

FORM - 1

FORM 1

(I) Basic Information

Sr. No.	Item	Details
1.	Name of the Project/s	Category 5(g) – Distillery with Category 5(f) – Synthetic Organic Chemical Amendment in existing Environmental Clearance to include production of Anhydrous Alcohol (Ethyl alcohol - 99.8%) manufactured from Ethyl Alcohol (94%) produced in-house and purchased from Open market
2.	S. No. in the Schedule	5(g) with 5(f)
3.	Proposed capacity/ area / length/ tonnage to be handled/ command area/ lease area/ number of wells to be drilled	No change in the area : 130 Acre No change in capacity : 200 KLD Ethyl Alcohol Details of existing products and proposed amendment is enclosed as Annexure-1 .
4.	New/ Expansion/ Modernization	Modernization of production facility to produce Anhydrous Alcohol (Ethyl alcohol - 99.8%) from Ethyl Alcohol (94%) produced In-house and purchased from open market, with no increase in production capacity and pollution load.
5.	Existing Capacity/ Area etc.	200 KLD Ethyl Alcohol / 130 Acre
6.	Category of Project i.e. 'A' or 'B'	'A'
7.	Does it attract the general condition? If yes, please specify.	No
8.	Does it attract the specific condition? If yes, please specify.	No
9.	Location	Location map as Annexure 2 and topographical map as Annexure 3
	Plot / Survey / Khasra No.	Gut.No.25,26,27,28,32,45
	Village	Village Nimbut Nira
	Tehsil	Baramati
	District	Pune

Sr. No.	Item	Details
	State	Maharashtra
10.	Nearest railway station/airport along with distance in kms.	Nearest Railway Station : Nira, 0.5 Km Nearest Airport : Pune Airport Lohegaon, 72 Km
11.	Nearest Town, City, District Headquarters along with distance in kms.	Nearest City / District Head Quarters -Pune 70 Km
12.	Village Panchayats, Zila Parishad, Municipal Corporation, Local body (complete postal addresses with telephone nos. to be given)	Gram Panchayat Nimbut Address : Grampanchayat Office, Nimbut, Tehsil – Baramati, Dist – Pune – PIN- 412102 Phone No : 02112 - 269418
13.	Name of the applicant	M/s. Jubilant Life Sciences Ltd.
14.	Registered Address	M/s. Jubilant Life Sciences Ltd. Bhartiagram, Gajraula District Amroha (UP) -244 223
15.	Address for correspondence	
	Name	Mr. Satish Bhat
	Designation (Owner / Partner / CEO)	Vice President – Operations
	Address	Jubilant Life Sciences Limited Village - Nimbut, Rly. Station, Nira, District - Pune, Maharashtra, India
	Pin code	412102
	Email	satish.bhat@jubl.com
	Telephone No	Mob- 9833397170; Landline: 0212269155 , 56,58
	Fax	--
16.	Details of Alternative Sites examined, if any. Location of these sites should be shown on a toposheet	Not applicable. The proposed project is amendment of existing EC within the same plant boundary with no increase in land area and Pollution load. Therefore, alternative sites are not examined.
17.	Interlinked Projects	None Proposed Anhydrous Alcohol (99.8%) will be manufactured from Ethyl alcohol (94%)

Sr. No.	Item	Details
		produced in-house and purchased from open market
18.	Whether separate application of interlinked project has been submitted?	Not applicable.
19.	If yes date of submission	Not applicable
20.	If no, reason	Not Applicable
21.	Whether the proposal involves approval /clearance under: if yes details of same and their status to be given (a) The Forest (Conservation) Act, 1980? (b) The Wild Life (Protection) Act, 1972? (c) The CRZ Notification, 1991?	Not Applicable.
22.	Whether there is any Government Order/ Policy relevant / relating to the site?	No
23.	Forest land involved (ha.)	Nil
24.	Whether there is any litigating pending against the project and / or land in which the project is propose to set up? Name of the Court Case No Orders / directions of the court, if any and its relevance with the proposed project	No litigation pending. However, Hon'ble NGT, (Western Zone Bench), Pune is monitoring the implementation of the action as per its Order dated 10-Aug-2017 in MA No. 235/2015 in the matter of Application no. 07/2014(THC).
25.	Total cost of the Project	Rs. 3 Crore

(II) Activities

- 1. Construction, operation or decommissioning of the Project involving actions which will cause physical changes in the locality (topography, land use, changes in water bodies etc.)**

Sr.No.	Information/Checklist confirmation	Yes/No	Details thereof (with approximate quantities/rates wherever possible) with source of information
1.1	Permanent or temporary change in land use, land cover or topography including increase in intensity of land use (with respect to local land use)	No	No change in land use. Proposed amendment is within the existing facility.
1.2	Clearance of existing land, vegetation and buildings?	No	Not required.
1.3	Creation of new land use	No	Proposed modernization will be constructed within the present facility.
1.4	Pre-construction investigation e.g. bore houses, soil testing?	No	Proposed modernization will be constructed within the present facility.
1.5	Construction work?	Yes	100 Sq. mtrs
1.6	Demolition work	No	Clear land available
1.7	Temporary sites used for construction works or housing of construction workers?	No	The facility available in the presently operating plant will be used. No construction labour will reside in the project site.
1.8	Above ground buildings, structures or earthworks including linear structures, cut and fill or excavations.	Yes	Installation of Molecular Sieve Beds for removal of moisture from Ethyl Alcohol (94%) to make Anhydrous Alcohol (Ethyl Alcohol - 99.8%)
1.9	Underground works including mining or tunneling?	No	Not applicable
1.10	Reclamation work?	No	Not applicable
1.11	Dredging ?	No	Not applicable
1.12	Offshore Structures?	No	Not applicable
1.13.	Production and manufacturing processes?	Yes	Manufacturing process: Annexure – 4. Process flow diagram : Annexure - 5a Material Balance : Annexure - 5b

Sr.No.	Information/Checklist confirmation	Yes/No	Details thereof (with approximate quantities/rates wherever possible) with source of information
1.14	Facilities for storage of goods or materials?	No	Existing storage tanks are adequate. No additional storage facility required.
1.15	Facilities for treatment or disposal of solid waste or liquid effluents?	Yes	Molecular sieves are discarded once in 10 years (Quantity = 5 Tons) and shall be disposed off as Hazardous Waste to TSDF. The water separated from Ethyl Alcohol (94%) to make Anhydrous alcohol (Ethyl Alcohol - 99.8%) shall be reused in process and hence no effluent generation.
1.16	Facilities for long term housing of operational workers?	No	Existing manpower will be adequate to handle the proposed modernization and therefore additional facilities are not required.
1.17	New road, rail or sea traffic during construction or operation?	No	It is an existing facility without any increase in capacity and hence no new road, rail or sea traffic is required.
1.18	New road, rail, air waterborne or other transport infrastructure including new or altered routes and stations, ports, airports etc?	No	It is an existing facility without any increase in capacity and hence no new road, rail or sea traffic is required.
1.19	Closure or diversion of existing transport route or infrastructure leading to changes in traffic movements?	No	None
1.20	New or diverted transmission lines or pipelines?	No	None
1.21	Impoundment, damping, culverting, realignment or	No	None

