Expansion Proposal- Expansion of existing plant for Pencil Ingot / MS Billet production from 57,600 TPA to 204,200 TPA and Rolled Production from 88,200 TPA to 200,000 TPA

EXECUTIVE SUMMARY

For

Expansion of M/s Kashi Vishwanath Steels Private Limited for MS Ingot/MS Billet production from 57,600 TPA to 204,200 TPA and Rolled Production from 88,200 TPA to 200,000 TPA along with installation of 1x20 Ton Gas Oxygen Refining Unit, 7200 TPA Cold Drawing Complex and 4 TPD Metal Recovery Plant at

at

Narain Nagar Industrial Estate, Bazpur Road, Kashipur, District Udham Singh Nagar, Uttarakhand

Study Period: Summer Season (1st March to 31st May 2019)

Applicant

Mr. Devendra Kumar Agrawal
M/s Kashi Vishwanath Steels Private Limited.
Narain Nagar Industrial Estate, Bazpur road,
Kashipur, Uttarakhand- 244 713
Ph. No.: 05947-262109/262138
Email: kvspremier@kvspremier.com



Vardan EnviroNet
(NABET/EIA/1619/SA 0077)
82-A, Sector-5, IMT Manesar
Gurgaon (Haryana)
Mail ID: metallurgy@vardanenvironet.com
Contact No. 0124-4291036, 09899651342

Expansion Proposal- Expansion of existing plant for Pencil Ingot / MS Billet production from 57,600 TPA to 204,200 TPA and Rolled Production from 88,200 TPA to 200,000 TPA

EXECUTIVE SUMMARY

Project name and location

Project Name:

Expansion of M/s Kashi Vishwanath Steels Private Limited for MS Ingot / MS Billet production from 57,600 TPA to 204,200 TPA and Rolled Production from 88,200 TPA to 200,000 TPA along with installation of 1x20 Ton Gas Oxygen Refining Unit, 7200 TPA Cold Drawing Complex and 4 TPD Metal Recovery Plant.

i. Person to be employed:

The existing manpower of the plant is 400. Direct employment due to the proposed expansion will be 100. Total employment after the expansion will be 500.

Potential for indirect employment due to the proposed expansion will be much more. There is lot of places in-which employment generates indirectly viz: Transportation, Travel, Packaging, Information Technology, Telecom, Automobile, Courier Sector etc.

ii. Address for Correspondence (Name, Designation and complete address)

Mr. Devendra Kumar Agrawal

M/s Kashi Vishwanath Steels Private Limited.

Narain Nagar Industrial Estate, Bazpur road,

Kashipur, Uttarakhand- 244 713

Ph. No.: 05947-262109/262138

Email: kvspremier@kvspremier.com

iii. Products and capacities. If expansion proposal then existing products with capacities and reference to earlier EC.

The company was set up in the year 1985 initially after obtaining NOC from Uttar Pradesh Pollution Control Board on 12.12.1985 for setting up of small Steel Plant for production of 30 TPD Rolled Products (MS Bar, MS Round and Channels). The plant was expanded in 1992 for 100 TPD production after obtaining NOC from Uttar Pradesh Pollution Control Board on 24.06.1992. Again, the plant was expanded for production of 160 TPD after obtaining NOC from Uttarakhand Environment Conservation & Pollution Control Board on 21.12.2005. M/s KVS has further expanded its capacity for the production of 245 TPD after obtaining NOC from UEPPCB on 24.06.2006.

M/s Kashi Vishwanath Steels Pvt. Ltd. now proposed to expand its capacity for production from 88,200 TPA to 200,000 TPA along with installation of 1x20 Ton Gas Oxygen Refining Unit, 7200 TPA Cold Drawing Complex and 4 TPD Metal Recovery Plant.

