned Activities Potentially Potential Environmental Impacts	Environment Management Planned Early As Part Of Planned Activities	Environmental Components Affected	Scoping			Study Areas	Deadlines Study
				Potential impact	Evaluation of Potential impact	Significant Impacts Hypothetic		
					the rest of the excavation, in the event of a runoff, the waste materials will be washed into the body of water and surface water thus polluting the water bodies			
		SOP Company	Work accident	Accidents	Power Plant PLTG foundation construction activities/MG Duri form of ground leveling work, digging a hole for the foundation, excavation of cable channels, waterways and pipelines, foundation casting, casting and casting for the foundation floor utility area. This activity will potentially against accidents during the construction phase of this.	Not SIH, but needs to be managed and on the beach	The location of the Power Plant PLTG / MG Duri	During the construction phase
4.	Installation Generators, Turbines and Compressors		Soil Quality	Reduction of soil fertility	Activities to install the generator, turbine and compressor would produce waste such as grease, oil, rubber scraps / wire and other things that will affect the surrounding soil fertility. Waste generated at this stage of the activity in relatively small amounts.	Not SIH and does not need to be managed and monitored	The location of the Power Plant PLTG / MG Duri	During the construction phase
			Surface Water Quality	ReductionSurface Water Quality	Activities to install the generator, turbine and compressor would produce waste such as grease, oil, rubber scraps/wire and so forth. By the time the rain will carry over into the water body so that it will contaminate. Waste generated at this stage of the activity in relatively small amounts.	Not SIH, but needs to be managed and monitored	The rivers around The location of the Power Plant PLTG / MG Duri	During the construction phase

No.	Description of Planned Activities Potentially Potential Environmental Impacts	Environment Management Planned Early As Part Of Planned Activities	Environmental Components Affected	Scoping			Study Areas	Deadlines Study
				Potential impact	Evaluation of Potential impact	Significant Impacts Hypothetic		
			Biological water Work accident	Impaired microbial life in water	Activities to install the generator, turbine and compressor would produce waste such as grease, oil, rubber scraps / wire and so forth. By the time the rain will carry over into the water body so that it will contaminate and disrupt aquatic life. Waste generated at this stage of the activity in relatively small amounts.	Not SIH, but needs to be managed and monitored	The rivers around The location of the Power Plant PLTG / MG Duri	During the construction phase
		SOP Company	Biological water Work accident	Accidents	Activities to install the generator, turbine and compressor requires special skills, so it will potentially cause a work accident, if it does not comply with standard operating procedures that have been set.	Not SIH, but needs to be managed and on the beach	The location of the Power Plant PLTG / MG Duri	During the construction phase
5.	Construction Switchyard		Surface Water Quality	ReductionSurface Water Quality	Construction activities will result in a switch yard waste such as cement, sand, residual cable/wire, the rest of gerindaan steel, iron and others. By the time the rain will carry over into the water body so that it will contaminate. Waste generated at this stage of the activity in relatively small amounts.	Not SIH, but needs to be managed and monitored	The rivers around The location of the Power Plant PLTG / MG Duri	During the construction phase
			Biological water	Impaired microbial life in water	Construction activities will result in a switch yard waste such as cement, sand, residual cable/wire, the rest of steel, iron and others. By the time the rain will carry over into the water	Not SIH, but needs to be managed and monitored	The rivers around The location of the Power Plant PLTG / MG Duri	During the construction phase

No.	Description of Planned Activities Potentially Potential Environmental Impacts	Environment Management Planned Early As Part Of Planned Activities	Environmental Components Affected	Scoping			Study Areas	Deadlines Study
				Potential impact	Evaluation of Potential impact	Significant Impacts Hypothetic		
					body so that it will contaminate and disrupt aquatic life. Waste generated at this stage of the activity in relatively small amounts.			
		SOP Company	Work accident	Accidents	Construction yard switching activities require special skills, so it will potentially cause a work accident, if it does not comply with standard operating procedures that have been set.	Not SIH, but needs to be managed and on the beach	The location of the Power Plant PLTG / MG Duri	During the construction phase
6.	Testing and Trials		Air Quality	ReductionAir Quality	Activity Testing and Trials will produce exhaust gas in the form of NO_2, NH_3, SO_2 and particulate matter (dust) that will pollute the surrounding environment.	SIH	The location of the Power Plant PLTG / MG Duri	During the phase Testing and Trials
			Vibration	Enhancement Vibration	Activity Testing and Trials reliability of the machine PLTG/MG Duri will cause mechanical vibration caused by the spindle axis and blades and turbine generator. Changes Enhancement Vibration caused by the speed or frequency Vibration.	SIH	The location of the Power Plant PLTG / MG Duri	During the phase Testing and Trials
			Intensitas Noise	Enhancement intensitas Noise	Activity Testing and Trials will increase the frequency Enhancement Noise in the form of sound or voice does not interfere into the unwanted noise during activities Testing and Trials of system reliability PLTG/MG Duri.	SIH	The location of the Power Plant PLTG / MG Duri	During the phase Testing and Trials