Sr.No.	Information/Checklist confirmation	Yes/No	Details thereof (with approximate quantities/rates wherever possible) with source of information
	other changes to the hydrology of watercourses or aquifers?		
1.22	Stream crossing?	No	None
1.23	Abstraction or transfers of water from ground or surface waters?	No	There is no increase in water sourcing. Ground water is not extracted in present or post modernization.
1.24	Changes in water bodies or land surface affecting drainage or run-off?	No	None
1.25	Transport of personnel or materials for construction, operation or decommissioning?	No	Personnel during construction and Operation shall reside within the present Housing available. No increase in transport of material envisaged as there is no increase in capacity.
1.26	Long-term dismantling or decommissioning or restoration works?	No	Not envisaged
1.27	Ongoing activity during decommissioning which could have an impact on environment?	No	Not applicable
1.28	Influx of people to an area in either temporarily or permanently?	No	During construction, there would be a temporary influx of about 10 people for about 6 months. There is no requirement of additional manpower for operation, hence no permanent influx envisaged.
1.29	Introduction of alien species?	No	None
1.30	Loss of native species or genetic diversity?	No	None
1.31	Any other actions?	No	None

2. Use of natural resources for construction or operation of the Project (such as land, water, materials, or energy, especially, any resources which are non-renewable or in short supply):

Sr. No.	Information/Checklist confirmation	Yes/No	Details thereof (with approximate quantities/rates wherever possible) with source of information
2.1	Land especially undeveloped or agricultural land (ha)	No	It is an existing facility hence no additional land is required.
2.2	Water (expected source & competing users) unit: KLD	No	Water is sourced from River Nira through Irrigation department. There is no increase in water requirement beyond the present approved quantities.
2.3	Minerals (MT)	No	
2.4	Construction material – stone, aggregates, sand / soil expected source – MT)	Yes	100 MT of Sand and aggregate are required for civil foundation construction.
2.5	Forests and timber (source – MT)	No	
2.6	Energy including electricity and fuels (source, competing users) Unit: fuel (MT), energy (MW)	Yes	Increase in electricity use is envisaged and shall be sourced from Grid. Coal usage for steam requirement shall be within the presently approved quantities.
2.7	Any other natural resources (use appropriate standard units)	No	Not applicable.

3. Use, storage, transport, handling or production of substances or materials, which could be harmful to human health or the environment or raise concerns about actual or perceived risks to human health.

Sr. No.	Information/Checklist confirmation	Yes/No	Details thereof (with approximate quantities/rates wherever possible) with source of information
3.1	Use of substances or materials, which are hazardous (as per MSIHC	No	No new hazardous substances or material use is envisaged beyond the present operations.

Sr. No.	Information/Checklist confirmation	Yes/No	Details thereof (with approximate quantities/rates wherever possible) with source of information
	rules) to human health or the environment (flora, fauna, and water supplies)		
3.2	Changes in occurrence of disease or affect disease vectors (e.g. insect or water borne diseases)	No	Not envisaged.
3.3	Affect the welfare of people e.g. by changing living conditions?	No	There is no negative impact envisaged on the welfare of people in the locality. CSR activities presently being implemented in the area which benefits the local people, shall be further strengthened through higher investment.
3.4	Vulnerable groups of people who could be affected by the project e.g. hospital patients, children, the elderly etc.,	No	This is an operating plant and hence no change is envisaged.
3.5	Any other causes	No	Not applicable

4. Production of solid wastes during construction or operation or decommissioning (MT/month)

Sr. No.	Information/Checklist confirmation	Yes/No	Details thereof (with approximate quantities/rates wherever possible) with source of information
4.1	Spoil, overburden or mine wastes	No	Not Applicable.
4.2	Municipal waste (domestic and or commercial wastes)	No	Additional manpower is not envisaged, and therefore additional municipal waste generation is not envisaged.
4.3	Hazardous wastes (as per Hazardous Waste Management Rules)	Yes	Spent Molecular sieves would be generated once in 10 years (Quantity = 5 Tons) and shall be disposed to TSDF site as

Sr. No.	Information/Checklist confirmation	Yes/No	Details thereof (with approximate quantities/rates wherever possible) with source of information
			(categorised as item 1.6 in Schedule 1 of H&OWM Rules 2016).
4.4	Other industrial process wastes	No	Not envisaged
4.5	Surplus product	No	Not envisaged
4.6	Sewage sludge or other sludge from effluent Treatment	No	No additional sewage sludge generation is envisaged.
4.7	Construction or demolition wastes	No	Not applicable
4.8	Redundant Machinery or equipment	No	Not applicable
4.9	Contaminated soils or other materials	No	Not applicable
4.10	Agricultural wastes	No	Not envisaged
4.11	Other solid wastes	No	Not applicable

5. Release of pollutants or any hazardous, toxic or noxious substances to air (Kg/hr)

Sr. No.	Information/Checklist confirmation	Yes/No	Details thereof (with approximate quantities/rates wherever possible) with source of information
5.1	Emissions from combustion of fossil fuels from stationary or mobile sources	No	No increase in emission from combustion of fossil fuel is envisaged beyond the present approved, due to proposed Modernization
5.2	Emissions from production processes	No	
5.3	Emissions from materials handling including storage or transport	Yes	Anhydrous Alcohol (Ethyl Alcohol – 99.8%) storage tank is provided with chilled water condenser to trap the volatiles emissions from storage of alcohol.

Sr. No.	Information/Checklist confirmation	Yes/No	Details thereof (with approximate quantities/rates wherever possible) with source of information
5.4	Emissions from construction activities including plant and equipment	No	No emission is envisaged from the proposed construction activities.
5.5	Dust or odours from handling of materials including construction materials, sewage and waste	No	Not envisaged.
5.6	Emissions from incineration of waste	No	Not envisaged
5.7	Emissions from burning of waste in open air (e.g. slash materials, construction debris)	No	Not envisaged
5.8	Emissions from any other sources	No	None

6. Generation of Noise and Vibration, and Emissions of Light and Heat:

Sr. No.	Information/Checklist confirmation	Yes/No	Details thereof (with approximate quantities/rates wherever possible) with source of information
6.1	From operation of equipment e.g. engines, ventilation plant, crushers	No	The proposed modernization does not involve operation of heavy/noise generating machinery or equipment. Noise level standards will be maintained.
6.2	From industrial or similar processes	No	Not envisaged.
6.3	From construction or demolition	No	Not envisaged
6.4	From blasting or piling	No	Not applicable
6.5	From construction or operational traffic	No	As there is no increase in capacity, no change envisaged
6.6	From lighting or cooling systems	No	Not envisaged.

Sr. No.	Information/Checklist confirmation	Yes/No	Details thereof (with approximate quantities/rates wherever possible) with source of information
6.7	From any other sources	No	Not envisaged.

7. Risks of contamination of land or water from releases of pollutants into the ground or into sewers, surface waters, groundwater, coastal waters or the sea:

Sr. No.	Information/Checklist confirmation	Yes/No	Details thereof (with approximate quantities/rates wherever possible) with source of information
7.1	From handling, storage, use or spillage of hazardous materials	Yes	Leakage or spillage for storage areas may contaminate soil/land; However, precautions are taken by providing the dyke and concrete flooring to protect the land/soil from contamination in case of any spillage/leakage.
7.2	From discharge of sewage or other effluents to water or the land (expected mode and place of discharge)	No	Sewage is treated in the STP and treated water is reused in gardening. There is no discharge of effluent from the process as the liquid effluent generated is proposed to be recycled back.
7.3	By deposition of pollutants emitted to air into the land or into water	No	There is no air emission/pollutant deposition from the anhydrous alcohol plant.
7.4	From any other sources	No	None
7.5	Is there a risk of long term build up of pollutants in the environment from these sources?	No	Not envisaged

8. Risk of accidents during construction or operation of the Project, which could affect human health or the environment

Sr. No.	Information/Checklist confirmation	Yes/No	Details thereof (with approximate quantities/rates wherever possible) with source of information
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8.1	From explosions, spillages, fires etc from storage, handling, use or production of hazardous substances	No	No new chemical storage or handling is envisaged, beyond the materials presently being handled, for which the Risk assessment is already done and mitigation measures are in place.
8.2	From any other causes	No	None
8.3	Could the project be affected by natural disasters causing environmental damage (e.g. floods, earthquakes, landslides, cloudburst etc)?	No	The project site is located in Seismic Zone – III (Moderate Damage Risk Zone) The project is located at 500 m distance from river Nira. The plant is outside the flood zone of Nira River and also the plant is located at higher gradient/elevation. There are no recorded incidents of Cloud Burst.