Expansion Proposal- Expansion of existing plant for Pencil Ingot / MS Billet production from 57,600 TPA to 204,200 TPA and Rolled Production from 88,200 TPA to 200,000 TPA

Table-1 Units and Production Capacity of the Existing & Proposed Project

Plant	Existing		Proposed (To	tal after the expansion)	proposed	
	Unit	Days of	Capacity	Unit	Days of	Capacity
		Operation	TPA		Operation	TPA
Steel Melting Shop						
Induction Furnace	2x 5 Tons 2x 4 Tons	300		4x 12 Ton	360	207,360
Continuous Casting Machine (CCM) / Ingot Casting	2 Strand, 6/11 m radius	300	57,600	2 Strand, 6/11 m radius	360	204,200
Gas Oxygen Refining Unit	-	-	-	1 x 20 Ton	360	-
Producer Gas	Existing Producer Gas Plant shall be phased out after the proposed					
plant	exp	ansion. PNG	Gas will be	used in Reheat	ing Furnace	
Metal Recovery				1	300	4 TPD
Plant						
Reheating	1 x 45 TPD	360	-	1 x 45 TPD	300	-
Furnace	1 x 200 TPD			1 x 200 TPD		
Rolling Mill Low Speed Rolling Mill	45 TPD	360	16,700	120 TPD	350	41,760
High Speed Rolling Mill	200 TPD	360	71,500	452 TPD	350	158,240
Total Rolling Mill Production	245 TPD	360	88,200	572 TPD	350	200,000
Cold Drawing Complex				20 TPD	360	7,200

Industry may either roll MS Billets/Ingots produced in the plant or sold it directly in market. In case sufficient Billets / Ingots produced in the plant are not available for rolling, billets / ingots shall be purchased from the market for rolling, within the maximum production of 200,000 TPA.

iv. Requirement of land, raw material, water, power, fuel with source of supply (Quantitative)

Requirement of Land

The total plant area is 5.981 Hectare. The project shall be installed within the existing plant area. No additional land shall be procured for the expansion.

Raw Material Requirement

Quantity of raw materials required and their source is indicated in the Table below:

Expansion Proposal- Expansion of existing plant for Pencil Ingot / MS Billet production from 57,600 TPA to 204,200 TPA and Rolled Production from 88,200 TPA to 200,000 TPA

Table-2 Raw Material Requirement after the Proposed Expansion

S.No.	Raw Material	Ratio	Qua	ntity (TPA)	Source of Raw
			Existing	Total after the proposed expansion	Materials
Steel I Furna	Melting Shop – Indu ce	ction	58,750	207,600	
1.	Sponge iron	0.84	49,247	174,130	Keonjhar, Odisha
2.	Scrap / Pig Iron	0.245	14,410	50,882	Delhi & UP
3.	Ferro Alloys (FeMn, FeSi, Al)	0.005	340	1,130	Raipur & UP
Total		1.09	63,997	226,142	
Steel I	Melting Shop – Bille	t Caster	57,600	204,200	
1	Liquid Steel	1.02	58,750	207,600	In-house
Steel I	Melting Shop – Ingo	t Casting	57,600	204,200	
1	Liquid Steel	1.02	58,750	207,600	In-house
High S	peed Rolling Mill	1	71,500	158,240	
1	MS Ingots/ MS Billets (In-house)	1.02	40,600	161,550	In-house
2	MS Ingots/ MS Billets (Purchased)	1.02	32,335	-	Open Market
Total		1.02	72,935	161,550	
Slow S	Speed Rolling Mill		16,700	41,760	
1	MS Ingots/ MS Billets (In-house)	1.02	17,000	42,650	In-house
Total 1.02		1.02	17,000	42,650	
Cold D	rawing Complex				
1	MS Rod	1.0		7,200	In-house
	•	•	•	•	

Water requirement

The requirement of makeup water for industrial and domestic purposes after the proposed will be 295 KLD. The requirement will be met from deep bore wells. Permission for the same shall be obtained from CGWA.

Table-3: Total Water Requirement for the Existing and Proposed Plant

Unit Water Requirement (KLD)

Expansion Proposal- Expansion of existing plant for Pencil Ingot / MS Billet production from 57,600 TPA to 204,200 TPA and Rolled Production from 88,200 TPA to 200,000 TPA

	Existing	Total after Expansion
Induction Furnace	35	110
CCM & Rolling Mill Process –	40	130
Direct Cooling		
Producer Gas Plant	12	
Miscellaneous i.e. Dust	3	5
suppression		
Domestic Purpose	5	10
Green Belt	10	40
Total	105	295

Power Requirement

After proposed expansion, the Unit at full capacity will demand 26.5 MW of power, which shall be supplied through Grid (UPCL). Existing power demand is 16.5 MW.

