

**The Public Presentation on the Proposed Jamaica
Energy Partners 60MW Plant at West Kingston,
Jamaica**



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**Venue: Jamaica Conference Centre, 14-20 Port Royal
Street, Kingston**

Time: 5:00pm

Michael Anthony Cuffe (Chair Person):

Ten (10) years we will have to generate to some 300MW of power. Now that's a major demand and if we are going to really meet the demand of the 21st century this is something that we would have to meet and as such what we're doing here this afternoon is critical its going to go a very long way towards meeting those demand. This public presentation, the environmental impact assessment of the proposed Jamaica Energy Partners 60MW West Kingston Power Plant at Industrial Terrace in West Kingston is extremely important, in a moment I will tell you why, but first for those of you who are not as enlightened in the area of electricity and power needs and about what where doing here this afternoon, I have a presentation, just a brief thing that I would like to share with you just to give you an idea of, to remind you of the importance of why we're here and what we're doing. What is an Environmental Impact Assessment? Well it's simply a study of the effects positive and negative of a proposed action in the area of development to be carried out it also outlines the mitigation measures necessary to reduce the negative impacts and the activity it may cause. It, the process feeds in the application process which this hearing, this presentation is designed to give you a chance to hear what is proposed and to get your feedback and 30 days hence all this information will go to NEPA and then based on your recommendations they will then feed back to JEP and that will inform the process in going forward so just to underscore the importance of why we're here this evening, all of this I'm gonna skip because I suppose your anxious to find out what is being proposed how it will work and what your role is significantly in it what I would like to do at this point is to get things rolling. Now at Jamaica Energy Partners they don't just have people who are expert in the area of energy but spiritual power are of some importance to them and so this is where Mr. Lloyd Peak the Manager of Environment of Standards at JEP comes in and he will pave the way for us by saying a prayer and then we will get things moving along.

Lloyd Peak:

Ok, good day Ladies and Gentlemen let us pray well could we stand, ok let us pray, father we honour and we exalt and we magnify your name and we thank you for today and for this meeting that will be taking place and we thank you for each person that is present and for the contribution that they will make and we pray that the time we spent here will be very productive, that the contributions made will be great contributions that can feed into the whole process of this initiative, that we will be doing so that we can actually achieve the objective for which this project is meant to achieve we pray father that for your favour and your grace and that your favour and grace be with us where this meeting, as we go into this meeting and at this time we will be very productive very profitable and that all the issues that need to be addressed will be addressed and that it will be beneficial, that all person that are present will leave here satisfy that the objective of the meeting has been accomplish, to pray for absolute successful meeting and that everything will go well and that this, for the success of this project even as we seems to work together to the building of this country call Jamaica as we give you thanks in Jesus name amen.

Michael Anthony Cuffe:

Ok, so we've been fully charged spiritually and time for us to move ahead, let me just by the way introduce the members of the Head table, so you know exactly who they are, again please meet Mr. Wayne McKenzie, he's the General Manager at Jamaica Energy Partners, to his extreme left would be Mr. Wilfred Bassaragh take a bow Wilfred and to the right of Mr. McKenzie we have Carlton Campbell the Managing Director of CL Environmental Company Kingston. So now you know who the gentlemen are, so let us move into the next phase of the programme. To give you the profile of Jamaica Energy Partners lets welcome Mr. Wayne McKenzie.

Wayne McKenzie:

Master of ceremony, colleagues, guest, observing all protocols good evening, I guess we're still sleeping, good evening, earlier when the master of ceremony called my name I wonder if I have done something wrong, because typically you wouldn't hear the General Manager's name first, you will hear the honourable , the dishonourable and everything else but I must, I must humbly express a gratitude of thanks for your support in being here today, my job is relatively the same place one to them, I'm profiling JEP it has been something I've been doing for 13 years it is something which becomes easier when you do it on a daily basis. JEP (Jamaica Energy Partners) became an operating company in 1995, at that time we had a project company which manages the operations of an asset an external operating company all managed by expatriates at that point in time we were generating to the grid 74 MW of power and we employed the Barge amount capacity simply because at that point in time the, there was a myth about whether or not this country could sustain payments of energy and in the event of default whether or not we should move, build a barge and then it became absolutely clear to us that barge is a simple technology to work with and one that can be constructed in a quickest period of time. By 1997 the company went through some transition because at that time when we went commercial operation it was both expat management and expat operating the plant in 1999 that company had all local management managing the facility then in 2001 when local General Manager change to, replace by myself a competent and capable complement of Senior Managers went to our bank which was IFC at the time to propose that Jamaicans could operate this product and not only did we prove we could operate this project but we since 2001 had never had a chance, never had the occasion to file an insurance claim simple because the operations have been well done. In 2006 we were approach by Jamaica Public Service and the OUR and by extension of the Government to another 50MW of capacity to, well it was really 2004 to add another 50MW capacity to the local grid and we did that within budget and within the time, so we maintained our stock to 124MW that was when a relationship with

Anthony was forge because he was the master of ceremony at our commemoration, so you fast forward to a couple of years in 2008 an RFP came out by way of the local regulator to putting another 60MW of capacity to the grid and again our local boys did well, they put together, as matter of fact we didn't, we didn't get permission from our sponsors to do this, we decided that we were going to do this our self. We put together a compelling enough document to, not only develop but manage and operate a plant in West Kingston and for us West Kingston simple represented two things it represent the fact that from a strategic point of view the bulk power and the need for more energy in the corporate area is going to need more to generate to the grid but secondly and most importantly we believe that there is a myth about West Kingston and the evolution about the operating a business in that constituency we figured more or less that this is either going to change that profile or that myth is going to be a reality to date we have not seen or recognise the difficulties that people are expressing were that area is concern. Now JEP is not all about managing electricity we do that very, very well, but at the same time we believe in partnership and as a result of that our focus is on three, well four things primarily one is the education and health the other one is sports not to the level of, say a reggae boys we tend to take people from the trench and bone them, dust them off and send them to the national pride, and another thing is the environment, we take pride in the environment and I'll expand on all three., from the educational front we believe in early childhood education and primary level education as well, and we, we adopt and whenever, which ever area we work in we foster partnership with the CDAs, and JEP as adopted a basic school in Old Harbour Bay, we are primary sponsor for the Primary Schools in Old Harbour and we have adopted a few High schools and we have a scholarship programme were we expend on an annual bases good sum of money and to ensure that these students remove from them self the burden of financial difficulties to focus on education. We have had some successes now the, the only thing that, that worries me is that the girls we tend to sponsor do significantly much better than the boys and this is something we have to change it's, it has become unanimous in the mass society where the men are

becoming less and less prominently in the management level, but we're still focusing to ensure that we have an even spread opportunities of both boys and girls.