9. Factors which should be considered (such as consequential development) which could lead to environmental effects or the potential for cumulative impacts with other existing or planned activities in the locality

Sr. No.	Information/Checklist confirmation	Yes/No	Details thereof (with approximate quantities/rates wherever possible) with source of information
9.1	Lead to development of supporting facilities, ancillary development or development stimulated by the project which could have impact on the environment e.g.: <ul style="list-style-type: none"> Supporting infrastructure (roads, power supply, waste or waste water treatment, etc.) housing development extractive industries 	No No No	<ul style="list-style-type: none"> The infrastructure is already developed. Existing housing facility is adequate. Extractive industries related to the proposed amendment are not envisaged.

	<ul style="list-style-type: none"> • Supply industries • Other 	No No	
9.2	Lead to after-use of the site, which could have an impact on the environment	No	Not envisaged
9.3	Set a precedent for later developments	No	Not envisaged
9.4	Have cumulative effects due to proximity to other existing or planned projects with similar effects	No	Not envisaged

III. Environmental Sensitivity

Sr. No.	Areas	Name/Identity	Aerial distance (within 15 km.) of Proposed Project location boundary
1	Areas protected under international conventions, national or local legislation for their ecological, landscape, cultural or other related value	No	Not applicable
2	Areas which are important or sensitive for ecological reasons - Wetlands, watercourses or other water bodies, coastal zone, biospheres, mountains, forests	No	
3	Areas used by protected, important or sensitive species of flora or fauna for breeding, nesting, foraging, resting, overwintering, migration	No	Not applicable
4	Inland, coastal, marine or underground waters	Inland water: 1) Nira River 2) Buasaheb Nala	1) 0.5 Km 2) Passing through the plant boundary

5	State, National boundaries	No	Not within 15 Km	
6	Routes or facilities used by the public for access to recreation or other tourist, pilgrim areas	Lonand – Pune Road used to access the pilgrim place - - Jejuri.	Lonand – Pune Road : 1 Km	
7	Defense installations	No	Not within 15 Km	
8	Densely populated or built-up area	No	Not within 15 Km. There are small villages area-	
			Village	Population
			Lonand	19000
			Nimbut	6000
			Pimpore	7000
			Padegaon (farm)	3000
Padegaon	5000			
9	Areas occupied by sensitive man-made land uses (<i>hospitals, schools, places of worship, community facilities</i>)	As the unit is located within the Village limits of Nimbut and Nira, there are few Hospitals, Schools, Community facilities and Places of worship within 2 kms radius from the plant	<2 Kms	
10	Areas containing important, high quality or scarce resources (ground water resources, surface resources, forestry, agriculture, fisheries, tourism, minerals)	None	The Nira river flowing at a distance of 0.5 Kms from the project site is classified as class IV fit fit for agriculture, industrial cooling and process water.	
11	Areas already subjected to pollution or environmental damage. (Those where existing	Yes	The ground water aquifer contamination due to distillery effluent storage in unlined lagoon prior to	

	legal environmental standards are exceeded)		2005. Aquifer remediation program is under implementation under the supervision of MPCB as directed by the Hon'ble NGT, Western Bench, Pune.
12	Areas susceptible to natural hazard which could cause the project to present environmental problems (earthquakes, subsidence, landslides, erosion, flooding or extreme or adverse climatic conditions)	No	<ul style="list-style-type: none"> • The site falls in Seismic zone III (moderate damage risk zone) as per India Seismic Zone Map • The plant is outside the flood Zone of Nira River. • There is no landslide susceptibility to plant

(IV). Proposed Terms of Reference for EIA studies

MoEFCC had in 2008 granted an Environmental clearance for expansion of Molasses distillery, Synthetic Organic Chemicals and a Coal Based power plant. Further, the EC was amendment for product mix change in 2010. The project is partly commissioned for Synthetic Organic Chemicals and the molasses Distillery, due to change in market dynamics and availability of Molasses for distillery. Presently, the Basic engineering for the reminder of the project, Molasses Distillery and Coal based power plant are under-progress.

Now, to cater to the requirement of the market demand, modernization of existing facility with no increase in production capacity and pollution load, an EC amendment is proposed to include production of Anhydrous Alcohol (Ethyl Alcohol - 99.8%) from Ethyl Alcohol (94%) produced in-house and purchased from open market. Very small quantity of effluent (spent lees) will be generated which will be recycled back completely and therefore no change in environmental parameters are envisaged.

The proposed amendment will be carried out within the same plant premises and with no additional land and infrastructure.

*Jubilant Life Sciences Ltd., Village Nimbut-Nira, Dist. Pune,
Maharashtra*

Therefore, we request EAC to grant an amendment to the existing Environmental Clearances issued vide dated 21.12.2010 by including the production of Anhydrous Alcohol (Ethyl alcohol - 99.8%) from Ethyl Alcohol (94%) produced in-house and purchased from open market without change in production quantity and No increase in Pollution Load.

Undertaking

I hereby given undertaking that the data and information given in the application and enclosures are true to the best of my knowledge and belief and I am aware that if any part of the data and information submitted is found to be false or misleading at any stage, the project will be rejected and clearance given, if any to the project will be revoked at our risk and cost.

Date: 15.03.2018

Place: Nira, Pune



Satish Bhat
(VP - Operation)

Jubilant Life Sciences Ltd.
Gut.No.25,26,27,28,32,45,
Village - Nimbut Nira,
Tehsil - Baramati,
Dist. - Pune - 412102

Annexure - 1

Annexure 1 : Existing products and proposed amendment _ Jubilant Life Sciences Ltd. _Nira

Sr. No.	Product	UOM	Capacity before 2008	Additional Capacity as per Dec'2008 EC (expansion)	Capacity as per EC amendment Dec'2010 for product mix change	Total present capacity as per EC	Present status	Proposed EC Amendment
1	Ethyl Alcohol	KLD	90	110	110	200	100 KLD Ethyl Alcohol (94%) & Anhydrous Alcohol (Ethyl Alcohol 99.8%) in CTO (See Note -1)	200 KLD Ethyl Alcohol (94%) & Anhydrous Alcohol (Ethyl alcohol - 99.8%) (See Note 2)
2	Acetaldehyde	TPD	83	100	0	83	0 (Product Mix change)	0 (as per product mix CTO)
3	Acetic Acid	TPD	103	100	0	103	0 (Product Mix change)	0 (as per product mix CTO)
4	Acetic anhydride	TPD	52	0	125	177	Commissioned	64,605 TPA (Note – 4)
5	Ethyl Acetate	TPD	111	136	136	247	Commissioned (Product Mix-367) (See Note -3)	1,33,955 TPA (Note – 4)
6	Carbon Dioxide	TPD	20	60	60	80	(Part Commissioned) 50 TPD in CTO	29,200 TPA (Note- 4)
7	Vinyl Acetate Monomer	TPD	45	0	0	45	45 (Product mix change)	16,425 TPA (Note – 4)
8	Power	MW	0	12	12	12	Not started (Basic engg. under progress)	12 MW No Change

