Environmental Impact Statement (EIS) Executive Summary for the Public

A. DESCRIPTION OF THE PROJECT

INFORMATION ABOUT THE PROJECT

Name of the Project : MELTING PLANT AND STEEL BAR MILL PROJECT
Location of the Project : Sitio Kirahon (Purok 9), Barangay San Martin, Municipality of Villanueva, Province of Misamis Oriental
Type of the Project : Smelting Plant Project

PROJECT COMPONENTS:

The project has granted an Environmental Compliance Certificate (ECC) for the 24,000 Metric Tons per year in a land area of 6.100 hectares on February 14, 2018. Since there is a potential demand for the steel products, the proponent decided to increase the production capacity to 90,000 Metric Tons per year with additional lot area of 4.00 hectares.

The application of the ECC covers the 90,000 Metric Tons per Year includes the following components:

Table 1. Comparison of the Project Components (Covered by ECC and Proposed Modification)

Facilities	Covered by existing ECC (ECC Ref. No. ECC-R10-1802-003 issued on February 14, 2018)			Proposed Modification/Changes		
	No. of units	Area (sq.m)/ Capacity	Specification/ Description/ Remarks	No. of units	Area (sqm)/ Capacity	Specification/ Description/Remarks
Project Capacity	**24,000 MT/yr**			**90,000 MT/yr**		
Project Area	**6.100 ha**			**9.9930 ha**		
MAJOR COMPONENTS						
Electromagnetic Overhead Crane	1	None	This is used to feed the scrap metals to the induction furnace	1	None	This is used to feed the scrap metals to the induction furnace
Raw Material Storage Facility	3	7,224 sq.m.	This area is provided with three (3) units storage of raw scrap materials *(F & G in the Site Development Plan).*	3	7,224 sq.m	This area is provided with three (3) units storage of raw scrap materials *((F & G in the Site Development Plan, Figure 1-4,).*
Melting Process using Induction Furnace	3	5 MT/hour or 60 MT/day 2,880 sq.m.	Three (3) units with 5MT/hr capacity each furnace operating every two (2) hours. The heating temperature is about 1,700^{0}C. One (1) unit Back-up in case of machine break down. The supplier is Philippine Xinxing Steel O., Ltd.	3	20 MT/hr or 300 MT/day 2,880 sq.m.	Three (3) units and One (1) Unit Back-up with 20MT/hr capacity each furnace operating at five (5) hours per day. The heating temperature is about 1,700^{0}C. The Back-up machine shall be used in case of break down. The size of the furnace is 3.55 meter in diameter and 4.8 meters in height. The supplier is Philippine Xinxing Steel O., Ltd.