Table-4: Total Power Requirement for the Existing and Proposed Plant

Existing	Proposed	Total
16.5 MW	10 MW	26.5 MW

Emergency Back-up Power: 1 no. of 63 KVA silent type DG set has been provided already which to be replaced & 685 KVA (125, 160 & 400 KVA on standby basis). This will also be useful for emergency power to take care of safe shut down of important auxiliaries of plant. During total power failure, above DG set will also support for Emergency lighting for personnel movement in some main location of steel plant.

Manufacturing Process

Section	Technology	Process flow
SMS Unit	Induction Furnace (IF)	Feeding of RM Melting in IF (adding alloys as per requirement) → Metal in Liquid form → Gas Oxygen Refining Unit → casting & cooling → dispatch. Other outputs: Slag from IF and Bag Filter dust Particulate matter and gaseous emissions from Chimney
Rolling Mill	Direct Rolling of hot billets	Feeding of hot billets →roughing strands →rolling →cutting & bundle →dispatch Output – Rolled product (TMT Bar) Water pollution due to roller cooling Generation of Used Oil
Cold Drawing Complex	Direct rolling of Bars	MS Bars/Ribbed Bars →Cold rolled →Dies/Rollers →Cold Drawn Products

Metal Recovery Plant

During processing with Induction furnace, fumes / dust are generated because of the combustion

Expansion Proposal- Expansion of existing plant for Pencil Ingot / MS Billet production from 57,600 TPA to 204,200 TPA and Rolled Production from 88,200 TPA to 200,000 TPA

of Scrap or Sponge iron. This dust has some percentage of lead. The Company is proposing to install a facility to extract these harmful impurities, based on a matured technology and to dispose of this dust properly. The process consists of extracting harmful elements from the fumes/dust which are produced during the melting of scrap in Induction furnaces. 100% of Lead and Iron will be extracted from the Furnace dust. This is a Green process, no Harmful chemical will used in this process.

It is proposed to adopt fully re-circulating systems in all areas of the plant. As a result the net water requirement will get limited to the losses in the system only. The water system shall be designed for 'Zero discharge'. Particulate matter and Gaseous Emission will be controlled using APCD e.g. ESPs and Bag filters will be installed.

Solid waste generation and management

Table-5: Solid Waste Generation, Handling and Utilization

Type of Waste	Quan	tity in Tons (TPA)	Mode of Disposal
	Existing	Total after the proposed expansion	
IF Slag	3,775	16,608	After metal recovery (approx. 10%), remaining slag shall be crushed and will be used as aggregates for road construction
IF Bag Filter Dust	192	1,290	Will be sent to metal recovery plant.
Scale from CCM	395	1,200	Shall be given to Sinter Plant
Mill scale from Rolling Mill	630	1,500	Shall be given to Sinter Plant
Total	4,992	20,517	

Management of Hazardous Waste

No hazardous waste shall be generated from the process except the 'Used Oil' and the same will be sold to the register recycler.

Baseline environmental data— air quality, surface and ground water quality, soil Characteristic, flora and fauna, socio-economic condition of the nearby population

Baseline Environmental Study

To predict the impact of the proposed activities on the surrounding environment, the current baseline environmental status was studied by collecting the data and carrying out monitoring for the period of 1st March to 31st May 2019. The baseline data for ambient air quality, surface and ground water quality, noise and soil quality was collected and analyzed for various parameters are as per norms.