Note –1 : Consent to Operate granted under Product mix change by MPCB for 100 KLD Anhydrous Alcohol (Ethyl alcohol - 99.8%)

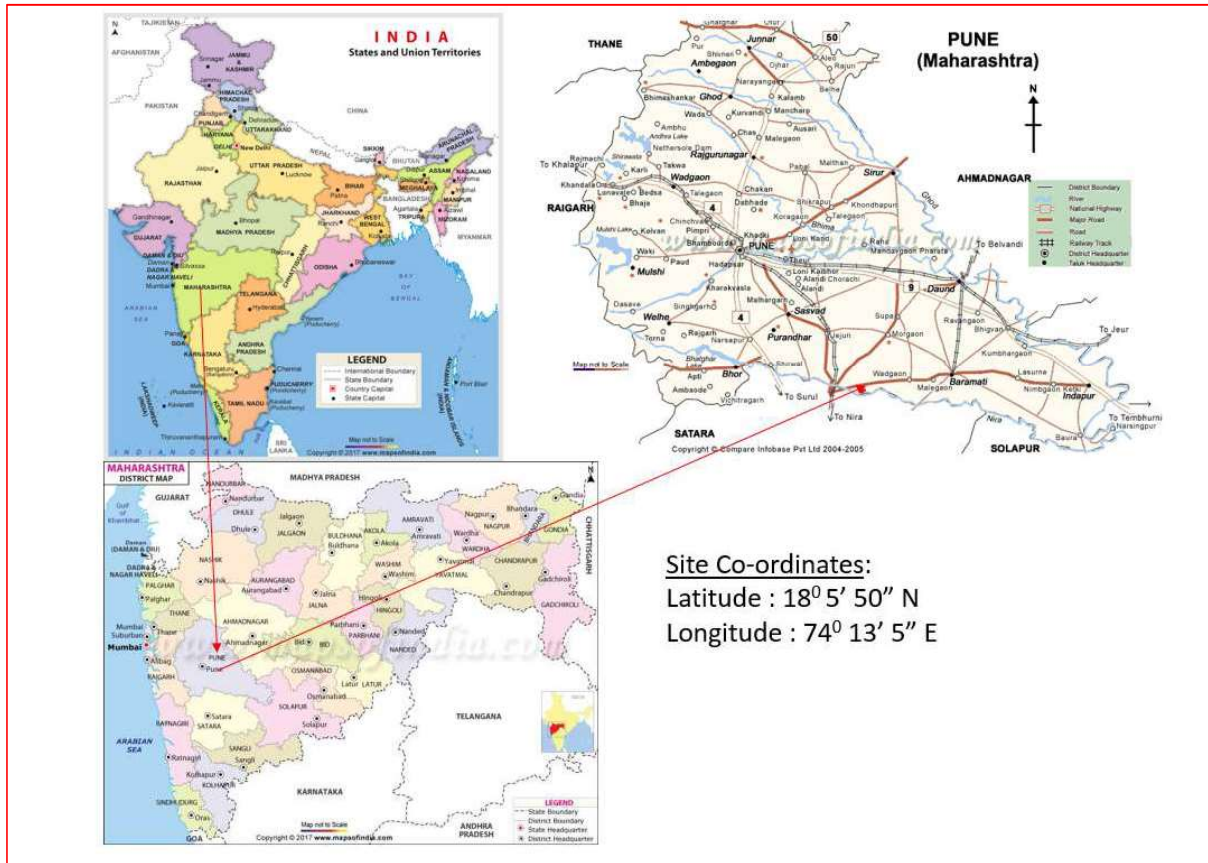
Note – 2 : Propose to manufacture Anhydrous Alcohol (Ethyl alcohol - 99.8%) from in-house generation of ethyl alcohol and purchased from open market. (Manufacturing of Anhydrous Alcohol (99.8%); through Molecular Sieve Bed Technology, does not increase the effluent load)

Note 3 : CTO has been obtained for production of 367 TPD of Ethyl Acetate by surrendering 83 TPD of Acetaldehyde and 103 TPD of Acetic Acid under product mix.

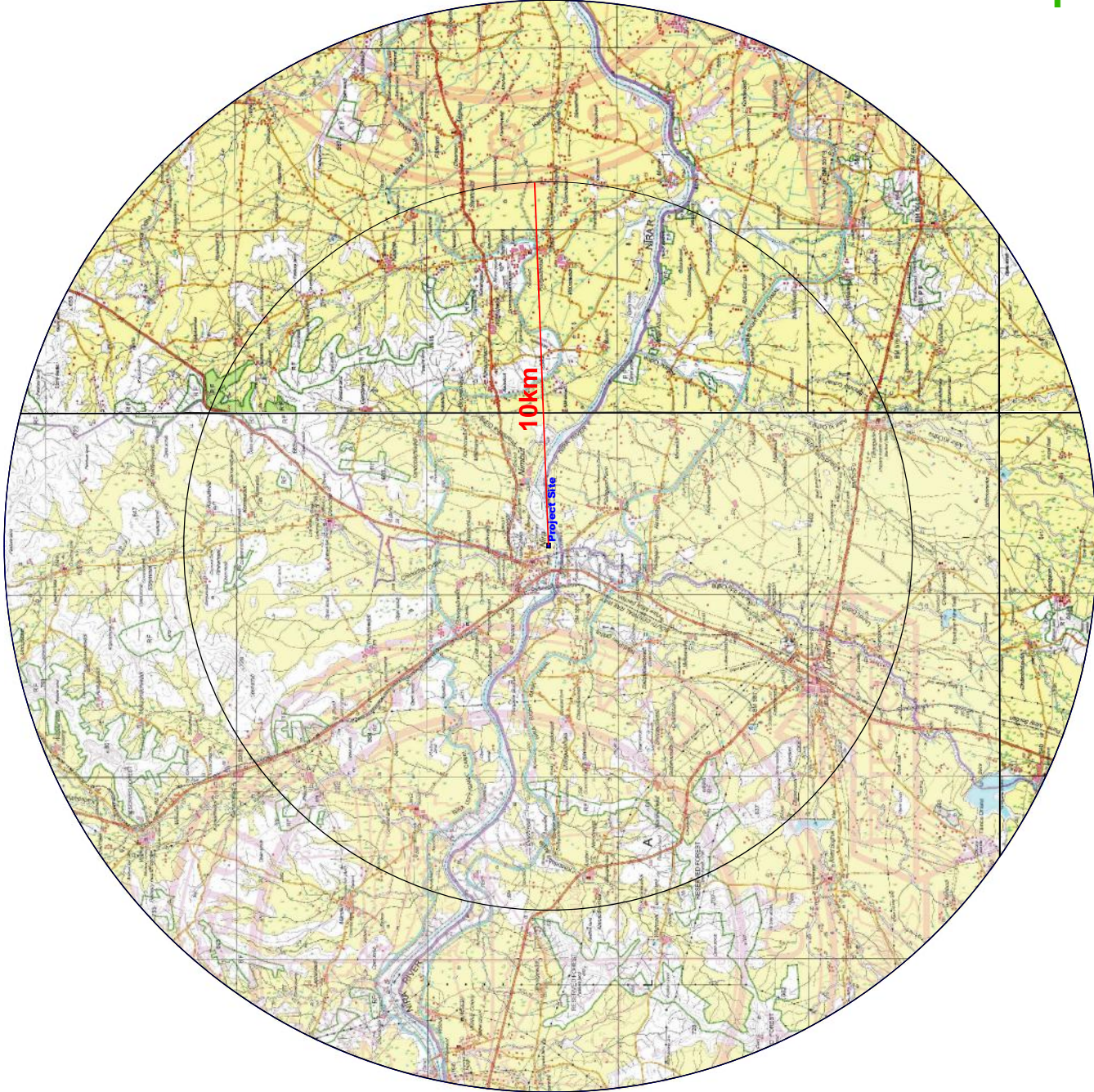
Note 4 : No change in daily production, only change in unit from TPD to TPA (TPD x 365 days)