Ladle and Tundish	3	None	The Ladle serves as the molten metal holder for uniform mixing of metal while the tundish provides a continuous flow of metal from the batch ladle operation to the continuous casting machine. This helps avoid splashing and gives smoother flow	3	None	The Ladle serves as the molten metal holder for uniform mixing of metal while the tundish provides a continuous flow of metal from the batch ladle operation to the continuous casting machine. This helps avoid splashing and gives smoother flow
Billet Molder	3	None	The molder has a temperature of at least 950°C-1000°C, the pig-iron is formed at size 120mm x 120mm in cross section and manually cut with the use of specially designed gas cutting tool into 6-meters in length.	3	None	The molder has a temperature of at least 950°C-1000°C, the pig-iron is formed at size 120mm x 120mm in cross section and manually cut with the use of specially designed gas cutting tool into 6-meters in length.
Rolling and Shearing Mill	3	11,232 sq.m.	The pig-iron is then feed to roughing or rolling mill at rolling temperature which ranges from 900-1000 degrees Celsius The product undergo a series of reduction sizes through extrusion rolling machine, (plain-type), then to a finishing sizes of 10mm, 12mm, and 16mm in cross section and angle bars of 4" and 5" *(Legend: B and C of Site Development Plan, Figure 1-4).*	3	11,232 sq.m.	The pig-iron is then feed to roughing or rolling mill at rolling temperature which ranges from 900-1000 degrees Celsius The product undergo a series of reduction sizes through extrusion rolling machine, (plain-type), then to a finishing sizes of 10mm, 12mm, and 16mm in cross section and angle bars of 4"and 5" *(Legend: B and C of Site Development Plan, Figure 1-4).*
Finished Product Storage Facility	2	7,344 sq.m	This area is provided for storage of finished product such as deformed and angle bars *(A and D of the Site Development Plan, Figure 1-4).*	1	7,344 sq.m	This area is provided for storage of finished product such as deformed and angle bars *(A and D of the Site Development Plan, Figure 1-4).*
Sub-Station 1	1	30 MVA	Sub-station is provided under CEPALCO	1	30 MVA	Sub-station is provided under CEPALCO
Transformer	1	35 MVA	The sub-station is connected to the Transformer for continuous supply of power	1	35 MVA	The sub-station is connected to the Transformer for continuous supply of power
Control Room	2	Cabinet type	This area is provided to have a centralize power and control system during operation.	2	Cabinet type	This area is provided to have a centralize power and control system during operation.
SUPPORT FACILITIES AND UTILITIES						
Admin Support (Office Buildings, and Barracks/ Quarters etc.)	1		One (1) Admin office Bldg., one (1) canteen, one (1) clinic, twenty-four (24) parking slots, workers barracks, security outpost etc.	1		One (1) Admin office Bldg., one (1) canteen, one (1) clinic, twenty-four (24) parking slots, workers barracks, security outpost etc.
Water Supply	-	6.0 cu.m/day	Water requirement is temporarily provided by	-	6.0 cu.m/day	Water requirement is temporarily provided by

			CEPALCO and with provision for Underground water source			CEPALCO and with provision for Underground water source
Overhead Water Tank	1	20.0 cum volume capacity	Provision for overhead water tank to temporary store the water coming from the deep well or underground water source.	1	20.00 cum volume capacity	Provision for overhead water tank to temporary store the water coming from the deep well or underground water source.
Drainage System	NA	Underground RCP	Properly designed surface run-off thru construction of drainage system to divert to the cooling tower	NA	Underground RCP	Properly designed surface run-off thru construction of drainage system towards common public drain
Weighing scale	2			2		
Parking and Open Yard						
POLLUTION CONTROL FACILITIES						
Dust Collector System	4	NA	The plant shall have a "5Tx3 Dust Removing System for Electrical Furnace Design Project". This umbrella type air-pollution control device/facility, aims to absorb and collects domestic and foreign electric-furnace smoke (flue gas) and dust.	4	NA	The plant shall have a, "20Tx3 (plus One (1)-Back-up) Dust Removing System for Electrical Furnace Design Project". This umbrella type air-pollution control device/facility, aims to absorb and collects domestic and foreign electric-furnace smoke (flue gas) and dust.
Filter Bag Dust Collector (Impulse Dust Cleaner - Baghouse)	1	1,824.60 cum capacity	The three (3) furnaces is connected to the one (1) unit bag house equipped with 2,520 filter boxes inside.	1	1,824.60 cum capacity	The Four (4) Units furnaces is connected to the bag house equipped with dimension of 14.20 meters x 8.70 meters x 14.774 meters made of erylene needle felt.
Cooling Water Pond	1	5 cu.m/hr	Water cooling system shall be provided and supplied to the machines to regulate and control temperature of furnace and other heat using devices. The water-cooling ponds has total volume capacity of 2,960 cubic meters.	2	12 cu.m/hr Make-up water	Water cooling system shall be provided and supplied to the machines to regulate and control temperature of furnace and other heat using devices. The water-cooling pond has a volume capacity of 2,960 cubic meters and 4,678 cubic meters.
Solid Waste Management Facility (MRF)	1	18 sq.m	Primarily intended for domestic solid waste	1	18 sq.m	Primarily intended for domestic solid waste
Toxic and Hazardous Waste Facility	1	18 sq.m	Intended for hazardous waste only	1	18 sq.m	Intended for hazardous waste only
Sewage Treatment Facility (STF)	1	20 cum	For domestic wastewater treatment	1	20 cum	For domestic wastewater treatment

Buffer Zone	1	2,474 sqm	This represents the 2-meter set-back from the property and shall serve as a permanent buffer zone	1	2,474 sqm	This represents the 2-meter set-back from the property and shall serve as a permanent buffer zone

SIZE OF THE PROJECT

The project is located in a private and titled property with a total land area of 9.9930 hectares and with a total production capacity of 90,000 Metric Tons per year.