Expansion Proposal- Expansion of existing plant for Pencil Ingot / MS Billet production from 57,600 TPA to 204,200 TPA and Rolled Production from 88,200 TPA to 200,000 TPA

Parameters	No. of Sites	Description	Permissible Level
Air Quality	8	 PM10 57.3 μg/m³ and 76.9 μg/m³ PM2.5 28.4 μg/m³ to 37.4 μg/m³ SO2 8.0 μg/m³ to 13.5 μg/m³ NO2 16.1 μg/m³ to 22.1 μg/m³ CO 0.67 mg/m³ to 0.89 mg/m³ 	100 μg/ m ³ 60 μg/ m ³ 80 μg/ m ³ 80 μg/ m ³ 2 mg/m ³
Ground Water Quality	8	 pH varies from to 7.25 to 7.92 Total Hardness varies from 180.2 to 315 mg/L. Total Dissolved Solids varies from 310 to 530 mg/L. Chlorides varies from 13 to 21 mg/L Flouride varies from 0.42 to 0.70 mg/L 	6.5-8.5 200-600 mg/L 500-2000 mg/L 250-1000 mg/L 1.0-1.5 mg/L
Surface Water Quality	8	 pH varies from to 7.20 to 7.98 Dissolved Oxygen varies from 5.0 to 7.2 mg/L. BOD varies from 4.5 to 18.2 mg/L. COD varies from 16.1 to 55 mg/L. 	IS:2296 Class C Norms
Soil Quality	8	 pH 7.05 to 8.02 OM 0.77 to 0.98 % Potassium K 156 to 264 kg/Ha. Available nitrogen N 182.4 to 260 kg/Ha. Phosphorus 26 to 34.2 kg/Ha. 	
Noise Level	8	 Day Time (6:00 a.m. to 10:00 p.m.) 48.1 Leq dB(A) to 58.2 Leq dB(A) Night Time (10:00 p.m. to 6:00 a.m.) 40.0 Leq dB(A) and 47.2 Leq dB(A) 	75 Leq dB (A) 70 Leq dB (A)

Likely impact of the project on air, water, land, flora-fauna and nearby population:

Impact on Air environment

During operational phase air pollution shall be from Induction Furnaces, CCM, Rolling Mill, Cold drawing machines and Material Handling areas.

Emission from Point Source (Stack)

Dust and gaseous emission shall be from the flue gases generated at Induction Furnaces and Gas oxygen unit.

Emission from Area Source (Fugitive Emission)

Fugitive emissions are expected during melting operation in Induction Furnace, charging of raw materials and transportation of raw materials. Dust is also generated during loading and unloading and transportation of material. Fugitive emission is also generated due to vehicular movement in the premises.

Impact on Water due to Water usage and Water discharge

Expansion Proposal- Expansion of existing plant for Pencil Ingot / MS Billet production from 57,600 TPA to 204,200 TPA and Rolled Production from 88,200 TPA to 200,000 TPA

Waste water generation from the proposed operations will be due to blow downs from cooling towers, DM unit regeneration wastewater, back wash from Softening Plant, CT Blow down from Rolling Mill ETP and domestic waste water. Wastewater streams comprising cooling tower blow down, Softening Plant back wash, DM plant wastewater will be collected and utilized quantitatively for slag cooling. The sewage & sanitary wastewater from toilets, washrooms and canteen shall be treated in septic tank and waste water, if any shall be used for horticulture.

The Environmental Management Plan describes the plan for proper and adequate implementation of treatment and control facilities to control air and water pollution and for maintaining the environment. It also includes the development of green belts in and around the plant, proper safety of the workers, noise control, fire protection systems and measures.

To ensure the effective implementation of the proposed mitigation measures, the monitoring plan has been developed.

Air Pollution Mitigation Measures:

The industry proposes to install Cyclone cum spark arrester with Pulsejet Bag Filter for controlling dust emission. The hot gas emitted from the furnace will be conditioned by using radiant coolers to reduce the temperature before entering the Bag filters. Pucca roads within premises, water sprinkling in dusty areas and greenbelt/plantation to arrest fugitive dust.