No.	Description of Planned Activities Potentially Potential Environmental Impacts	Environment Management Planned Early As Part Of Planned Activities	Environmental Components Affected	Scoping			Study Areas	Deadlines Study
				Potential impact	Evaluation of Potential impact	Significant Impacts Hypothetic		
			Physical Work Environment Quality	Changes in the quality of the physical work environment	Testing and test the reliability of the generation systems Power Plant PLTG/MG Duri will change some parameters such as the quality of the physical work environment Enhancement Noise, Vibration reductionAir Quality and emergence (Enhancement Vibration). Reductionkualitas fiisik work environment will impact on the community around the plant site and the workforce or employees of the plant.	SIH	The location of the Power Plant PLTG / MG Duri	During the phase Testing and Trials
			Attitudes and Public Perception	Change Attitudes and Public Perception	Testing and test the reliability of the generation systems Power Plant PLTG/MG Duri will change some parameters such as the quality of the physical work environment Enhancement Noise, Vibration reductionAir Quality and emergence (Enhancement Vibration). Reductionkualitas fiisik work environment will impact on the community around the plant site and the workforce or employees of the plant. That will cause Attitudes and Public Perception living around the plant site.	SIH	The location of the Power Plant PLTG / MG Duri	During the phase Testing and Trials
		SOP Company	Work accident	Accidents	Activity Testing and Trials of system	Not SIH, but needs to be	The location of the Power	During the phase Testing

No.	Description of Planned Activities Potentially Potential Environmental Impacts	Environment Management Planned Early As Part Of Planned Activities	Environmental Components Affected	Scoping			Study Areas	Deadlines Study
				Potential impact	Evaluation of Potential impact	Significant Impacts Hypothetic		
					reliability PLTG/MG Duri require special skills, so it will be prone to potentially cause a work accident, if it does not comply with standard operating procedure (SOP) Occupational Health and Safety has been set.	managed and on the beach	Plant PLTG / MG Duri	and Trials plants PLTG/MG Duri
Post-Construction Phase								
1.	Demobilization of Equipment		Air Quality	ReductionAir Quality	Reduction Air Quality sourced from demobilization activities of the equipment Power Plant PLTG/PLTMG Duri. This impact is negative and direct impact (primary), takes place in the short term or temporary. Deficits improve dust levels along the path of the equipment demobilization PLTG/PLTMG Duri. This impact is negative and direct impact (primary), takes place in the short term or temporary.	Not Be SIH, but the impact is still managed and monitored.	Hiking mobilize equipment	For Demobilization of Equipment
			Noise	Enhancement intensitas Noise	Modest improvement Noise levels along the path of the equipment demobilization Power Plant PLTG/PLTMG Duri. This impact is negative and direct impact (primary), takes place in the short term or temporary.	Not SIH, but needs to be managed and monitored.	Hiking mobilize equipment	For Demobilization of Equipment

