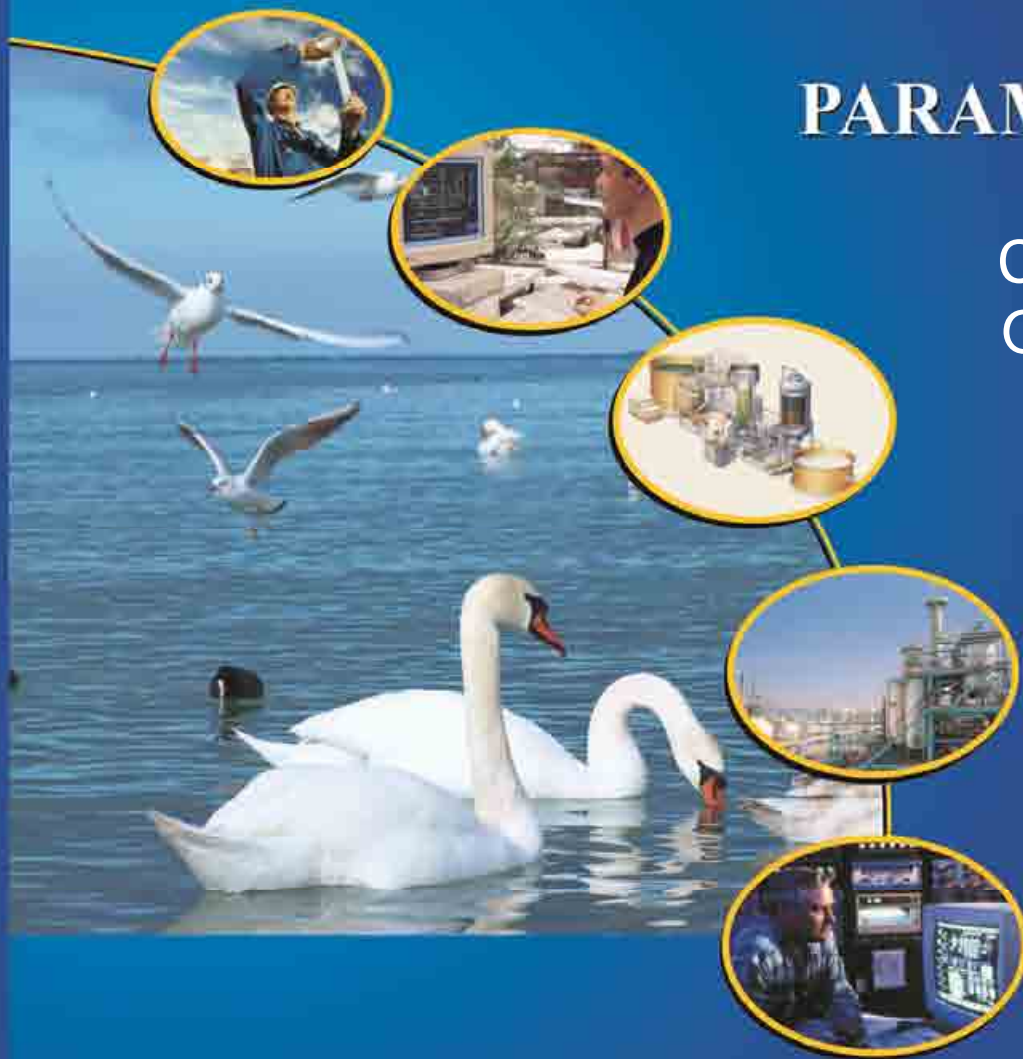




PARAMOUNT LIMITED

Corporate Presentation
Oil & Gas Competence
&
Skids Mounted Units
References



...A Total Water & Environment Management Company

Profile



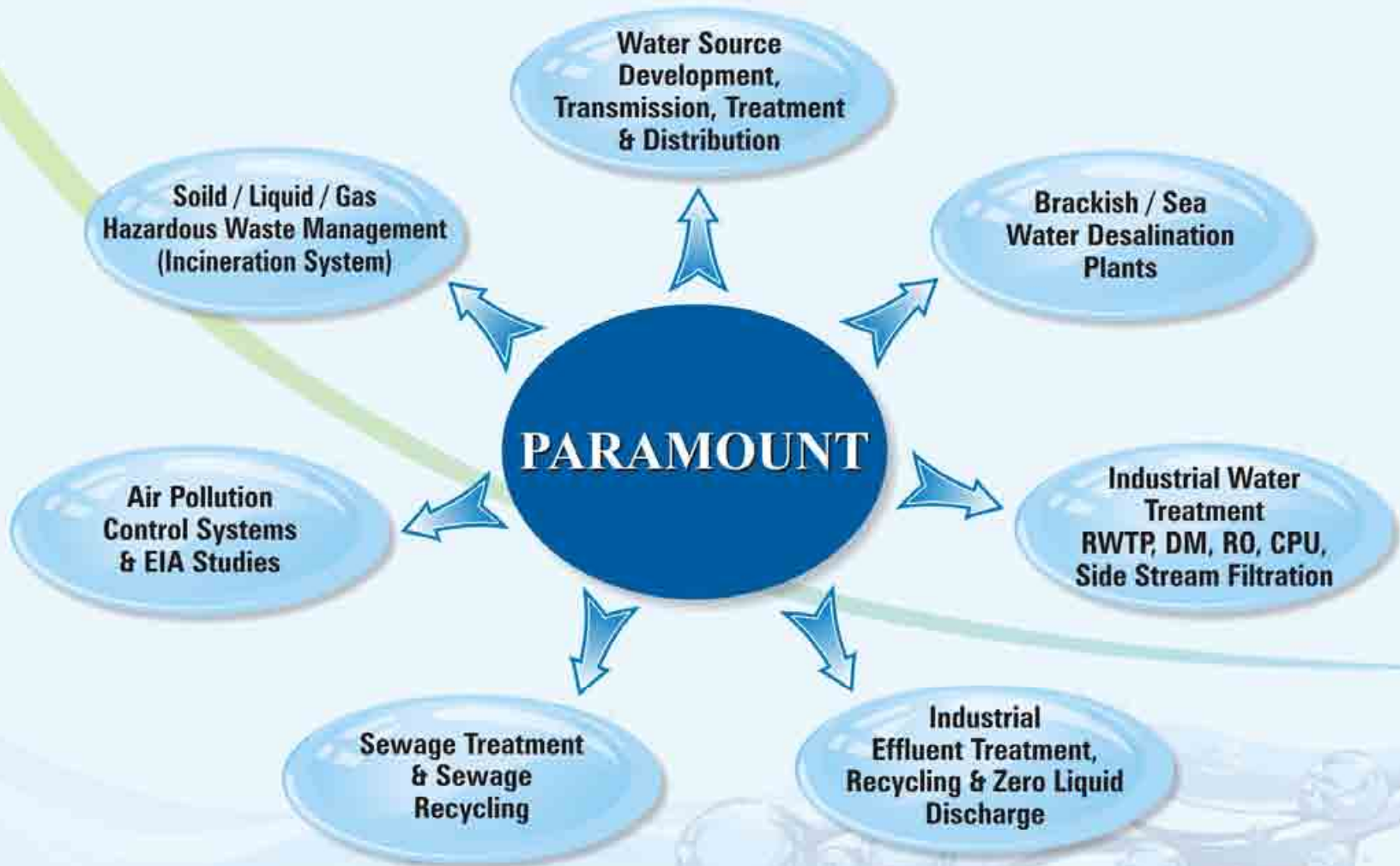
PARAMOUNT

- Offices in Vadodara (HQ), Chennai, Mumbai, New Delhi & Oman
- Started in Feb., 1962
- Over 300 Projects
- ISO 9001 : 2008 Certified Company
- ASME U, S, R & NB Code Authorized Manufacturing Facilities
- 250+ Water Specialists & Engineers with an average experience of 20+ years.
- Professionally Managed Organization
- www.paramountlimited.com

Business Areas



PARAMOUNT



Scope of Services



PARAMOUNT

Concept to Commissioning

In every project phase ...

Project Development

- Feasibility studies
- Environmental impact studies
- Lab / pilot studies
- Pilot and demonstration plants
- Project Management Consultancy

Design & Engineering

- Conceptual design
- Process design
- Basic design
- Design review
- Front End engineering
- Detailed engineering
- Special engineering
- Retrofit design

Manufacturing

- Pressure Vessels
- Heat Exchangers
- Process Equipments
- Process Skids

Project Execution

Design & Build

- Turn Key
- EPC

Equipment Supply

Construction Management

- Project Management
- Procurement Assistance
- Inspection Supervision
- Supervision & Commissioning

Operation & Maintenance

- Operation Management
- Optimisation
- Trouble Shooting
- De-bottlenecking
- Operation & Maintenance
- HSE Services
- Operational Support & Technical Services

...we are your partners !



PARAMOUNT

PARAMOUNT'S ACCREDITATIONS



ASME U & S Code Stamp Accreditation



PARAMOUNT

The American Society of Mechanical Engineers



CERTIFICATE OF AUTHORIZATION

The named company is authorized by The American Society of Mechanical Engineers (ASME) for the scope of activity shown below in accordance with the applicable rules of the ASME Boiler and Pressure Vessel Code. The use of the ASME Single Certification Mark and the authority granted by this Certificate of Authorization are subject to the provisions of the agreement set forth in the application. Any construction stamped with the ASME Single Certification Mark shall have been built strictly in accordance with the provisions of the ASME Boiler and Pressure Vessel Code.