We also foster partnership with the Maritime Institute where cadets

from the apprentice programme are introduced to the plant to work within three to six months before going off to sea. Those two things for us strategically we keep a cadet lock on the brightest of the bright so wherever we have a turnover we choose them, but secondly when these boys go out to sea, it certainly makes us proud to know that they are doing well. We also have a relationship with the Tool Makers Institute as well and again it is also apart of their co-curriculum where they are tested and if criteria's are met during the evaluation process, they are certified. Local sport level we, we typically work at the grass roots level and one of our pride is the Old Harbour Bay cricketers Association because we do have success story there, we have a young Shevar Thomas, we have um Tamar Lambert we have um this African name, I can't remember his name, Cecil what's his name, Banner, something Banner can't remember the name and also one of our pride and joy JEP sponsor exclusively is young Candice Nangle who represents JEP and Jamaica in swimming, but my pride really is in the environment and, and to some extent I steer that involvement in the direction of our JEP's concern, we have a relationship a solid relationship with Jamaica Environment Trust through the School Environment programme, this is really an educational program in high school, primary and high school where, where awareness of our environment is totally inculcated. We have an we have a relationship with Montego Bay Marine Park this is probably the most difficult NGO that we work with not from a working point of view but from support Jamaica Energy Partners is a company in Old harbour Bay and we have, we have, we have a NGO which operates in the Montego Bay Area which is surrounded by Hotels and their primary focus is to protect the coral reefs in, in the Caribbean sea in that area, and we would have expected to see significantly more attention being given there, our corals are being bleached, we need to pay significant attention to that. We also partner, partnerships with

Jamaica Conservation Development Trust who has custodial responsibility for the Jamaica, for John and Blue Crow, John and Blue Mountain Range and their primary responsibility is sustainability of that area, and we, we work with them sometimes through Small Business Associations to ensure that we do not destroy in attempt to sustain our lively hood. So as typical Jamaica Energy Partners in a nutshell we provide energy but at the same time we are friends to our environment and also the people that we work with. Cecil is reminding me that we do, we do pay some attention to the health as well, we have relationship with the Spanish Town Hospital we have relationship with the University Hospital of the West Indies and we also have relationship with Kingston Public Hospital and we that relationship is initially started out with us providing the equipment for these institutions we recognize that it's a little bit more than that we, we need to not only provide the equipment but to provide maintenance services so we, we are now, we are now extended our, our relationship to the point of procurement and maintenance of any equipment we buy for these institutions. Thank you.

Michael Anthony Cuffe:

Thank you too Wayne so we thought we would allow you to just hear a bit about the profile of Jamaica Energy Partners just give you an idea of the, this Company is being run by a very tight competent group of Jamaicans that are eminently qualify to carry out the task at hand and not only are they qualified they are also good cooperate and environmental citizen as well as so overall just a solid company with a lot of know how in terms of not only meeting the energy needs of our country but also the other areas that need to be filled as well. So now that you have the corporate profile its now time for us to give you an overview of the project and we'll like to invite to do that the General Manager of the Jamaica Energy are we paying attention here, just making sure the CTO that is the Chief Technical Officer at JEP Wilfred Bassaragh.

Wilfred Bassaragh:

I have to lower the mic a little bit more. Thanks Michael, members of the head table, distinguish guests, colleges, master of ceremonies, ladies and gentlemen of the community, good evening, um without taking too much from Carlton's EIA presentation I'm, I would just, I am just here to give you a brief overview of the project so that you get a broader picture, before we get into the detail nitty gritty as indicated before and in accordance with OUR's projection for over 300MW in the next 10yrs over 300 or more in the next10yrs it is, capacity is required to fulfil the needs of the country. Failure to implement these new generating capacity will result most likely will result in widespread power outages. Not a pleasant thought. As a result of this the OUR has since issued, has since issued an RFP for 60MW to meet the medium term demand of the country. It was also determined in their RFP that the Kingston, the Kingston metropolitan area would have been the preferred area since there is a, a shortfall in capacity in this region. In, in fact most of the power into Kingston is imported from Old Harbour Bay or the rest of the capacity in Mobay sometimes and as such it presents vulnerability on the system to have this large amount of power being imported. In response to this bid, there are a number of entities responded expressing their interest with their detailed tender documents and credit to the team at JEP we were successful we were the most attractive bidder representing the least cost solution to the Jamaican paying customer. (Clap) The proposed site as indicated as I said it was the preferred area was the Kingston metropolitan region and in reviewing the available locations, which aren't many in Kingston we came up on a site which is pretty close to the JPS power plant which is where, the JPS substation at Hunts Bay which is where we would inter connect with JPS and it is relatively close to the Petrojam refinery which is where we would get fuel from, that site, the site is located at, it is the old NWC western sewage treatment plant it is bordered, it borders, it is south of the Tivoli Gardens community but bordered on the east by Seprod and west by Industrial Terrace.

I am pretty sure most of us might be aware of that site. It is in a state of disrepair as it was formerly used as a sewage plant as I said. The plant we plan to build as depicted in our artist rendition there or CAD rendition using computers, is a, it will consist of 6 (six) medium speed diesel, well even though it says diesel it is actually heavy fuel oil that will be burning power units and will be amongst the most efficient units on the grid at present. It will burn as the primary unit bunker sea engine that's number six fuel oil but this plant can be converted to gas in the future if the Government, if this is the policy so pursued. The total plant capability is 66MW and has efficiency, a fuel efficiency of 8122 BTU per kw. That's a measure of efficiency in the industry and if I had the information to show you I could show you it is amongst the most efficient. What are the benefits of this project? Well as indicated before the primary reason for this project is to meet the demand of the system which is to replace old and inefficient units on the grid and meet the expansion for customer demand in electricity, this capacity represents also a huge investment a large foreign direct investment which also will give a boost to the local economy and it also this level of investment also indicates a confidence of our investors in the Jamaica's Economy especially at this time when the world is, the financial markets in the world is going hay wire. Secondly the country, lowering the country's fuel bill, we anticipate implementing such a plant will save over 300,000 equivalent barrels of HFO, which not only translate to financial savings for the country but in terms of green house gas emissions, those who are very familiar with Carbon Credits and Kyoto this will, over 300,000 barrels of fuel will have immense carbon credit savings to the country. This power plant also will be in compliance with the World Bank and local environmental guidelines. We have also installed Ambient Air Quality Monitoring Stations within the region to get a feed back on the emission, the Ambient Air Quality now and what it will be in the future. Other benefits to the local economy especially in the region we anticipate that during the construction phase of the project we will have employment for skilled and unskilled personnel and also indirect economic support for people who do support services such as supplying meals, transportation, security and ancillary staff. During the operation

phase we anticipate to have about 60 full time employees and in addition to the ancillary services and other contracted services such as security, canteen and general gardening services, in addition during the operation phase the project will continue to support local businesses that offers and are competitive in their pricing. As Wayne indicated before, JEP values its corporate responsibilities and as such with this project like with other projects before, we also anticipate participating in educational and skills training, we also will greatly participate in environmental initiatives in the area and we will also participate in sports and community development. In addition to the above we do expect if you know where the site, is we just converted that to a power plant a little bit more beautiful than, we'll improve the ascetics of that site and the general region and will also help to stimulate development in that region. Thank you very much.