No.	Description of Planned Activities Potentially Potential Environmental Impacts	Environment Management Planned Early As Part Of Planned Activities	Environmental Components Affected	Scoping			Study Areas	Deadlines Study
				Potential impact	Evaluation of Potential impact	Significant Impacts Hypothetic		
			Ground Transportation / Traffic Army	Enhancement of traffic flow	Deficits improve traffic flow lane road along the demobilization of the equipment Power Plant PLTG/PLTMG Duri. This impact is negative and direct impact (primary), takes place in the short term or temporary.	Not SIH, but needs to be managed and monitored.	Hiking mobilize equipment	For Demobilization of Equipment
2.	Work termination		Employment & Opportunities Sought	Loss of job and business opportunities for the local workforce	Activity termination of employment at the post-construction stage will have an impact in the form of loss of employment and opportunities for the community berusha place. While maintaining the local workforce in the operation phase will minimize the impact.	SIH not concluded but will be managed and monitored	Balai Pungut Village	When the layoff process underway
			Community revenues	The occurrence of local labor community reductionpendapatan	Activity termination of employment at the post-construction phase will be reductionpendapatan impacts for the local communities, especially the people who work at the construction stage. With the employment training the local workforce is expected to be able to entrepreneurship. The impact is not a SIH, but the necessary management and environmental monitoring.	SIH not concluded but will be managed and monitored	Balai Pungut Village	When the layoff process underway
			Attitudes and Public Perception	Changes in Attitudes and Public Perception	Activity termination of employment at the post-construction stage will have an impact in the form of the	SIH is not concluded, but will be managed and	Balai Pungut Village	When the layoff process underway

No.	Description of Planned Activities Potentially Potential Environmental Impacts	Environment Management Planned Early As Part Of Planned Activities	Environmental Components Affected	Scoping			Study Areas	Deadlines Study
				Potential impact	Evaluation of Potential impact	Significant Impacts Hypothetic		
					emergence of Attitudes and Public Perception, especially for people who work in the construction phase. Giving money layoff in accordance with the Act is not expected to lead to social conflict and social unrest.	monitored.		
Tahap Operasi								
1.	Recruitment	Giving priority to local labor	Job opportunities and a chance to make	Disclosure Enhancement employment and business opportunities	Total receipts of labor is relatively small, but have a big impact if it did not involve the local workforce	Being concluded SIH Impact	Balai Pungut Village	When the recruitment process underway
			Community revenues	Revenue Enhancement Society	With the opening of employment opportunities for local employment and opportunities for people diekitarnya will be able to increase incomes.	Being concluded SIH Impact	Balai Pungut Village	When the recruitment process underway
			Attitudes and Public Perception	Changes in Attitudes and Public Perception	With the opening of employment opportunities for local employment and opportunities for people diekitarnya will give a positive attitude and perception of the public. Instead it will give negative attitudes and perceptions of the public and can even provide a further impact in the form of social conflict and social unrest, which is an accumulation of other impacts (damage to the road	Being concluded SIH Impact	Balai Pungut Village	When the recruitment process underway

No.	Description of Planned Activities Potentially Potential Environmental Impacts	Environment Management Planned Early As Part Of Planned Activities	Environmental Components Affected	Scoping			Study Areas	Deadlines Study
				Potential impact	Evaluation of Potential impact	Significant Impacts Hypothetic		
					and traffic accidents).			
2.	Produksi Energi Listrik		Air Quality	ReductionAir Quality ambien	Operating activities PLTG/MG Duri will produce exhaust gas in the form of NO_2, NH_3, SO_2 and particulate matter (dust) that will pollute the surrounding environment.	SIH	The location of the Power Plant PLTG / MG Duri	During the phase Testing and Trials
			Vibration	Enhancement Vibration	Operating activities PLTG/MG Duri will cause mechanical vibration caused by the spindle axis and blades and turbine generator. Changes Enhancement Vibration caused by the speed or frequency Vibration.	SIH	The location of the Power Plant PLTG / MG Duri	During the phase Testing and Trials
			Noise	Enhancement Noise	Activity Testing and Trials will increase the frequency Enhancement Noise in the form of sound or voice does not interfere into the unwanted noise during activities Testing and Trials of system reliability PLTG/MG Duri.	SIH	The location of the Power Plant PLTG / MG Duri	During the phase Testing and Trials
			Availability of Electrical Energy	Enhancement energy availability	The activities of the plant operation Power Plant PLTG/MG Duri will increase the availability of 200 MW of electrical energy to meet the needs of society as well Bengkalis Riau Province as a whole. With the availability of electrical energy will have a positive impact on the electrical energy needs of society.	SIH	Kabupaten Bengkalis dan Provinsi Riau	During the operating phase pembangkit PLTG/MG Duri