Annexure - 2

Annexure – 2 : Location Map



Annexure - 3



CONVENTIONAL SYMBOLS

Excess highway with left, with bridge, with distance along	20
Roads, indicated according to importance	
Roads, double carriageway according to importance	
Unimproved road, Cart track, Road track with pass, Foot path	
Stream, with track in bed, undefined, Canal	
Dam, masonry or rock-filled, earthenwork, Wall	
River, dry with water channel, with sand & rocks, Tidal river	
Submerged rocks, Eveal Swamp, Reeds	
Wells, lined, unfired, Tube-well, Spring, Tanks perennial, dry	
Embankments, road or rail, tank, Broken ground	
Railways, broad gauge, double, single with station, under construction	
Railways, other gauges, double, single with distance along, do.	
Marine line or tramway, R.R. Cutting with tunnel	
Contours with sub-faithfuls, Rocky slopes, Cliffs	
Sand features, (Y) at (Z) (shallow, permanent), (Y) (shallow, dry)	
Towns or Villages, inhabited, deserted, Fort	
Fort, permanent, temporary, Tower, Air-gilts	
Terrace, Client, Church, Mosque, Igloo, Tomb, Graves	
Lighthouse, Lightship, Buoy, lighted, unlighted, Anchorage	
Mine, Veta on the, Grass, Scrub	
Palm, palmyra, other, Plantain, Conifer, Bamboo, Other trees	
Areas cultivated, wooded, Surveyed tree	
Boundary, International	
state demarcated, undemarcated	
district, sub-division, taluk or taluk, forest	
Boundary others, surveyed, uncoloured	
Height, to airport, station point, appearance	BM 63.3, 200, 220
Barometer, gaudielle, battery, coral	
Post office, Telegraph office, Overhead tank	
Rest house or inspection bungalow, Church house, Police station	
Camping ground, Forest, reserved, protected	
Spaced names, administrative, locality or tribal	
Hospital, Dispensary, Veterinary, Hospital / Dispensary	
Airphone, Helipad, Tourist site	
Power line, with pylons surveyed, with poles unsurveyed	

Project Site

E43H15 (43°15')	E43I3 (43°13')	E43I7 (43°17')
E43H16 (43°16')	E43I4 (43°14')	E43I8 (43°18')
E43N13 (43°13')	E43O1 (43°01')	E43O5 (43°05')

TOPOGRAPHICAL MAP SHOWING 15 km RADIUS

Annexure - 4

Annexure – 4_Manufacturing Process

Process Description:

Molecular Sieve Dehydration Unit (MSDH) consist of a Distillation column system and a Molecular sieve dehydration system.

MSDH has following operation units:

1. Evaporator Column and Feed preheating:

The main purpose of Evaporator column is to vaporize the 94% ethanol liquid feed and redistill 75 to 85 % ethanol liquid stream produced during regeneration of the molecular sieve beds.

Ethyl Alcohol (94 %) is pumped from Feed tank to evaporation column. Ethyl Alcohol (94 %) is preheated in Feed preheater with the help of product vapours and then fed to top tray of Evaporator Column. The Evaporator Column operates under pressure of 1 kg/cm²g and temp 98°C. Energy is supplied to the Evaporator Column through Evaporator Column Re-boiler with condensing steam on shell side. The steam condensate is recycled back to the boiler.

2. Molecular Sieve Adsorption Bed and Feed Superheating:

Overhead feed alcohol vapours from the Evaporator Column are then passed through Superheater to superheat vapour above condensation temp. Energy for superheating is supplied by condensing steam on shell side of the Superheater. Superheated hydrous alcohol vapours are sent to twin Adsorbent Beds. The twin Adsorbent Beds operate in cyclic manner. Twin beds are provided to allow bed regeneration in continuous operation. One bed is in line while the other is in regeneration mode. Regeneration of MS bed takes place every 5 minutes. The Adsorbent Bed will adsorb moisture present in feed vapours and product alcohol vapours are obtained from bottom of the bed. During regeneration mode, vacuum is applied to the bed under regeneration.

3. Product Alcohol

The Product alcohol vapors are then passed through Product Condenser and are condensed with the help of cooling water. Condensed product alcohol is collected in product receiver. The Product alcohol from Product Receiver is pumped to Product Cooler where it is cooled with the help of cooling water and then sent for storage.

4. Regeneration cycle and Vacuum creation

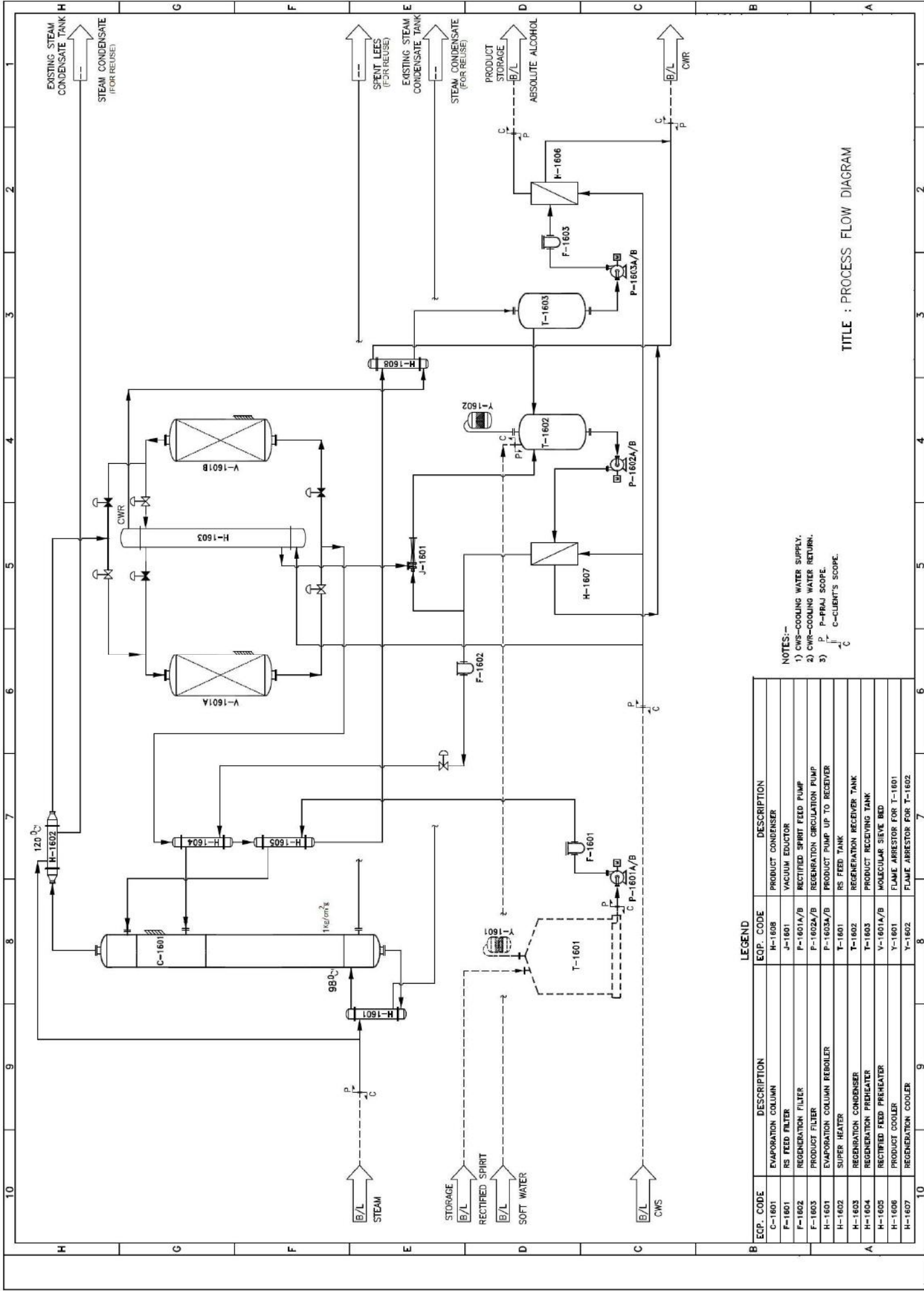
A small amount of product alcohol vapours are purged through the bed in regeneration mode under high vacuum, to prepare the desiccant for cycle changeover when this bed goes online.