ALTERNATIVE PROCESS/TECHNOLOGY

Siting: The existing and the proposed expansion of land area and production capacity site is within an Industrial Estate and is located in a private property, no alternative is being considered in terms of site location since project structures area already existing. The location is within the Industrial Zone based on the land use map of the Municipality of Villanueva. In addition, the site is not prone to any identified hazards such as flood, landslide, liquefaction, tsunami, etc.

Technology Option and Design: The project adopts the latest technology of Induction Furnace Smelting Technology (IFST) that requires lower power consumption, in effect lowers the electricity cost and minimizes the emission of air pollution compared to the old technology of electric arc furnace which causes heavy pollution and requires high energy or power cost. The Air Pollution Control Device such as Umbrella-Type Dust Collection System to be installed for each furnace and Impulse Dust Cleaner (Baghouse) is equipped with thousands of filter boxes made of erylene needle felt that can capture particulate matter up to 90% of the total expected smoke and dust.

The preparation of the environmental management and its implementation during construction and operation phase shall be strictly implemented by the company in order to minimize the possible impact to the environment. The following impact management plan is being prepared in all phases of the project:

Table 2 Summary of Impacts and Proposed Mitigation

POTENTIAL IMPACTS	PROJECT PHASES	MITIGATING MEASURES	RESIDUAL EFFECTS
LAND			
Land Use and Classification			
Compatibility of Land Use	Pre-Construction	Municipal Resolution was secured	Consistent with the Land use of the Municipality
Contamination and aesthetics due to generation of Solid and Hazardous Waste caused by improper management	Construction Operation Abandonment	Proper implementation of RA 9003 "Ecological Solid Waste Management Act of 2000" and RA 6969 "Toxic Substances and Hazardous and Nuclear Wastes Control Act No. 6969 of 1990	Minimize the volume of solid wastes. Properly managed, labelled and segregated hazardous wastes.
Geology and Geomorphology			
Loss of Vegetation Cover	Construction	Implement 2-meter buffer zone along the property boundary and re-greening and landscaping of open areas	Aesthetics and contributes to climate change and protect adjacent properties from dust.
WATER			
Hydrology			
Degradation of Surface	Construction	Immediate compaction and	Protects Dayawan

Water Quality	Operation	sprinkling of water in open areas Operational water-cooling pond system. zero discharge.	creek from possible siltation No possible generation of wastewater
Depletion of Water Source due to over extraction of groundwater	Operation	Implement downspout collection of rainwater and zero discharge. Reuse and recycle	Continuous supply of water and allow to recharge
AIR AND NOISE			
Air Quality			
Dust Pollution	Construction	Sprinkling of water in open areas especially during summer or dry months. Regular maintenance of equipment such as change oil, etc.	Mitigates possible emission of dust.
Smoke (Flue gas) and Dust Pollution	Operation	Installation of Four (4)-Units dust collector for each furnace and properly connected and installed Impulse Dust Collector (Baghouse) Regular maintenance of Baghouse (Filter box), equipment, standby genset and vehicles.	Lessen dust, avoid possible complaints and compliant to DENR NAAQGV for Criteria Pollutants Continuous operation, prevents emission of smoke
Increase in Noise Level	Construction Operation	Regular maintenance of equipment such as change oil, and tune-up, etc. With properly installed noise barrier inside the machine and operation should be confined in an enclosed building	Minimize the vehicle sound Minimize health issues and complaints from neighbor or adjacent industry.
PEOPLE			
Health Issues			
Impact on Health due to Dust	Operation	Properly operational Air Pollution Control Device such as Dust Collector System and Impulse Dust Collector (Bag house) with Regular maintenance of filter box. Assistance to Medical Mission in coordination with the LGU. Provide mask when necessary.	Compliant to DENR NAAQGV for Criteria Pollutants thus prevents health issues
Positive impact on employment generation and livelihood	Construction Operation	Priority for local hirees – equal shared in employment requirements for Barangays San Martin, Balacanas and Tambobong Assistance to livelihood	Improves the economic life of the community and prevents conflicts with the barangays