No.	Description of Planned Activities Potentially Potential Environmental Impacts	Environment Management Planned Early As Part Of Planned Activities	Environmental Components Affected	Scoping			Study Areas	Deadlines Study
				Potential impact	Evaluation of Potential impact	Significant Impacts Hypothetic		
			Physical Work Environment Quality	Changes in the quality of the physical work environment	Operating activities of the generating system Power Plant PLTG/MG Duri will change some parameters such as the quality of the physical work environment Enhancement Noise, Vibration reductionAir Quality and emergence(Enhancement Vibration). Reductionkualitas fiisik work environment will impact on the community around the plant site and the workforce or employees of the plant.	SIH	The location of the Power Plant PLTG / MG Duri	During the phase Testing and Trials
			Regional Economy & Locally-Generated Revenue	Regional Economy & Locally-Generated Revenue	Production of electrical energy Power Plant PLTG / PLTMG provide contribution to the electricity supply, thus supporting local and regional economies. Ensuring the production of electrical energy and current will cause the industry, trade and services is growing rapidly. So as to improve local and regional economies have been much better.	Being concluded SIH Impact	regency Bengkalis	Form the production of electrical energy takes place
3.	maintenance Engineering		Air Quality ambien	Ambient Air Quality Improvements	The maintenance of the generating machine PLTG /MG Duri will a make an impact in the form of changes in the ambient form Air Quality Pollutants reduction levels going into the water. The length of time the maintenance of plant machinery is	SIH concluded not and does not need to be managed and monitored	The location for the Power Plant PLTG / MG Duri	Tor engine maintenance activity lasts about 2-5 days.

No.	Description of Planned Activities Potentially Potential Environmental Impacts	Environment Management Planned Early As Part Of Planned Activities	Environmental Components Affected	Scoping			Study Areas	Deadlines Study
				Potential impact	Evaluation of Potential impact	Significant Impacts Hypothetic		
					quite short.			
			Vibration	Changes Vibration	When plants die machine (in maintenance), then automatically there is no vibration or vibrations produced from plant engine derived from the blades and the turbine generator.	SIH concluded not and does not need to be managed and monitored	The location for the Power Plant PLTG / MG Duri	Tor engine maintenance activity lasts about 2-5 days.hari.
			Noise	Reductionintensitas Noise	When plants die machine (in maintenance), then automatically there is no sound or noise that causes noise coming from the engine generator.	SIH concluded not and does not need to be managed and monitored	The location for the Power Plant PLTG / MG Duri	Tor engine maintenance activity lasts about 2-5 days.
			Soil Quality	Reduction of soil fertility rate	plant maintenance activities generate waste in the form of grease, oil, and so forth. oil and grease will contaminate the surrounding soil. waste generated at this stage of the activity in relatively small amounts	Not SIH and does not need to be managed and monitored	The location of the Power Plant PLTG / MG Duri	During the operating phase
			Surface Water Quality	ReductionSurface Water Quality	Generating machine maintenance activities to optimize the work of the engine after operating for a certain time, at the turn of the action parts, lubricant replacement, giving GEMU and so forth. These residual materials and cleaning materials used in the maintenance of the machine, is certainly not all of them carefully can be accommodated in the containers provided. Most will	concluded SIH	The rivers around lokasi kegiatan PLTG/MG Duri	Tor engine maintenance activity lasts about 2-5 days.

No.	Description of Planned Activities Potentially Potential Environmental Impacts	Environment Management Planned Early As Part Of Planned Activities	Environmental Components Affected	Scoping			Study Areas	Deadlines Study
				Potential impact	Evaluation of Potential impact	Significant Impacts Hypothetic		
					flow to other places along the movement of the water and into the WWTP and ultimately discharged into water ways.			
			Physical Work Environment Quality	Changes in the quality of the physical work environment	Maintenance PLTG/MG Duri performed when the machine is turned off or not operating. When do the maintenance of plant machinery then there is no waste from the combustion exhaust gas generated from the power plant. Plant maintenance activities have a positive impact on the change in the quality of the physical work environment, where the impact is small and insignificant ,.	Not SIH and does not need to be managed and monitored.	The location of the Power Plant PLTG / MG Duri	For pengoperasian PLTG/MG Duri berlangsung
			Biota Water	Impaired microbial life in water	Generating machine maintenance activities to optimize the work of the engine after operating for a certain time, at the turn of the action parts, lubricant replacement, giving GEMU and so forth. This activity will decrease the Surface Water Quality and eventually disturb aquatic life. The impact is a secondary impact.	Not SIH and does not need to be managed and monitored.	The rivers around lokasi kegiatan PLTG/MG Duri	Tor engine maintenance activity lasts about 2-5 days.
4.	Waste Management (Including HAZARDOUS AND TOXIC		Air Quality	ReductionAir Quality	Ambient Air Quality Changes derived from waste management activity as flue gases coming from generating activities Power Plant	Not Concluded SIH	The location of the Power Plant PLTG / MG Duri dan sekitarnya..	For operation PLTG / MG Duri underway.