Table-6: Details of the Air Pollution Control facilities

S. No	Location	Pollution Control Equipment	Nos.	Connected with no. of Stack	Stack Height	Stack Emissions
Steel	Melting Shop					
1	Induction Fce. 12 Ton	Cyclone cum Spark Arrester with Pulse jet Bag Filter	1		30 m	< 30 mg/Nm ³
2	Induction Fce. 12 Ton	Cyclone cum Spark Arrester with Pulse jet Bag Filter	1	1		
3	Induction Fce. 12 Ton	Cyclone cum Spark Arrester with Pulse jet Bag Filter	1		30 m	< 30 mg/Nm3
4	Induction Fce. 12 Ton	Cyclone cum Spark Arrester with Pulse jet Bag Filter	1			
5	Gas Oxygen Refining Unit	Cyclone cum Spark Arrester with Pulse jet	1	1	30 m	< 30 mg/Nm3

Expansion Proposal- Expansion of existing plant for Pencil Ingot / MS Billet production from 57,600 TPA to 204,200 TPA and Rolled Production from 88,200 TPA to 200,000 TPA

S. No	Location	Pollution Control Equipment		Connected with no. of Stack	Stack Height	Stack Emissions
		Bag Filter				
6	Reheating Furnace	No pollution Control equipment envisaged	-	2	30 m	< 30 mg/Nm3
Tota	ıl	Cyclone + Bag Filters - 5 Stacks - 4 nos.				

Water Pollution mitigation measures

Total fresh water requirement of the expansion project is estimated to be **295 KLD (existing: 105 KLD & additional: 190 KLD)**. Water will be sourced from Ground River after the proposed expansion. Ground water Permission from CGWA is applied for the proposed expansion.

Waste water discharge from the process will be 32 KLD from Cooling Tower blow down and DM plant waste water. The utilization of waste water for re-use and re-cycling will be carried out. Other effluent streams such as cooling tower blow down and miscellaneous intermittent water such as DM Plant rejects etc. will be used for slag cooling.

Table-7: Details of the Water Pollution Control facilities

SI. No.	Unit	Type of Pollution Control System	Quantity (m³/day)	Usages
1	DM Plant / Softening Plant reject	Neutralization Pit	8.5	Slag cooling &
2	Cooling Tower blow down from SMS	-	18	Dust suppression
3	Cooling Tower blow down from Rolling Mill	-	5	
4.	ETP Rolling Mill	Scale Pit	-	Recycled
5	Domestic waste water	Septic tank with Soak Pit	1.5	
	Total Discharge		33 KLD	

The plant has been designed based on maximum recycling and zero liquid effluent discharge and will have less impact on ground water as well as surface water hydrology in this region. Rain water harvesting will be taken up as a measure to conserve water.

-In case of hazardous operation, safety systems incorporate:

Workers will be informed, kept aware and trained about occupational health hazards, due to such activities. Workers health related problem if any, will be properly addressed.

Capital cost of the project, estimated time of completion:

Expansion Proposal- Expansion of existing plant for Pencil Ingot / MS Billet production from 57,600 TPA to 204,200 TPA and Rolled Production from 88,200 TPA to 200,000 TPA

Total Project Cost is estimated as Rs. 56 Crores including cost of existing plant as Rs. 36 Crores. Project Cost for additional facilities is estimated as Rs. 20 Crores.

Descriptions of Environmental sensitivity in 10 km radius form the site. Selection of the project – Nature of land – Agricultural (single/double crop), barren, Govt/private land, status of is acquisition, nearby (in 2-3 km.) water body, population, with in 10km other industries, forest, eco-sensitive zones, accessibility.