Michael Anthony Cuffe:

Thank you too, Wilfred. Ok so that's essentially an overview of the project and you know I really hope at this point you've been making notes cause after our next speaker you'll have a chance to present your questions and then the respective speakers will have a chance to respond as well, so you know one of the things that immediately came to mind when I was invited to be apart of this event whenever I hear the term energy a number of questions immediately arise in my mind and you know it's the impact on the environment safety aspects all of these things that immediately, not just as a concern citizen, but as a parent and as some one who has this country's welfare in mind, because I plan to live here for a very long time and so this is where our next speaker comes in. its critical a lot of what is being done here will be done with the plant and it has implications for it going forward as well is the environmental impact assessment we gonna be taking a look now at the findings and measures into minimize impact and that responsibilities fell on the shoulders of the Managing Director of CL Environmental, Carlton Campbell so would you welcome him please. (Clap)

Carlton Campbell:

Good afternoon, the EIA for the proposed power plant at West Kingston being done by Jamaica Energy Partners, what's the rationale? It proposes to do this plant with support from the International Finance Corporation which is a member of the World Bank, it is to install six (6) new engines on land to meet the increase electricity demand for Jamaica, reason for adding this additional generating capacity, growth in load which is energy demand, the need to replace old and inefficient generators on the grid.

In the Kingston metropolitan area approximately 220MW of installed capacity is there, the peak demand for Kingston is 341MW so we are automatically at a short fall of 121MW. This as Wilfred had said before is met by importing power from other regions of Jamaica. Those of us who live in the countryside can appreciate what happens when Kingston peak demands goes up. In the EIA document we had it outlined like this, Table of Content, The Executive Summary, The Policy Legal & Administrative & Frame Work, Project Description, and Baseline Description that is what we found in terms of the environment. The environmental impacts or what we expect to happen with the power plant being placed there. Cumulative impacts, which is the impact that we expect when you put the plant there, what was there existing and what the plants impact added on top of it. We also had to do which is a part of the approval process and a part of the EIA process I should say is the Analysis of the Alternatives, this is important as it strives to find the best solution to achieve your goal and at the end we have an Environment Action Plan which outlines how we intend to deal with any negative impacts from the project. First we had to look at the environmental regulatory structure in Jamaica; we looked at of course the NRCA act; we look also at air regulation which the NRCA has promulgated. The Town and Country Act which deals with planning aspects of course the Kingston Development order in terms of what you can put where, Office of Utility Regulations which deals with regulating these industries, the Public Health Act and Clean Air Act, NEPA Trade

Effluent Standards and of course noise standards and guidelines that NEPA has. I must say in addition, we also have because it's an IFC, well the hope is an IFC project, and then we had to meet World Bank standards also. So we also had to look at World Bank guidelines. Of course the developer is Jamaica Energy Partners, as we said they are private suppliers of electricity since 1995. It operates 2 barges in Old Harbour, Doctor Bird I and II with a combined capacity of approximately 124MW generating capacity that is, which is about roughly 15% of Jamaica's installed capacity.

Overview of the proposed project

We expect that the project will generate approximately 450,000MW per year, as we said before we produce from 6 medium speed diesel generators and, and as Wilfred had said diesel is not really what we use but heavy fuel oil. It is capable of burning heavy fuel oil and as saying what we plan use is low sulphur fuel oil so that will reduce the impact from emission. We'll interconnect at the JPSCo transmission grid at Hunt's Bay. For this project a new substation will be built and each engine will have a selective catalytic converter, and in the future these engines are capable of using liquid natural gas, as Wilfred says that depends on the direction in which the Government is heading. The engines that will be used are manufactured by Wartsila to use radiators to cool, instead of using cooling water, this will also have a heat recovery economizer on it that will use to also warm the fuel before we use it in the combustion process, in addition, there will be two 55MVA transformers. It will have a stand by system that for the heating of the oil, two auxiliary transformers in terms of what is needed to put the power to the grid and of course a stand by generator in case the whole grid is down and you need to start the complex from scratch. This is a location of the site, as you can see, Industrial Terrace is here, Producers Road & Marcus Garvey, using part of the NWC piping project area is about 10 acres or 4 hectares and in it we have designed approximately 20% green space. This is a schematic of it, of the layout, it's kind of probably hard to see it from there, but this is where the unit will

be, this is where the stack are, the tanks for fuel, of course the auxiliary buildings and has Wilfred shows you the artist impression before. The estimated duration for construction is about 18 months and is broken down like that, civil work is about 262-270 days, the mechanical and electrical works is about 175 days and commission and handing over warranties is about 60 days. Construction will be done by Wartsila Finland, using relevant International Standards. There will be storage for about 5,000 cubic meter of fuel oil which is about 15 days of full tilt operation of the facility; and I said they have tank facilities here listed. This is also the layout of the drainage that we, to proposed to put, we notice that, it have four catchment areas, this is north going this way is north, this is where Marcus Garvey Drive, would be, Industrial Terrace. The plan is to use PVC pipes upgraded, this is different sections to lead the water down because the land slopes to the south from north to south, collect it here with a drain, a U drain and channel it back to the Tivoli Gully which runs on the western perimeter of the proposed site. Sewage effluent will be sent to NWC to ultimate treatment sewage and trade effluent. Water will be supplied by NWC, fuel we will be getting from Petrojam will be supplied by pipeline or by trucks. Solid waste will be collected by private contractor and oily water from the facility will be separated using oily water separators, the water will be led to the trade effluent to NWC and sludge will be sent to Petrojam. The fuels, the tanks will be bonded to hold approximately 120% of its volume, so that in case you have a leak then it will be contained and it won't head into the environment or down to the coast as the case maybe, we'll have valves to indicate the levels of fuels in these tanks with alarms to indicate whether it is high or low, walls of the facilities will have fire proof materials using mineral wool, the power plant and electrical building and fuel treatment house will be fire proof for sure. This facility has its own fire fighting capabilities so we'll have fire extinguishers, water hoses, hydrants, fire alarms and the power house will be built to with stand category 4 hurricanes and also a zone 4 earthquake. Before construction, the site has to be closed properly as was said that the NWC sewage plant has been non-functional for the better part of, probably 20 years. So for us to do our