		programs of the LGUs and implement Social Development Plan (SDP) in accordance to the LGU plan.	
Land	Abandonment	Removal of temporary facilities	Improves aesthetics

RESOURCE MATERIALS

I. Water Source

The water source for the project is temporarily tapped at CEPALCO for the domestic use with provision for underground water source or deep well during the operation phase. Source for the cooling water shall be provided by means of water collection pond.

II. Power Source

The power source for the project is supplied by Cagayan Electric Power and Light Company, Inc. (CEPALCO)

In case of power interruption, the project shall be using a 500 KVA standby genset as power source. The generator shall be using a diesel fuel.

RESOURCE ALTERNATIVES

Since the project is an expansion of the production capacity and land area, alternatives had already been considered and discussed during the issuance of the Regional Environmental Compliance Certificate (ECC). The project is an expansion of the production and is no longer considered new application, however for the purpose of discussion, the proponent considered the site based on the compatibility of land use plan of the Municipality as well as the location is within the Phividec Industrial Estate, therefore no alternative considered for the proposed expansion. Technology option considered use of Induction Furnace for its low electric consumption and minimal air pollution rather than electric arc furnace. Built-in air pollution control device as Bag House with Pulsejet Filter Bag, low electric energy consumption and considered a waste management project thru its recycling process.

B. LOCATION OF THE PROJECT

The project is located in Sitio Kirahon (Purok 9), Barangay San Martin, Municipality of Villanueva, Province of Misamis Oriental.

C. PROJECT PROPONENT

Name of the Company : KEIM HING STEEL CORPORATON
Office Address : LOT 2758-B, BARANGAY TATLONG BATING, NAIC, CAVITE
Authorized Representative : EDWIN FABRO – PRESIDENT
VINCENT TAN – GENERAL MANAGER

D. PROJECT IMPLEMENTATION TIMETABLE

Table 3 – Timetable of the Project

	YEAR	START	FINISH
Secure all permit	2018-2019	DENR-EMB – ECC of the expansion capacity-on-going LGU-with Business Permit	End of 2019
Construction Phase	2017-2019	Land development completed, with existing barracks and vertical structures completed and installation of machineries	Third Quarter of 2019
Operation Phase	2019	Fourth quarter of 2019	Long term

E. IMPACT AREA

The Delineation of Direct Impact Area (DIA) and Indirect Impact Area (IIA) followed the provisions under Section 10, of DENR Administrative Order (DAO) 2017-15

The EIA Study area focused on the Direct Impact Area (DIA) of the project area in 9.9930 hectares identified as the People from Barangays San Martin, Balacanas and Tambobong, Kirahon Solar Plan, Jacobi Carbons Phil., NGCP, Minergy and Phividec Road were considered for Air Sampling and Perception Survey. Secondary impact or Indirect Impact Area (IIA) area identified was the Dayawan Creek which is about 1.1 to 2.5 aerial.

F. IDENTIFIED STAKEHOLDERS

Public Participation for the Information Education Campaign (IEC) in a form of General Assembly and Consultation was conducted prior to the conduct of the Public Scoping all in accordance to DAO 2017-15. Based on the results of the Information Education Campaign (IEC), the identified stakeholders were LGU-Province of Misamis Oriental, Municipality of Villanueva, Barangays San Martin, Balacanas and Tambobong, Community and Stakeholders, Church Organization, Peoples Organization, Industry such as NGCP.

G. OTHER ADDITIONAL INFORMATION

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