The purged alcohol vapours act as carrier for removal of moisture from the bed. These alcohol vapours along with moisture are obtained from the top of bed. These alcohol water vapours (regeneration stream) are condensed in Regeneration Condenser.

The regeneration stream coming from the Regeneration Condenser is pumped, preheated in Regeneration Preheater and fed to the Evaporator Column for recovery of alcohol.

Moisture present in feed alcohol is removed from the bottom of the Evaporator Column in the form of spent lees. After one cycle is over, the beds are interchanged, i.e. the bed in line mode will be switch over to regeneration mode and the bed on regeneration mode will be switch over to inline mode, with the help of automation system.

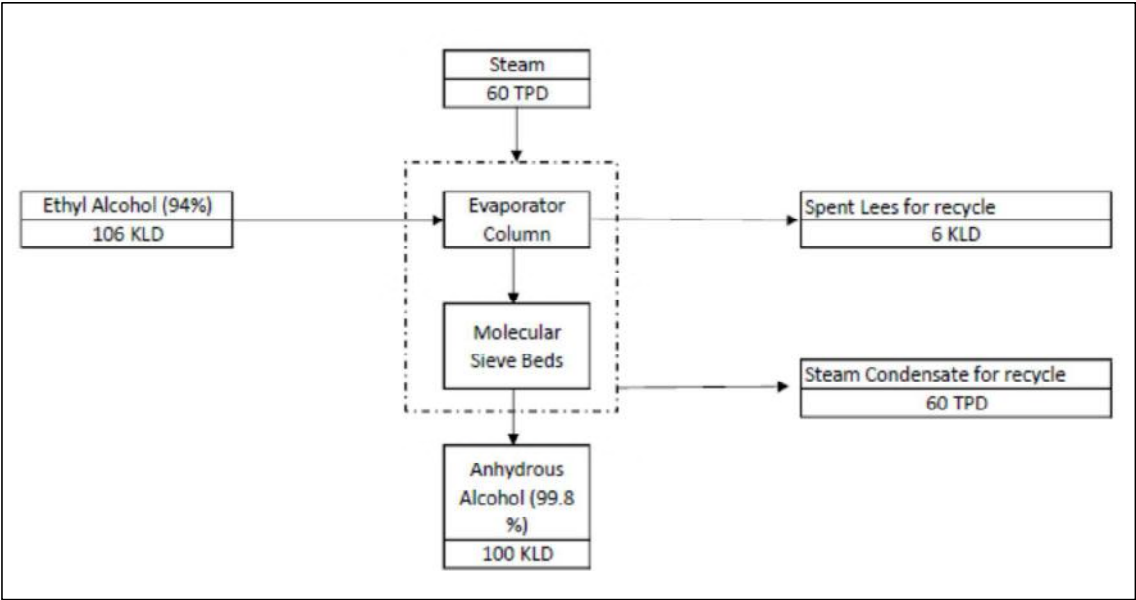
Annexure – 5a



TITLE : PROCESS FLOW DIAGRAM

Annexure – 5b

Annexure 5b : Material Balance [100 KLD Anhydrous Alcohol (Ethyl alcohol - 99.8%)]



Executive Summary

M/s. Jubilant Life Sciences Ltd. (JLSL) at Nira is operating industry at Gut.No.25,26,27,28,32,45, Village – Nimbut Nira, Tehsil – Baramati, District – Pune.

MoEFCC had in 2008 granted an Environmental clearance for expansion of Molasses distillery, Synthetic Organic Chemicals and a Coal Based power plant. Further, in the EC was amendment for product mix change in 2011. The project is partly commissioned for Synthetic Organic Chemicals and the molasses Distillery, due to change in market dynamics and availability of Molasses for distillery. Presently, the Basic engineering for the reminder of the project, Molasses Distillery and Coal based power plant are under-progress.

Now, to cater to the requirement of the market demand, modernization of existing facility with no increase in production capacity and pollution load, an EC amendment is proposed to include production of Anhydrous Alcohol (Ethyl Alcohol - 99.8%) from Ethyl Alcohol (94%) produced in-house and purchased from open market.

The existing production of Anhydrous Alcohol (99.8%) is 100 KLD as per the consent to operate obtained from MPC. The process of anhydrous alcohol production involves removal of moisture from ethyl alcohol (94%). The moisture is removed by making vapours of alcohol in evaporation column and passing through the molecular sieve bed to obtain Anhydrous Alcohol (Ethyl alcohol - 99.8%).

There is no discharge of effluent from the process as the liquid effluent generated (spent lees, 6 KLD) is proposed to be recycled back. Water is sourced from River Nira through Irrigation department. There is no increase in water requirement beyond the present approved quantities.

Additional manpower will not be required. Existing manpower will handle the production of Anhydrous Alcohol (Ethyl Alcohol – 99.8%) in the existing facility. Thus, additional facilities are not required.

The existing industry is operating as per the consent to operate obtained from the MPCB and all the environmental mitigation measures are implemented.

F. No. J-11011/745/07-IA II (I)
Government of India
Ministry of Environment and Forests
(I.A. Division)

Paryavaran Bhawan
CGO Complex, Lodhi Road
New Delhi – 110 003

E-mail : pb.rastogi@nic.in

Telefax : 011: 2436 7668

Dated 21st December, 2010

To,

Shri K. K. Sharma
 General Manager (EHS)
 M/s Jubilant Organosys Ltd.
 Noida-201301, U.P.

E-mail : ashok_kakur@jubl.com ; arpit_nanavati@jubl.com;

Fax No. : 91-40-23412957

Subject: Acetic Anhydride Plant at Nira, Pune in Maharashtra by M/s Jubilant Organosys Ltd. - Change in product mix reg.

Ref. : Your letter no. nil dated 12th July, 2010.

Sir,

Kindly refer your letter no. nil dated 12th July, 2010 wherein you have mentioned that you want to install Acetic Anhydride Plant (125 TPD) against the Acetaldehyde (100 TPD) and Acetic Acid (100 TPD) (Total Capacity 200 TPD). You have also mentioned that due to reduction in the quality from 200 TPD to 125 TPD, raw material requirement, total volume of production and pollution load will reduce.