development, then we'll have to close that plant, to do that there are existing sewage that still comes onto the site so there have to be diversion of that sewage and NWC is suppose to be working with us on that in terms of diverting then on site there's some existing ponds that have sewage that we will empty, then there'll be demolition of the structures that are there, there are approximately 13 structures and in the whole site preparations when you're removing buildings at the foundation level there's the probability that we will meet ground water in that case then we'll have to pump and dewater to remove those foundations. It is important to know that because of the vibrant steel and scrap metal industry, a lot of the metals that were on that site has been removed including a metal tank. Any silt and debris we intend to carry to Riverton, there is one issue that we encountered, in the fact that there are some old pipes and roofing materials that contains asbestos which we are, have to put together a closure plan in terms of how to deal with the asbestos but essentially we are going to be packaging it into containers, getting approval from NWC, NEPA and also the Metropolitan Parks and Market to bury it at Riverton. After the site closure then we will also look at vegetation clearance. The vegetation that is greater than 18cm in diameter at breast height will be preserve as long as it is not in the foot print of the building and roads that we plan to propose. Approximately 150mm of top soil will be removed and stock pile for landscaping and at the end of the project at approximately 150mm of shingle and marl will be used and graded on the soil. In the whole site closure, demolition and site clearance activities we plan to employ approximately 45 persons to do that activity. There are 6 main areas in terms of construction, we have the engine hall with its external structures to support the exhaust stacks and in the area for the radiators, you have warehouse and stores, there will be an Administrative building. The tanks form for fuel and water, you'll have a fuel treatment building and there's an area for a switch gear transformer. To do the construction because of the nature of the soils that were encountered, piles will have to be driven to provide a stable foundation. We'll also construct a boundary wall and this activity would expect to employ approximately 50 persons. At the start of the operation, then we'll

start the environmental monitoring and management for the facility. This will include monitoring for the water quality, temperature, noise levels, effluent and air emission and any other parameters identified by NEPA and the World Banks that needs the monitored. In addition, JEP will be proactive in addressing any issues raised by the neighbouring communities and local authorities. As part of the environmental monitoring and mitigation plan then we have to look at de-commissioning the plan. It has to be done in an environmentally sound and cost effective way and this is to deal with the major parts of the plant. The plan, the demolition, the de-commissioning plan we expect to submit that to NEPA within 2 years of commissioning the facility and expected the life span of the power plant is 25 years although there are facilities in Jamaica that runs long pass their life span. As part of developing what the potential impacts are we have to define what the environment that we're operating in and we looked at different parameters; climatology and meteorology, temperatures as you can see is lowest in February and January and highest in July and September which is our summer month, meaning relative humidity more or less constantly throughout the year 60 to 80% annual rain fall is about 62mm, two main rainy season although now we're having problems but generally over the last 30yrs the averages is , we have May to June which is one and August to October which we have the highest rain intensities. The predominant wind direction is from the east or southeast which is from the sea coming in. It is important for the temperature and relatively humidity because that impact on engine performance, rainfall is important to our flooding potential and of course wind direction is important in terms of any pollution that would come from potential pollution from the power plant. This is a wind rose showing you general east, slightly southeast direction which is data from the 2000 to 2004, 1996 to 2004, and that is what the wind rose, and wind direction looks like with the wind speed. We also looked at data from the Petrojam EIA Report to get an idea of what the background levels of different pollutants, I mean, for us the most important will be the NO_x and SO_x . For the Petrojam report, if you notice the data here, historically was 10-46 $\mu\text{g}/\text{m}^3$ for NO_2 and for SO_2 it range from 20 to 39 $\mu\text{g}/\text{m}^3$. (Sorry)

We also did our own measurements, we have set up two Ambient Air Quality Stations and these are located in this image here, one at the Garmex Complex and one at Customs Car Park. We have put them at these location based on the modelling data that the results from the modelling indicated that these areas would potentially have the highest impact from any pollution from the plant, so we have set them up here just to give us an idea of what the baseline information is at these two points. We have collected data from September to October so far and to December (sorry), and this is what it looks like, the bottom row here gives us the standards for the different parameters PM10, SO₂ and NO₂ and as you can see for the 24hrs averages, one hour max and the monthly averages from the data we have collected so far. We are well within NEPA and US EPA Air Quality guidelines standards. We have also done some PM10 collections using high volume samplers, these also were within standards. The 24hr standards PM10 is also and as you can see is all within the 150 standards, so in terms of PM10 there's really not much of an issue as yet. We also look at the physiology and geology of the site, the northern section of the property is about 3m above the sea level, it gentle slopes towards the sea. Percolations on the site is not as equal as we would have expected, most of the areas under the Liguanea formation and the borehole information done by Jentech indicated that there is a mixed sequence of sands, gravels, silts and clays and in some instances a little peat. Some pictures of the site, this is one of the ponds with sewage in it, this is some of the slow percolation, so you have some areas that are wet and soft and these are some of the structures on the site that will be demolished. For Hydrology and hydraulic this is important in terms of flooding and fuel potential. There is only one main or close drainage area which is the Tivoli Gully which runs on the western perimeter of the boundary. This gully originates in Retirement at the intersection of Retirement and Cross Roads. It's a concrete U drain while you pass the site which is about 6.4m wide and 2.1m deep and where it passes the Marcus Garvey Drive. The height or the depth of the gully is reduced to 1.2m. That's a picture of it, looking south, the property is over here and this is the way Tivoli gully going towards the sea. This is the box culvert we just talked about, going

onto Marcus Garvey, so you can see it actually reduces in depth. We also looked at natural hazards at the site which is important when you're putting up new facilities in a area to see what potential impacts those may have on your project, and how to plan your project, to deal with them we looked at flooding subsidence, liquidation, liquefaction (sorry), hurricanes, storm surge, tsunami events and sea level rise. We also looked at potential of the flooding here, in terms of the drain which is the Tivoli gully. We looked at three scenarios, one when you have a 50year rain event with a storm surge happening while we expect that flood water would go to 4.7m but with height of the land of approximately 3m then the effective height of water is about 1.7m. as you can see the different scenarios, the scenarios 2 is the existing condition, if you had a 10yr rain event that would happen in terms of the height 4.54m which is about 1.54m of existing water level. We also looked in case of a one in hundred year event with blocked culvert, which is also important because a lot of our culverts and drains get blocked by debris from upstream and in that case we expect that the flood waters surface to about 4.74m or the effective height of 1.74m. We also looked at earthquakes areas which have a lot of earthquakes, major earthquakes, and the storm surge we did some calculation for storm surge and we expect that in a 1 in 50yr event, the storm surge height would be about 1.93m and a 1 in 100 at 2.2m. We looked at water quality to define what the water quality in the area would be. First you have JEP 1 which is here is the ground water at the Garmex Freezone well, JEP 2 is down pass Marcus Garvey, just below Marcus Garvey, pass by Tivoli Gully, JEP 3 which is here is the NWC's pipe water, wanted to see what the potable water conditions are like in the area to see if we could use it from the power plant, JEP 4 which is another well. This is at the SEPROD facility, JEP 5 is the channel that we talking about where the sewage actually flow on the site, JEP 6 is these ponds that collect sewage over the years, JEP 7 is above the propose property and JEP 8 is a tank on property where there are some waste water. In all we looked at some 46 parameters on two occasions, we sent some overseas and we did some here. What are the results of it? Generally the potable water quality levels were acceptable, for JEP 1 and 4 which are the ground water we

have high nitrates as to be expected with Jamaica's ground water, it had high calcium levels also and from the wastewater we had some results, here we are looking at the NEPA standings. All the numbers in red are out of spec with the standards, dissolved oxygen, ammonia, biochemical oxygen demand, chemical oxygen demand, fecal coliform which is an indication of sewage pollution, all of them are extremely high compared to the standards, oil and grease, phosphate, total organic compounds, suspended solids and zinc. All of those are out of spec for the Trade Effluent Standards. We also looked at what the Trade effluent or the influent standards for NWC because the plan is that we want to dispose of the existing waste water on site to the NWC pipeline which goes to Soapberry, so we looked at the standards compared what we had and the only parameter that seems to be out on one of the occasions is the phosphate, so we can safely say and because the Soapberry plant is a tertiary treatment, I mean it's not extremely high above the standards. I'm sure they'll be able to accept it and adequately treat the wastewater from the property. We also looked at land use in the area. Previously it was the waste water treatment system as we said before. Now the proposed site is in an industrial area, so in terms of zoning it shouldn't be an issue, although we have a residential area about 300m north, northeast of the site.