S. No.	Features	Details
1.	Village, District and State	Narain Nagar Industrial Estate, Bazpur Road, Kashipur, District Udham Singh Nagar, Uttarakhand
2.	Topo sheet	Toposheet No 53K/15, 53K/16, 53O/3, 53O/4
3.	Latitude	29°11'21.16" N
4.	Longitude	79°00'09.86" E
5.	Total Area	5.981 Ha.
6.	Nearest Highway/State High Way	NH-309 is 0.3 km in south direction
7.	Nearest Railway Station	Kashipur is the nearest railway station at distance of 4.5 km
8.	Nearest Airport	Pant Nagar Domestic AirPort is the nearest airport located at a distance of 48 km from the project site in SE direction.
9.	Nearest River	Bahalla Nadi is 0.19 km away from site. River Kosi is 4.74 km in SE direction
10.	Forest	No forest land is involved.
11.	Areas occupied by sensitive man-made land uses (hospitals, schools, places of worship, community facilities)	Vision Valley School at distance of 1.57km in NW direction Institute of Management and Technology at 0.5 km in NE direction Utkarsh Heart Hospital at 2.4 km in NE direction
12.	State, National boundaries	Interstate Boundary of Uttar Pradesh and Uttarakhand at 2.6 Km in SE direction from the project site.
13.	Densely populated or built-up area	Nearest town is Kashipur which is located at a distance of 4.5 km from the project site in NW direction.
14.	Defense Installation	Nil within 10 Km radius
15.	National Park/Wild life Sanctuary	Nil within 10 Km radius
16.	Nearest dam	Haripura Dam is at distance of 26 km in SW direction
17.	Nearest Power Station	Kashipur town sub-station at distance of 3.75km
18.	Production as per the existing	MS Ingot / Billet Productions 57,600 TPA

Expansion Proposal- Expansion of existing plant for Pencil Ingot / MS Billet production from 57,600 TPA to 204,200 TPA and Rolled Production from 88,200 TPA to 200,000 TPA

S. No.	Features	Details
	capacity	Rolled product 88,200 TPA
19.	Proposed Production	MS Ingot / Billet productions 204,000 TPA
	Capacity after Expansion	Rolled productions 200,000 TPA
20.	Cost of the Project	Existing: Rs. 36 Cr.
		Proposed: Rs. 20 Cr.
		Total: Rs. 56 Cr.
21.	Manpower Requirement	Existing: 400 nos.
		Additional: 100 nos.
		Total: 500
22.	Requirement of Water (in	Existing: 105 KLD
	KLD) and Source	Total after Expansion: 295 KLD
		Source: Borewell
23.	Requirement of Power (in	Existing: 16.5 MW
	MW) and Source	Proposed: 10 MW
		Total: 26.5 MW
		DG set 685kVA (1x125 KVA, 1x160 KVA & 1x400 KVA)
		has been proposed to be installed
		Source: UPCL

Emergency preparedness plan in case of natural or in plant emergencies:

On-site and Off-site Emergency Preparedness Plan has been developed to control emergency situations. The emergency control room and Assembly area shall be set up at a safe location and marked on the site plan and will be manned round the clock. The control room will be activated in case of an emergency to direct and co-ordinate the operations to handle the emergency. It will be furnished with external and internal telephone connections etc; list of essential telephone numbers; list of key personnel and their address; fire fighting system and site plan. Depending upon site requirements, additional control room will be considered.

Issues raised during public hearing (if applicable) and response given:

Public hearing issues will be incorporated after the public hearing conducted by SPCB.

CER Budget:

Rs. 20 Lakhs has been earmarked for the Corporate Environment Responsibility (CER) to meet expenditures for the commitments made to the stakeholders during the Public Hearing. As per the social environment and the related aspects the CER will be aimed at infrastructure building for Education, Communication, Medical (health & family welfare), Drinking water and Training for self employment.

Occupational Health Measures

Expansion Proposal- Expansion of existing plant for Pencil Ingot / MS Billet production from 57,600 TPA to 204,200 TPA and Rolled Production from 88,200 TPA to 200,000 TPA

Occupational diseases and health impairments occur every day throughout the world, due to lack or inadequacy of prevention and control measures at the workplace.

The project proponent strongly believes in the safety and health of the workers. The company will conduct regular medical checkup of the worker and on the safer side there will always be a rotation of the job for the worker who are exposed to dust and high noise. Safety being the first policy of the company.

M/s Kashi Vishwanath Steels Pvt. Ltd. shall establish procedures and systems for reporting and recording of Occupational accidents and diseases and dangerous occurrences and incidents. All reported occupational accidents, occupational diseases, dangerous occurrences, and incidents together with near misses shall be investigated with the assistance of a person knowledgeable/competent in occupational safety.

A budget of Rs. 40 Lakhs per year has been earmarked for OH & S.