No.	Description of Planned Activities Potentially Potential Environmental Impacts	Environment Management Planned Early As Part Of Planned Activities	Environmental Components Affected	Scoping			Study Areas	Deadlines Study
				Potential impact	Evaluation of Potential impact	Significant Impacts Hypothetic		
	MATERIALS)				PLTG /MG Duri. The flue gas generated in the form of dust (particulate matter), NO_2, NH_3 and SO_2.Kategori This does not include the Hazardous and Toxic Materials waste			
			Surface Water Quality	ReductionSurface Water Quality	Event handling of liquid and solid wastes originating from the operational activity PLTG/MG Duri will reduce the Surface Water Quality. Waste generated liquid waste, solid, Hazardous and Toxic Materials waste and domestic waste. Before being discharged into the waters in advance of such waste will be treated in a wastewater pond.	Concluded SIH	The rivers around The location of the Power Plant PLTG / MG Duri dan sekitarnya..	For operation PLTG / MG Duri underway.
			Biological water	Impaired microbial life in water	Waste management activities including Hazardous and Toxic Materials waste will reduce the impact on the Surface Water Quality and eventually also will disrupt aquatic life.	SIH is not concluded, but it needs to be managed and monitored	The rivers around The location of the Power Plant PLTG / MG Duri .	For operation PLTG / MG Duri underway.
			Attitudes and Public Perception	Change Attitudes and Public Perception	Waste management activities including Hazardous and Toxic Materials waste will lead to the emergence of Attitudes and Public Perception both positive and negative. If the management is done properly will lead to positive attitudes	Concluded SIH	Balai Pungut Village community, especially adjacent to the location of the Power Plant PLTG /	For operation PLTG / MG Duri underway.

No.	Description of Planned Activities Potentially Potential Environmental Impacts	Environment Management Planned Early As Part Of Planned Activities	Environmental Components Affected	Scoping			Study Areas	Deadlines Study
				Potential impact	Evaluation of Potential impact	Significant Impacts Hypothetic		
					and perceptions of society. Conversely, if the management is not done properly, it will cause Attitudes and Public Perception negative.		MG Duri	
5.	Greening		Air Quality	Air Quality Improvements	Greening activities is blackened by a power reduction of pollutant formed from Power Plant PLTG/MG Duri through greening plants that do.	Concluded into SIH	Areal The location of the Power Plant PLTG / MG Duri	Post-Construction to Operation
			Noise	Noise absorbers	Greening activities is an act silencer Noise generated from the engine aktvitas PLTG/MG Duri, so it sounds or noises that occur can be reduced in volume to the residential areas.	Concluded into SIH	Areal The location of the Power Plant PLTG / MG Duri	Post-Construction to Operation
			Vegetasi Army Hazardous and Toxic Materials	Terrestrial vegetation recovery	Afforestation activities by planting crops or trees around the location of the Power Plant PLTG/MG Duri not compromise the security of plants and networks, especially in the buffer area that is intentionally released at a certain distance which borders the location of the land as a green belt surrounding community. Afforestation by planting fast-growing trees, ecological function and have an aesthetic value to the characteristics of trees with strong roots, branches are not easily broken, do not easily fall leaves, and trees producing flowers/fruit/seeds	Concluded into SIH	Areal The location of the Power Plant PLTG / MG Duri	Post-Construction to Operation

No.	Description of Planned Activities Potentially Potential Environmental Impacts	Environment Management Planned Early As Part Of Planned Activities	Environmental Components Affected	Scoping			Study Areas	Deadlines Study
				Potential impact	Evaluation of Potential impact	Significant Impacts Hypothetic		
					that have economic value. Reforestation activities will directly fix the loss of vegetation during land clearance.			
6.	Corporate Social Responsibility (CSR)		Attitudes and Public Perception	Change Attitudes and Public Perception	CSR program will be conducted by the proponent in accordance with the ability of the company and the needs of the surrounding community. Implementation of CSR program is mandated by the Law of the Republic of Indonesia No. 40 Year 2007 regarding Limited Liability Company. The event is a corporate concern on the surrounding environment. CSR proper management will have an impact on the attitudes and positive perception of society, so that social conflicts will be minimized.	Concluded into SIH	Community Balai Pungut Village	During the operating phase in progress
Tahap Pasca Operasi								
1.	Generating Power Plant PLTG demolition / MG Duri		Air Quality	ReductionAir Quality (Enhancement debu)	Demobilization activities tools and materials are potentially reductionAir Quality Enhancement dust of the road, especially during the dry season. This impact is the negative impact that could undermine the convenience of the public, especially	Being SIH, but needs to be managed and monitored	Hiking demobilization of Equipment power plant	Far post-operative phase