Future land use in the area not necessary on the site, there is a proposal to expand the Petrojam facility and there's also a proposal with Petrojam and JPSCo for a Petcoke electricity plant. This is what the development order gives you an idea of what the development order said in terms of zoning. The site is off here, which is under Government Planning Institutional field. All of this is industrialized, the purple is industrialized and the reds are residential, so as you can see we are in the midst of an industrialized area. We also looked at noise which is an important factor when it comes to power plants and generating noise. We did 8, we looked at 8 locations and we also did it over 2 time periods. We did a 36hr logging time, that means that we set up the equipment and leave them for about 36hrs, we did that in July and we also did it in August for 60hrs which took into consideration some of the holiday noise, just to see what the noise conditions are in that area. This is what it looks like, we looked at 7am to 10pm,

Tivoli Gardens High School was out of whack, in terms of NEPA guidelines and also World Bank guidelines for day time. Charles Chin-Loy was also outside of the standards and in the community which is Tivoli Gardens community it was also high, same for the night. Those were the only areas that were exceeding the baseline standards in terms of noise. There are 8 known historic sites in the area, these are the Kingston Railway Station, The Ward Theatre, Kingston Parish Church, Institute of Jamaica, the East Queen Street Baptist Church, National Heroes Park, St. William Grant Park and the Old Jewish Cemetery. Roads in the area, , are kind of hard to see, sorry about that, but the Marcus Garvey Road which runs here is an established trucking route for delivering goods and materials being transported along this area. Spanish Town Road is not utilized much because of the present road conditions, it's a bit bumpy, so it's kind of hard to transport stuff when you have a heavy laden truck. Marcus Garvey Drive is considered a class A main road which means that it move excess of a 1,000 vehicles on a daily basis. You have Industrial Terrace which is considered a collector road and is considered a B class and it moves 500 to 1,000 vehicles both ways on a typical day. Look at what the traffic look like using a NWA count that was done in September 2007 and for our impact predictions then we'll increase it by 30%, but as you can see most of the traffic goes that way, turning in from downtown is just about the same as coming from Three Miles that side, going out, we have a lot going out and turning towards Three Miles but that was used in the whole analysis in terms of looking at what were the potential impacts from the propose plant, in terms of traffic and transportation. We looked at biological resources where 57 plants, none of them are endemic or rare, 25 bird species, 7 of which were aquatic, 2 of 18 were endemic and these were the Jamaica Euphonia and Red Bill Streamer Tail. Bird numbers were low probably because of the disturb nature of the site, 81 species of insects were found, 16 species of butterflies, 2 moths, 14 beetles, 14 plants bugs and 20 species of spiders. In terms of socioeconomics which is an important part, there are 76,000 persons in that area within 2km of that site. The project is expected to take as I said before 565 days to be completed we expect to provide employment to 45 persons during the site

clearance, 50 persons during the construction of the foundation, that would be more in terms of the construction of this, the plant itself, and 61 persons during the operations of the plant. We also looked at what the hospitals are like, I mean that is important in terms of when you're operating a facility in case of emergencies, and we have Kingston Public, Maxfield and Victoria Jubilee Hospital here. There are some Health Centres, these are health centres interspersed, the proposed site. We also looked at fire stations which are important in terms of, if we had an unfortunate case of fire, the existing system cannot manage. There are fire stations around, York Park, Trench Town and there is New Port. York Park and Trench Town are just about the same distance away from the plant but Trench Town would be responsible to respond first if there's any fire at the site. We also did some community consultations, we used some questioneres and also, we also looked at the SDC had a town, community profile for both Tivoli and Denham Town which was done in April of 2009 which was relatively current in terms of we relatively current in terms of what we were doing. Based on our community consultation we know 67% of the community wasn't aware of the project, 63% were of the opinion that the location was suitable for the power plant, 22% disagreed and 15% were not sure. They listed some of the following as their greatest needs for their community: employment, the need the area to be developed and the need for better roads. We also did some special groups which were like the CDA's and also some of the counsellors in the area, they are generally expressed support for the project, they saw that it would give a general improvement of the environment in the area, they also realized that it would increase electrical supply and, and reliability in Jamaica and of course the provision of employment in the area. They also had some concerns and their concerns were, like the potential increase of asthma or lung cancer and also from noise impacts.

Potential Impacts

We looked at potential impacts such as site clearance; vegetation clearance, excavation work, solid waste from the works,

foundation dewatering, what to do with the water, increase particles suspensions and surface run off for when you are clearing the site and also the positive of employment.

Under construction, the following impacts, solid waste generation and disposal, noise and piling building foundations, storage of fuel and chemicals, raw materials storages is important, the transportation of raw materials and also we looked at emergency response and of course employment. Aesthetics, we anticipate that the propose development will improve the, aesthetics of the area. We also looked at air quality issues or the potential for air quality issues from fugitive dust and of course noise. This is a better, well can see it much better, engine hall is here, we are looking at potential impacts due to, on air quality, these are where the stacks, 6 stacks will be located. This is the radiator that would cool it.

We had to model what the air quality impacts would be, the maximum concentration are what we looked at, from the power plant, the propose power plant. SO₂, we looked at, the important is these standards here, and are the Jamaican Air Quality Standards, as you can see the emissions from the plant will meet these standards adequately.

We also looked at noise, we did some noise modelling to see what impact the propose plant would have, as you can see the light greens are about 50 decibels which are those, the darker, the redder it gets the higher the noise and of course the plant engine we expect the highest noise emissions. These are what we predicted the noise from the plant to be, of course these, the numbers in red are the ones that are exceeding the standards. These areas as you can see before the baseline were already exceeding those standards and the plant would just about exceed it and of course, later on, now we will tell you how we intend to mitigate that, to allow us to meet the standards in terms of noise emissions.

The cumulative impacts of Air Quality, this is using all the sources around that area including Petrojam. Cumulatively the SO₂ and

NO₂, well NO₂ annual would be within specs but generally the other perimeters would be outside of the Air Quality Standards. Looking at the source contribution, if you, here in blue the JEP, the JEP proposed plant as you can see the other sources, this plant actually gives out most times the lowest, just about, for the 1hr NO₂ it would give out about approximately 0.1% of the pollutions in that area for the annual its about 1%, SO₂ is about 7% for the 1 hr and for 24hr 3% and 2% roughly for the annual peak. So as you can see this plant will emit little emission compare to the existing sources around.