2. It is observed that Ministry has accorded environmental clearance for the expansion of Molasses based Distillery unit (90 KLPD to 200 KLPD), Organic chemical products & 12 MW New Captive Power Plant at Nimbhura Nira, District Pune in Maharashtra vide letter no. J-11011/745/2007-IA II(I) dated 23rd December, 2008 to M/s Jubilant Organosys Ltd. for the following products and production capacity:

S.N.	Product	Unit	Existing Capacity	Proposed Capacity	After expansion
1	Ethyl Alcohol	KLD	90	110	200
2	Acetaldehyde	TPD	83	100	183
3	Acetic acid	TPD	103	100	203
4	Acetic anhydride	TPD	52	0	52
5	Ethyl Acetate	TPD	111	136	247
6	Carbon dioxide	TPD	20	60	80
7	Vinyl Acetate Monomer	TPD	45	0	45
8	Power	MW	0	12	12

3. Now, you have proposed to manufacture acetic anhydride plant (125 TPD) in place of acetaldehyde (100 TPD) & acetic acid (100 TPD) due to fluctuating market demand of acetaldehyde & acetic acid as per details given below :

S. N.	Product	Unit	EC as per 2008	Proposed amendment in product mix	Total after amendment
1	Ethyl Alcohol	KLD	200	--	200
2	Acetaldehyde	TPD	183	100 (Deduction)	83
3	Acetic acid	TPD	203	100 (Deduction)	103
4	Acetic anhydride	TPD	52	125 (Addition)	177
5	Ethyl Acetate	TPD	247	--	247
6	Carbon dioxide	TPD	80	--	80
7	Vinyl Acetate Monomer	TPD	45	--	45
8	Power	MW	12	--	12


4. The matter was discussed in the Expert Appraisal Committee (Industry-2) held during 16th-17th September, 2010. You have informed that pollution load will not increase due to reduction in the quantity of change in product mix. Fresh water consumption will be reduced from 4,665 m³/day to 4,637 m³/day. Effluent quantity will be reduced by 16 m³/day and 'Zero' discharge of effluent will be maintained. There will be no change in solid/hazardous waste generation.

5. The matter was examined in the Ministry and have agreed for amendment in the product mix by adding Acetic anhydride (125 TPD) in place of Acetaldehyde & Acetic Acid (100 TPD each) subject to satisfactory compliance to all the environmental conditions stipulated in the environmental clearance no. J-11011/745/2007-IA-II(I) dated 23rd December, 2008.

6. All the other specific and general conditions shall remain same and complied satisfactorily.

7. This letter shall be kept with the original environmental clearance letter.

8. This letter has been issued after approval from the competent authority.


(Dr. P.B. Rastogi)
Director

Copy to :

1. The Secretary, Department of Environment and Forests, Govt. of Maharashtra, Mumbai - 400 001, Maharashtra.
2. The Chief Conservator of Forests (Central), Ministry of Environment & Forests, Regional Office, Link Road No. 3, E - 5, Arera Colony, Bhopal - 462 016, M.P.
3. The Chairman, Central Pollution Control Board Parivesh Bhavan, CBD-cum-Office Complex, East Arjun Nagar, New Delhi - 110 032.
4. The Chairman, Maharashtra Pollution Control Board, Shri Chatrapati Shivaji Maharaj Municipal Market Building, 4th Floor, Mata Ramabai Ambedaker Road, Mumbai - 400 001, Maharashtra.
5. Adviser, IA-II (I), Ministry of Environment and Forests, Paryavaran Bhavan, CGO Complex, New Delhi.
6. Monitoring Cell, Ministry of Environment and Forests, Paryavaran Bhavan, CGO Complex, New Delhi.
7. Guard File / Monitoring File / Record File.


(Dr. P.B. Rastogi)
Director



भारत सरकार
पर्यावरण एवं वन मंत्रालय
Government of India
Ministry of Environment & Forests
(IA Division)

Paryavaran Bhawan
CGO Complex, Lodhi Road
New Delhi – 110 003
E-mail: plahujarai@yahoo.com
Telefax: 011: 2436 3973

F. No. J-11011/745/2007- IA II (I)

Dated the December 23, 2008

To,

The Vice President (Operations)
M/s Jubilant Organosys Ltd.
Village: Nimbut, Railway Station Nira
Distt. Pune, Maharashtra-412102

Sub: Expansion of Mollasses based Distillery unit from 90 KLPD to 200 KLPD, Organic chemical products & 12 MW New Captive Power Plant at Nimbut Nira, District Pune in Maharashtra by M/s Jubilant Organosys Ltd. – Environmental clearance regd.

Sir,

This has reference to your letter No N:MRS:021/08 dated 8th September, 2008 along with copy of EIA/EMP and Public hearing reports seeking environmental clearance under the Environmental Impact Assessment Notification, 2006.

2.0 The Ministry of Environment and Forests has examined the proposal. It is noted that M/s Jubilant Organosys Ltd. have proposed for expansion of Mollasses based Distillery from 90 KLPD to 200 KLPD, to manufacture Organic chemical products & install a 12 MW New Captive Power Plant at Nimbut Nira, District Pune in Maharashtra. No protected forests/eco-sensitive area located within 10 Km. radius from the unit. River Nira flows at a distance of 0.5 km from project site. Proposed expansion will be carried within the existing unit. Total land of the unit at present is about 130 Acres. Land required for proposed expansion would be around 23 Acres, which will be accommodated within existing premises. Green belt will be developed in 16.5 acres of land apart from the existing green belt of 25 acres. The unit will be in operation for 350 days. The project cost is estimated to be Rs. 200.00 crores of which an amount of Rs. 27.00 crores will be spent on environmental protection measures.

3.0 Details of the product profile are given below:

Sr No	Product Name	Unit	Existing Capacity	Proposed capacity	Total
1	Ethyl Alcohol	KLD	90	110	200
2	Acetaldehyde	TPD	83	100	183
3	Acetic acid	TPD	103	100	203
4	Acetic anhydride	TPD	52	0	52
5	Ethyl Acetate	TPD	111	136	247
6	Carbon dioxide	TPD	20	60	80
7	Vinyl Acetate Monomer	TPD	45	0	45
8	Power	MW	0	12	12

4.0 The total water requirement is 7231 m³/d. About 2723 m³/d of water requirement will be met from the recycling of water through RO and utility. The fresh water requirement of 4667 m³/d will be sourced from the river Nira. Total effluent generation will be 1560 m³/day. The spent wash generation after the proposed expansion will be 1210 m³/day. The spent wash treatment will be by evaporation followed by incineration in slop boiler for power generation to achieve zero discharge. The condensate from the evaporator (1020m³/d) will be recycled. The steam from the boiler will be used for power generation. The effluent from organic chemical plants will be treated in Effluent Treatment plant. Treated effluent will be reused in Utility. Utility effluent will be treated in RO plant and reused in Utility. While domestic effluent will be treated in a sewage treatment plant and treated effluent will be reused in horticulture. In the existing distillery, about 1170m³/d of spent wash is generated which after bio methanation about 800m³/d of treated spent wash is sent to RO plant and 370m³/d is composted with press mud. The permeates (560m³/d) will be recycled in the distillery unit and rejects (240m³/d) will be composted with press mud. The particulate emissions from the 75 TPH AFBC coal fired boiler and 23 TPH slop and coal fired boiler will be controlled by ESP and Bag filter respectively and the emissions will be dispersed through stack of 75 m and 23 m respectively.

5.0 About 4.4 TPD of fermentation sludge would be generated, and will be used in the bio composting. Fly ash generation will be reduced to 47 TPD from existing rate of generation of 52 TPD due to use of imported coal. Fly ash will be used for land reclamation within the unit or will be supplied to cement manufacturers. The ash from the boiler 34TPD will be used as fertiliser. The Hazardous waste generated from proposed Acetic acid & Ethyl acetate plant would be reprocessed for recovery and concentrated to minimize the quantity of generation. The additional generation of about 40 kg/d, will be sent to common hazardous waste facility of Maharashtra Enviro power Ltd.-Ranjangone, while 10 Ltr/day of used oil will be sold to authorized preprocessors.