No.	Description of Planned Activities Potentially Potential Environmental Impacts	Environment Management Planned Early As Part Of Planned Activities	Environmental Components Affected	Scoping			Study Areas	Deadlines Study
				Potential impact	Evaluation of Potential impact	Significant Impacts Hypothetic		
					communities around the demobilization track. Furthermore, this kind of impact is the impact of direct (primary) of the various activities, and is predicted to take place in the short term or temporary (lasts for demobilization activities tools and materials).			
			Noise	Enhancement intensitas Noise	Modest improvement Noise levels around the site demolition activities Power Plant PLTG/PLTMG Duri. This impact is negative and direct impact (primary), takes place in the short term or temporary.	SIH not concluded but will be managed and monitored	The location of the Power Plant PLTG / MG Duri	Form demolition activities Power Plant PLTG / MG Duri
2.	Work termination (PHK)		Employment & Opportunities Sought	Loss of job and business opportunities for the local workforce	Activity layoffs would eliminate job and business opportunities for the local workforce, thereby decreasing the income and welfare of family life.	SIH not concluded but will be managed and monitored	Balai Pungut Village	When the process of layoffs in the postoperative phase underway
			Community revenues	The occurrence of local labor community reductionpendapatan	Activity termination of employment at the postoperative stage will be reductionpendapatan impacts for the local communities, especially the people who work at the construction stage. With the employment training the local workforce is expected to be able to entrepreneurship	SIH not concluded but will be managed and monitored	Balai Pungut Village	When the layoff process underway
			Attitudes and Public Perception	Changes in Attitudes and Public	Activity termination of employment at the postoperative stage will make an	SIH is not concluded, but	Balai Pungut Village	When the layoff process

No.	Description of Planned Activities Potentially Potential Environmental Impacts	Environment Management Planned Early As Part Of Planned Activities	Environmental Components Affected	Scoping			Study Areas	Deadlines Study
				Potential impact	Evaluation of Potential impact	Significant Impacts Hypothetic		
				Perception	impact in the form of the emergence of Attitudes and Public Perception, especially for people who work in the construction phase. Giving money layoff in accordance with the Act is not expected to lead to social conflict and social unrest	will be managed and monitored.		underway
3.	Demobilization of Equipment PLTG/MG Duri	Regulation The Government of the Republic of Indonesia No. 8 of 2011 On Multimodal Transport Indonesian Government Regulation Number 55 Year 2012 on Vehicles	Air Quality	ReductionAir Quality (Enhancement of Dust)	Demobilization activities tools and materials are potentially reductionAir Quality Enhancement dust of the road, especially during the dry season. This impact is the negative impact that could undermine the convenience of the public, especially communities around the demobilization track. Furthermore, this kind of impact is the impact of direct (primary) of the various activities, and is predicted to take place in the short term or temporary (lasts for demobilization activities tools and materials).	Being SIH, but needs to be managed and monitored	lane Demobilization of Equipment PLTG	Far post-Operative Phase
			Noise	Enhancement intensitas Noise		Not DPT, but needs to be managed and monitored.	Lane Demobilization of Equipment	For Demobilization of Equipment
			Ground Transportation / Traffic Army	Enhancement arus lalu lintas	Enhancement Noise levels along the path of the equipment demobilization Power Plant PLTG /PLTMG Duri. This impact is negative and direct	Not DPT, but needs to be managed and monitored..	Lane Demobilization of Equipment	For Demobilization of Equipment

No.	Description of Planned Activities Potentially Potential Environmental Impacts	Environment Management Planned Early As Part Of Planned Activities	Environmental Components Affected	Scoping			Study Areas	Deadlines Study
				Potential impact	Evaluation of Potential impact	Significant Impacts Hypothetic		
					impact (primary), takes place in the short term or temporary.			