Cumulatively we looked at the noise, ones in green even though they don't meet the NEPA standards it would meet what we called the World Bank guidelines for which 3db which is 3 decibels change. At 3 decibels difference then, I mean, most people won't realize or notice the difference in noise so the World Bank has said that if you increase the existing baseline by 3 decibels or less, then is considered acceptable. Areas of concerns still, night time at Industrial Terrace, which is right on the western boundary that is right in front of where the radiators will be, it's an Industrial site so we don't see it as much of an issue, the other areas, the Charles Chin-Loy School, here it's just outside of the 3 decibels, but that area was noisy from before, with the baseline at nights its still yet noisy, but we expect that nights it wouldn't be a issue because it's a school, we wouldn't have any children in there at that time.

We also had an outline emergency plan that JEP has for their facility and is upgrading now for land base facility and the key element of this plan deals with earthquake, hurricane, flooding, explosion, all hazardous materials spills, community and outside lay zone unrest and riots, acts of terrorism and armed attack, bomb threats and acts of sabotage, serious or multiple injuries and illegally trespassing.

The analysis of alternative is also a key factor. We looked at 5 key alternatives, 1 which has to be done, which is the no action, we expect that, that this will have minimal impact on the physical environment, socially though we know that it would impact, in

terms of increased power outages, a limited economic activities then, we looked at the proposed development because it is listed in EIA, will increase noise insulation of the power house building that would reduce the noise impact to the community,

We also looked at different sites to put this facility. One of this site was at Rockfort, we, we think that's not more environmentally sound and it is more vulnerable to coastal hazards because it's right along the shoreline, we also looked at Bournemouth which is also close to the coast line and would increase the hazard vulnerability from coastal effects. It also in terms of cost for the property would be much more expensive, which in the long run would be passed on to the consumers. We also looked at using coal, liquid natural gas, the problem with LNG is that we're still awaiting, we don't know what the time frame would be for that, so we couldn't be depending on that and coal, and coal as a fuel will has it challenges in terms of getting it permitted in the present scenario. That been said we figured the most environmentally sound and most economical alternative and one that will give us the shortest possible time in terms of providing us with what we need is the one that has been describe in the EIA .

Mitigation

As part of the EIA process we look at the potential impact and now we have to look at how we intend to mitigate these impacts. Dewatering of the building and structures, we said that we will use settling ponds were possible or run it over the existing land, when we are using settling ponds then we'll have to remove the sludge, dry it and carry it to Riverton dump. For the stock piling of the top soil we'll be doing initial stage then we have to put it away from drainage channels and berm it so that it won't run off. For the air quality aspect the site road we expect that we need to dampen it every 4 to 6hrs and I mean if it's dry, then the frequency would have to increase. We also want to minimize the area that we would remove vegetation from, to limit the amount of dust been put up for fugitive. Solid waste we intend to put bins in, also to have adequate design bins and we also would want to have these bins

emptied on a regular basis, regularly so that the waste does not go out in the environment. During the construction phase for noise pollution, we intend to use equipment with low noise emissions also have them with noise reduction devices, such as mufflers; we would also want to look at what the exposure is to the workers. For air quality we try our best as possible to reduce the amount of dust where that is possible, we give the workers protective equipments, solid waste standards, carrying it to Riverton Dump, waste water and, and we need to provide adequate facilities for the workers and the ratio that we use is about 25 workers to one chemical toilet. Storage of the raw materials as you can see, need to wet them, cover them, bulk fuel we need to store them on hard stand, burn it so that in case it has a leak it wont go into the environment. We also need to label or put what's in those containers so that at least if something happens we'll know what it is and how to deal with it. For flood mitigation we started the whole flood mitigation from the construction phase, then we need to fill the site or put it to a level that is considered adequate in terms of what your, your, you want your risk to be in terms of flooding. Critical components we suggest, needs to be about a 0.3m above the expected flood levels, critical components such as the power house and also the control room. We also expect that, working with the authorities that there will be a regular cleaning of the Tivoli Gully to prevent debris from building up and we expect that, that should be done every 3 to 6 months. Emergency response during the construction phase then we expect top have a lead person in charge. JEP need to have first aid on site, make arrangements with health facilities such as KPH, have material safety data sheet on site and also to arrange to have doctors on call of possible.

During operations JEP will ensure that the two ambient stations that are in place now are operated for a minimum of 6 months after commissioning. We developed, they developed an Ambient Air Quality and Monitoring and Verification Plan which is to determine, what's the real condition of the Air shed that we're operating since there is no real data that has been collected over a long term, If the Ambient Air Quality proves to be the Air shed,

then JEP proposes to use selective catalytic reducers on each engine to reduce the NO₂, to within specification of the World Bank guidelines. Based on our latest available data, it will cost about US\$8 per mega watt hour to operate these SCRs. Natural Hazards – we looked at making sure that the buildings can withstand hurricane impact and also the flood and earthquake. The overland drainage as we had discussed, how we intend to layout the drainage facility of the plant, that is adequate to deal with the increased run off that we expect and here, I'm, just giving a schematic of what a SCR looks like, so the exhaust gas comes in, urea injected and then it goes on at the end you get your water and nitrogen. So that would reduce the impact of NO₂

Mitigation during the operation, we also look at the noise, as we had said the noise impact would have been out, what is proposed is that we change the radiators to low noise versions, we also put silencers on the ventilation fans on the roof, we also want to put on silencers on each engine that we expect to cost about US\$743,000. The power plant maintenance we don't want to use lead paints, the oily rags will be properly stored and disposed of. Hazardous materials must be disposed of in an environmental way and they'll be labelled. Solid waste we expect to employ a private contractor who will ensure carriage to the dump the led material to the Riverton dump or the approve dump by the Metropolitan Parks Market. Waste water all run off will from the power house and stuff will go to oily water separators and then the liquid will, then go on to the NWC pipeline. The specification of the standards or what was expected from these oil water separators is, that it will meet the NWC guidelines, also the sewage from the plant would also go into this NWC pipelines.

Occupational Health and Safety then there's an Occupational Health and Safety programme that they have, that they'll carry over, but, parts of it is providing the necessary equipment for workers safety. Hearing conservation, making sure that lighting is adequate and confine space entry for like tanks and stuff are important, of course the emergency response plan which I had said will be upgraded to reflect a land based facility.