6.0 All molasses based distilleries have been listed at Sl. no. 5 (g) in category 'A', as per the EIA notification, 2006 and have to be appraised by the central Government. Since the unit is manufacturing synthetic chemicals it also falls in the category 5 (f) of EIA Notification, 2006. The Expert Appraisal Committee (Industry) considered the project in its 87th meeting held on 25th - 26th November, 2008 (p.185-187/c). The Committee recommended the project for environmental clearance. The method of treatment of spent wash is as per the CPCB guidelines.

7.0 Based on the information submitted by project authorities, the Ministry of Environment and Forests hereby accords environmental clearance to above project under the provisions of EIA Notification dated 14th September 2006 subject to strict compliance of the following Specific and General conditions:

A. SPECIFIC CONDITIONS:

- i. The particulate emissions from the 75 TPH Coal fired AFBC boiler and 23 TPH slop and coal fired boiler shall be controlled by installation of ESP and bag filters respectively. The emissions shall be dispersed through stacks for which height shall be as per the CPCB standards.
- ii. The company shall adopt continuous fermentation technology. The spent wash generated after generated after the proposed expansion shall be concentrated in the Multiple Effect Evaporator followed by incineration in the boiler to achieve zero discharge. In the existing distillery the spent wash after bio methanation shall be sent to RO plant. The permeates shall be recycled and rejects shall be composted with press mud to achieve zero discharge. No effluent shall be discharged outside the factory premises and zero discharge shall be strictly followed. Land and other requirements for treatment of spent wash with press mud shall be as per the CPCB guidelines. The compost yard shall be made impervious as per the CPCB guidelines. The compost yards shall have leachate collection system.
- iii. The effluent from the chemical plant shall be subjected to acid recovery and the balance effluent streams along with the existing effluent shall be treated in the ETP. The treated effluent after conforming to the prescribed standards shall be recycled. The effluent stream from the cooling tower and boiler blowdown shall be sent to RO plant and permeates shall be used for cooling tower makeup. The domestic effluent after treatment in the sewage treatment plant shall be used for green belt development.
- iv. The spent wash shall be stored in impervious pucca lagoons. The spent wash lagoons shall have proper lining with HDPE and shall be kept in proper condition to prevent ground water pollution. As per the CPCB recommendation, storage shall not exceed 30 days capacity.
- v. Adequate numbers of ground water quality monitoring stations by providing piezometers around the compost plant and the project area shall be set up. Sampling and trend analysis monitoring must be made on monthly a basis and report submitted to SPCB and this Ministry.
- vi. The company shall obtain permission to draw water from the State Irrigation Authority.
- vii. Green belt in 33% of the plant area shall be provided to mitigate the effects of fugitive emissions all around the plant and compost yard as per the CPCB guidelines in consultation with the local DFO.
- viii. Company shall adopt rainwater harvesting measures to recharge the ground water.

- ix. Provision shall be made for the housing for the construction labour within the site with all necessary infrastructure and facilities such as fuel for cooking, mobile toilets, mobile sewage treatment plant, safe drinking water, medical health care, crèche etc. The housing may be in the form of temporary structure to be removed after the completion of the project. All the construction wastes shall be managed so that there is no impact on the surrounding environment.

B. GENERAL CONDITIONS:

- i. No further expansion or modifications in the plant shall be carried out without prior approval of the Ministry of Environment and Forests.
- ii. Ambient Air Quality Monitoring Stations shall be set up in the down wind direction as well as where maximum ground level concentration of SPM, SO₂, NO_x, are anticipated in consultation with the State Pollution Control Board.
- iii. Adequate number of influent and effluent quality monitoring stations shall be set up in consultation with the State Pollution Control Board. Regular monitoring should be carried out for relevant parameters.
- iv. The industry shall ensure that the treated effluent and stack emissions from the unit are within the norms stipulated under the EPA rules or SPCB whichever is more stringent. In case of process disturbances/failure of pollution control equipment adopted by the unit, the respective unit shall be shut down and shall not be restarted until the control measures are rectified to achieve the desired efficiency.
- v. The overall noise levels in and around the plant area shall be kept well within the standards by providing noise control measures including acoustic hoods, silencers, enclosures etc. on all sources of noise generation. The ambient noise levels should conform to the standards prescribed under EPA Rules, 1989 viz. 75 dBA (day time) and 70 dBA (night time).
- vi. Occupational health surveillance programme shall be undertaken as regular exercise for all the employees. The first aid facilities in the occupational health centre shall be strengthened and the medical records of each employee shall be maintained separately.
- vii. A separate environmental management cell equipped with full fledged laboratory facilities must be set up to carry out the environmental management and monitoring functions.
- viii. The project authorities shall provide requisite funds for both recurring and non-recurring expenditure to implement the conditions stipulated by the non-recurring expenditure to implement the conditions stipulated by the Ministry of Environment and Forests as well as the State government along with the implementation schedule for all the conditions stipulated herein. The funds so provided shall not be diverted for any other purpose.

- ix. The implementation of the project vis-à-vis environmental action plans will be monitored by Ministry's Regional Office at Bhopal /State Pollution Control Board/Central Pollution Control Board. A six monthly compliance status report along with the monitored data shall be submitted to the monitoring agencies.
- x. The Project Proponent shall inform the public that the project has been accorded environmental clearance by the Ministry and copies of the clearance letter are available with the State Pollution Control Board/ Committee and may also be seen at Website of the Ministry of Environment and Forests at <http://envfor.nic.in>. This shall be advertised within seven days from the date of issue of the clearance letter, at least in two local newspapers that are widely circulated in the region of which one shall be in the vernacular language of the locality concerned and a copy of the same shall be forwarded to the Regional office.
- xi. The Project Authorities shall inform the Regional Office as well as the Ministry the date of financial closure and final approval of the project by the concerned authorities and the date of start of land development work.

8.0 The Ministry may revoke or suspend the clearance, if implementation of any of the above conditions is not satisfactory.

9.0 The Ministry reserves the right to stipulate additional conditions if found necessary. The company will implement these conditions in a time bound manner.

10.0 Any appeal against this environmental clearance shall lie with the National Environment Appellate Authority, if preferred within a period of 30 days as prescribed under Section 11 of the National Environment Appellate Authority Act, 1997.

11.0 The above conditions will be enforced, inter-alia under the provisions of the Water (Prevention & Control of Pollution) Act, 1974, Air (Prevention & Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986, Hazardous Wastes (Management and Handling) Rules, 2003 and the Public Liability Insurance Act, 1991 alongwith their amendments and rules.


(Dr. P. L. Ahujarai)
Director

Copy to:

- 1. The Secretary, Department of environment and forests, Govt. of Maharashtra.
- 2. The Chief Conservator of Forests (Central), Ministry of Environment & Forests, Regional Office, E - 3 / 240 Arera Colony Bhopal - 462 016.
- 3. The Chairman, Central Pollution Control Board Parivesh Bhavan, CBD-cum-Office Complex, East Arjun Nagar New Delhi - 110 032.
- 4. The Chairman Maharashtra Pollution Control Board, Shri Chatrapati Shivaji Maharaj Municipal Market Building, 4th Floor, Mata Ramabai Ambedaker Road, Mumbai- 400 001.

5. Monitoring Cell, Ministry of Environment and Forests, Paryavaran Bhavan, CGO Complex, New Delhi.
6. Guard File.
7. Monitoring File.
8. Record File.

(Dr. P. L. Ahujarai)
Director