Monitoring During The Site Preparation

We expect that it would take daily inspection of the trucks carrying solid waste out of the site to ensure that it is not over weight, over laden, and also not that they won't have things falling out and disturbing or polluting the environment. We expect a person from Jamaica Energy Partners will be employed to do this. We don't expect to and cost an additional cost in terms of carrying out that monitoring. I think from time to time that NEPA would also want to do spot checks to ensure that this is being done. For the fuelling and repair of vehicles if there's gonna be repaired on site then of course Jamaica Energy Partners would have a project person who would have a team who will be responsible for monitoring stuff like that. The inspection of the, to make sure that the plant is being constructed to what the approvals are, persons that are appointed by Jamaica Energy Partners and also NEPA and the KSAC would be responsible to do spot checks to ensure that the plant is being built to the specification and as we said the cost, no additional cost will be expected. Under take water quality monitoring to ensure that the waters if any thing is going into the gully from the operation, then it would meet the requirements and there is a cost there. We would have an idea what the noise is to the workers. We are also looking at the monitoring of the daily fugitive dust and looking at the quality that the soil, we'll be keeping a check on solid waste that have been generated and been disposed of, all of this we expect that the Jamaica Energy Partners personnel can do. To look at, there's also adequate potable facility for workers during the construction, portable facilities in terms of toilets and water. We also expect them to ensure that sources of local material like from the quarries and stuff is from a legal quarry, so in that case we expect Jamaica Energy Partners to have a person whom to look at that to make sure that they have a license, and keep a copy on file and last one that is important is to see as much as possible how many of the construction crew can be taken from the area to ensure that the community can benefit from such a development. During the operational phase then we expect

them to do annual noise assessment just to ensure that the power plant is operating in a fashion that is not disturbing or causing a nuisance to the community. Jamaica Energy Partners would use a 3rd party to do that and we anticipate that it would cost about J\$200,000. Undertake monthly inspections of the drainage and waste water system to ensure that they are working in working order and that would include looking at the Tivoli Gully and also to look to ensure that the two Ambient Air Quality Stations are collecting data, so on a continuous basis so that we have a good picture of what the conditions are in the environment.

Reporting requirements we expect that the reports would be for the noise and water prepared by the 3rd party and handed it to the Jamaica Energy Partners plant manager or his designate. If the emissions does not meet the required criteria then investigation and corrective measures are to be put in place and retest done as soon as possible, and we expect that the noise report, the report would include noise results and that would be done annually and in the initial stages for the air emission done quarterly but in the long term I think annual stack emission testing will be conducted.

Michael Anthony Cuffe:

Thank you very much Carlton. I think that you will agree that, that this was one of the, well certainly as far as I'm concern one of the most detailed EIA findings report that I've ever sat through. Well of course, given the magnitude of this report it is absolutely necessary and so wants to say thank you again Carlton for taking us through it. I'm not sure that the next segment that we have on the programme is necessary questions and answers, I think it will be redundant after all Carlton just said a while ago, but any way for the benefit of agencies like NEPA and the World Bank, and to ensure transparency in this project, it is absolutely necessary that your feedback is recorded. So as a matter of fact, just before we open the floor for questions and answers, I'm going to ask you to identify yourselves, as well as your organizations if you are representing one, so that we can have that one record, so that we

can know that NEPA and the other agencies will be aware that we carried out our due diligence in this presentation. So may I invite you to stand for a moment please? Just indulge me here one moment stand up and take a nice stretch, you needed that, take a good stretch ok. We, let me see how we are gonna work this. Well you all have access to micro phones and so what you could do is just operate, press the button on the panels in front of you, again, just remember to identify yourselves and your organizations if you are representing one, the members of the panel will be more than happy to answer the questions for you. Ok. Let me ask the first question!

Question:

When will this all begin Wilfred?

Wilfred Bassaragh:

Well we are hoping to get this permitted soon so a lot of the preliminary work are going through now, but as Carlton indicated, 565 days after we have gotten the go ahead we will complete.

Michael Anthony Cuffe:

Ok

Wilfred Bassaragh:

That approximately 1 1/2 year

Michael Anthony Cuffe:

From now?

Wilfred Bassaragh:

After we get the go ahead, assuming this phase goes through smoothly.

Michael Anthony Cuffe:

Ok alright, and of course as we mentioned as well 30 days after, you have 30 days within which to submit other comments or questions on the project, ok, so the floor is open, it's all yours, who would like to go ahead first? If nobody goes first I'm gonna have to designate somebody ok

Ralph Chen:

Moderator Ladies and gentlemen, I'm Ralph Chen, a physical consumer advocate although I'm a member of both JET agents, the Consumer advisor committees of the OUR and am not here as an officer representing those NGO, I'm here on a private capacity. Well first of all let me say I congratulate the organizers on the ambience of the room and the choice of décor, the taste is excellent. In terms of the EIA presented it is scholarly thorough, I think the consultants ought to be congratulated. I, this is my first hand contact with Jamaica Energy Partners and let me say I'm very impressed with the firm and it is very truly won a great success story in our business sector in recent times, and may I suggest there is a way for Jamaica Energy Partners to become a bigger success story than it is currently, that it considers listing its self on the Jamaica Stock Exchange so that ordinary Jamaican can buy your stock share in your success.

Michael Anthony Cuffe:

Ralph is also stock brokers

Ralph Chen:

Anyway let me now put you u couple specific questions, the efficiently of your plan because you are going to be supplying the Jamaica Public Service will have an impact on the cost of electricity to the consumers now will yours efficient than all other

existing power generating plants in the country? The next question I would like to ask.

Michael Anthony Cuffe:

Ralph let me just ask to hold while they take 1 question first then we can quickly ask the next one afterwards ok Wilfred?

Wilfred Bassaragh:

With regards to the first issue of being listed I would say be patient we don't know what the future may bring (2) as it relates to the efficiency yes we are amongst the most because they are some probably seasonal or undependable its either wind or the hydro which are technically more efficient but there's not a large capacity the capabilities are low and the depending dependability is the wind is 30% in terms of reliable, so not exactly the most but among the most

Michael Anthony Cuffe:

Next question Ralph

Ralph Chen:

Now although I'm not a geologist, although I do have an interest in geology what I would like someone to interpret for me explain for me is the significance of the bore data findings

Michael Anthony Cuffe:

Who wants to, who would likes to take that 1?

Shakira Khan:

I'm Shakira Khan, I'm from the Marine Geology Unit, Department of Geology at UWI and we did review the borehole

data for this project.

Michael Anthony Cuffe:

Could you clarify for us what is the Bore Hole Data?

Shakira Khan:

It's a hole drilled and material excavated and these are done around in this particular site they did 8? Carlton. And so we are able to see what the sub surface geology is like what the material below the site is like

Michael Anthony Cuffe:

Ok

Shakira Khan:

Material is gravels, sands, clay, the clay leads to some of that ponding that you saw in the presentation. The uneven drainage of sewage so it has implications for building stability for how you put up your structure, it also has implication with drainage how that will percolate down into the waterable I don't know if what you are referring to

Michael Anthony Cuffe:

Are you comfortable with that Ralph?

Ralph Chen:

Yes more or less, I will speak you privately afterwards. Finally I would just like to make a final observation. Let say I'm very impressed with the fact that you are going to take precautions to ensure with the people who supply you with quarry material other vendors are legally registered entities' what I'd also like you to

ensure as well is that to see that they are also tax compliant.

Michael Anthony Cuffe:

Ok, next question, again just remember to identify your organization and your name as well. Anymore questions, any of my media partners here? No?

Ralph Chen:

I have another question but I'm wondering if it's the sort of question which is appropriate to ask in a forum like this?

Michael Anthony Cuffe:

Well lets hear it

Ralph Chen:

And what is the, either the return on investment or the return on the equity on the proposed project

Wayne:

That's a valued question whether or not I'm allowed to respond to that it's a bit premature to say what it is Ralph. When we do the project pro forma Model, the financial environment was not what it is today, the economics of the project as is eroding and the longer we take to finalize the financing, to sign the security documents, is also going to, will determine the results on the type of investments we are looking for. Typically, return on investments, foreign returns investments ranges from anywhere between 12 and 18%, how we extract those returns are going to be consistent with how we manage the asset, how we manage the operations. With our type of efficiency the unit gives but certainly there are certain market conditions that we have no control over. So at the end of the day, it is going to be dependent by cost of capital where financing is concerned and where the exchange rate

is. We have a PPA, which is dollarized nominated. We have a Euro based plant, that we are procuring and we live in an environment which with a sovereign dollar, so we working across there different nominations. So at the end of the day it's going to be what that number is when we sign the dotted lines on the various contracts to determine the rate of returns we have, but right now, it's an acceptable rate of return as to what the number is I cannot say.

Michael Anthony:

Ok Sir, go ahead.

Dwayne Carsill:

Dwayne Carsill Office of the Children's Advocate, I recognize that you said the noise level when you did your baseline; it was much higher than NEPA allowed level and the international level. What will be done to ensure that the best interest of the children of Tivoli Comprehensive High School and at the Pre School will be taken into consideration? I record you said that you are going to use some noise level to hold down the noise. But what testing will be done prior to, to ensure that the levels is below that.

Michael Anthony Cuffe:

Thank you for the question Dwayne, Carlton you want to take that, Wilfred, Wayne.

Wayne McKenzie:

It's Wayne, typically Carlton or probably Wilfred would answer that, but, but I'm an avid environmentalist so, let me take a stab at it. We, the baseline is what is, alright and what is important for us is to make sure that as a stand alone unit assuming that everything is being equally conditions were perfect what would be the plant's emission and in terms of noise and or air and water. We design around those to mitigate the impact, to reduce those to mitigate the

impact, to reduce those impacts so what we have done is we have modelled the plant as a stand alone unit, looking at what those noise levels are and how we would reduce the impact of the noise. A point to note though is not, at, is not, is not, the extenses are not great, they are not significant it's on a amalgamative scale which tends to look exponentially that much higher but its not, right, so what we have done is we have gotten the EPC Contract which Wartsila to come up with a design to mitigate those noise levels to be consistent with and well within the regulators values for the noise, which is World Bank and NEPA.

Michael Anthony Cuffe:

Ok, are you comfortable with that Dwayne? Dwayne, are you ok with that?

Dwayne Carsill:

OK you said, I want to know that the test is done and is conclusive to say that it will be below whatever it ought to be so, I'm not sure if that's what..

Michael Anthony Cuffe:

No, I was asking if you were satisfied with the answer you got

Dwayne Carsill:

I'm sure if he's saying that

Michael Anthony Cuffe:

If it will be done or it won't be done

Dwayne Carsill:

Right

Michael Anthony Cuffe:

Alright, Carlton?

Carlton Campbell:

Yes Dwayne, what we did was trying to explain was we did two things

One – we took back the levels that are presently

Two – we looked at what the Power Plant would be alone, then in the cumulative section we added both. Now to arrive at the level that was consistent with what is there and wouldn't impact, to more than what is there we had to do some adjustments and that is what you saw me talking about. Close to 1 million US\$ in terms of mitigating stuff, in terms of changing the type of radiators, putting on silencers, putting on mufflers and also doing some, yeah the power house design as changed a little which cost approximately another 1 million US\$ to do and based on that then we ran the model again and came up with numbers that would have been satisfactory. Also we want to say that at the time of commissioning then there will be another noise test that is done to ensure that what is built is producing the required and what we expect in terms of the noise spectrum, so we also have another step at the commissioning to do the test and then annually we'll do tests to ensure that changes in the operations of the plant do not adversely impact the community and the school.

Michael Anthony Cuffe:

Ok, next question.

Carlene Sinclair:

I'm Carlene Sinclair from the Office of the Prime Minister, I'm just seeking to get some answers on behalf of the people of West

Kingston, I notice in your survey, I'm not sure when it was done, and you mentioned 67% of the persons were unaware of the project and you also mentioned you spoke to stake holders or special interest groups. I just want you to remind me who those special interest groups are and two whether or not you have any immediate plans to sensitized the community when you are about to get started because all of these that we are talking about with the noise and the pollutions and what not, they need to have a direct input in it.

Carlton Sinclair:

In terms of the survey, the survey was done in the summer and as I said we used in addition to that the SDC did a survey in April which was current. In terms of sensitizing persons, yes, for sure Jamaica Energy Partners will be going into the community to sensitize. Special persons like the CDA and some of the counsellors including the Mayor, so we told them what the project was about and got their feedback and I don't remember what the other, what was the other...

Carlene Sinclair:

Special Groups because we have the principal of the Charles Chin-Loy, the principal of the Tivoli High, the Denham Town High which are in immediate, very close proximity to the site, the churches...

Carlton Campbell:

Yes we spoke to both of those principals in fact one of the noise stations was, well two of them one in Chin-Loy and one in Tivoli.

Carlene Sinclair:

There are two counsellors in West Kingston; the one from Denham Town is Lorna Leslie and Counsellor Desmond McKenzie.

Carlton Campbell:

Right, OK.

Michael Anthony Cuffe:

Ok, you ok with that Carlene? Good, more questions?

Any representative from the Media Houses?

OK so we can safely conclude now? Are you comfortable?

Anymore Questions?

I'm sorry quickly Ralph, go ahead.

Ralph Chen:

Yes, one of the things that impressed me most the about the firm is the contribution of a good corporate citizen, I found it very impressive.

Michael Anthony Cuffe:

Ok, thanks again Ralph and thanks Carlene, Dwayne and Shakira.

Well you know as I started out by saying and as I'm sure you realize by now, the magnitude of this project is one in which at the end of the day we will all benefit from it tremendously if and I'm hoping all will go well and that we will be able to, it will take us closer to that 300MW that we need in the next 10yrs to build our energy capacity so that we can continue to operate at global standards, again thanks to Jamaica Energy Partners for preparing the presentation for us and giving us a chance to speak to it. Of course I suppose after this we can, there's a, if you still have more questions you would like to submit please feel free to do that, you have up to thirty days in which to do so.

The next bit of information I have to share with you is and sure it will be most welcome, we wouldn't invite you here without providing for you by way of refreshments and food and so it is my great pleasure to tell you that as soon as we wrap things up which will be in a couple of minutes, you are invited to go down the hall,

up the stairs, then left, then follow your noses to the garden area where we have prepared something very special for you. Thank you so very much for coming and for your attention and for questions and on behalf of the representatives from Jamaica Energy Partners good evening and by the way in case of those of you I won't see before have a Merry Christmas.