COMPANY:

PARAMOUNT LIMITED
Manufacturing Unit-1
Shed No. 521, GIDC, Makarpura
Vadodara, Gujarat 390 010
India

SCOPE:

Manufacture of pressure vessels at the above location and field sites controlled by the above location (This authorization does not cover impregnated graphite)

AUTHORIZED: September 14, 2021
EXPIRES: September 14, 2024
CERTIFICATE NUMBER: 36036

Board Chair, Conformity Assessment

Managing Director, Conformity Assessment



CERTIFICATE OF AUTHORIZATION

The named company is authorized by The American Society of Mechanical Engineers (ASME) for the scope of activity shown below in accordance with the applicable rules of the ASME Boiler and Pressure Vessel Code. The use of the ASME Single Certification Mark and the authority granted by this Certificate of Authorization are subject to the provisions of the agreement set forth in the application. Any construction stamped with the ASME Single Certification Mark shall have been built strictly in accordance with the provisions of the ASME Boiler and Pressure Vessel Code.

COMPANY:

PARAMOUNT LIMITED
Manufacturing Unit-1
Shed No. 521, GIDC, Makarpura
Vadodara, Gujarat 390 010
India

SCOPE:

Manufacture and assembly of power boilers at the above location and field sites controlled by the above location

AUTHORIZED: September 14, 2021
EXPIRES: September 14, 2024
CERTIFICATE NUMBER: 36035

Board Chair, Conformity Assessment

Managing Director, Conformity Assessment

The American Society of Mechanical Engineers



R & NB Mark Authorization of National Board of Boiler & PV Inspectors



PARAMOUNT



THE NATIONAL BOARD OF BOILER & PRESSURE VESSEL INSPECTORS

Certificate of Authorization



This is to certify that

PARAMOUNT LIMITED
Manufacturing Unit-1
Shed No. 521, GIDC, Makarpura
Vadodara, Gujarat 390 010
India


is authorized to use the R Symbol in accordance with the provisions of the National Board Inspection Code and NB-415, Accreditation of "R" Repair Organizations.

All activities within the scope of this Authorization shall be controlled by the above location.

The scope of this Authorization is limited to:

Metallic
Repairs and Alterations
At
Shop and Field Locations



Certification Number: 6957
Issue Date: September 23, 2021
Expiration Date: September 14, 2024
Executive Director: 



THE NATIONAL BOARD OF BOILER & PRESSURE VESSEL INSPECTORS

Certificate of Authorization to Register



This is to certify that

PARAMOUNT LIMITED
Manufacturing Unit-1
Shed No. 521, GIDC, Makarpura
Vadodara, Gujarat 390 010
India

is authorized to apply the "NB" mark and register boilers, pressure vessels or other pressure retaining items with the National Board.

The scope of Authorization is limited to items manufactured in accordance with:

ASME Designator(s): S, U
Issue Date: September 29, 2015
Revision Date: September 14, 2021

This Certificate of Authorization to Register will remain in effect as long as the manufacturing organization holds a valid Certificate of Authorization issued by the American Society of Mechanical Engineers.

Executive Director



ISO 9001 : 2015 Certificate



PARAMOUNT



Management Service

CERTIFICATE

The Certification Body
of TÜV SÜD Management Service GmbH

certifies that



Paramount Limited

Paramount Complex, Gotri Road, Vadodara - 390 007, Gujarat, INDIA

has established and applies
a Quality Management System for

Process Design, Engineering, Procurement and Construction of
Process Plants and Projects in the Field of Environmental Management
such as Water and Waste Water Treatment & Recycling, Desalination,
Air Pollution Control, Solid and Hazardous Waste Management and Operation and
Maintenance of these plants.

Sales & Marketing and Design & Engineering of Water & Waste Water Treatment Equipments
Maintenance of these plants. Sales & Marketing and Design & Engineering of Water & Waste
Water Treatment Equipments

An audit was performed, Order No. 4163681781

Proof has been furnished that the requirements
according to

ISO 9001:2015

are fulfilled.

The certificate is valid from **2021-08-04** until **2024-08-03**

Certificate Registration No : **12 100 0789 TMS**

Head of Certification Body
Munich, 2021-08-05



ZERTIFIKAT ■ CERTIFICATE ■ 認證證書 ■ CERTIFICADO ■ CERTIFICAT



PARAMOUNT

PARAMOUNT'S MANUFACTURING FACILITIES



Paramount Group's ASME U & S – R & NB (NBBI) Code Stamped Manufacturing Units



PARAMOUNT

Polcon Equipments



Baroda

Total Plant Area: 13000 m²

Paramount Technologies



Baroda

Total Plant Area: 9000 m²

Paramount ONEIC



Oman

Total Plant Area: 10000 m²

Equipments Manufactured



PARAMOUNT

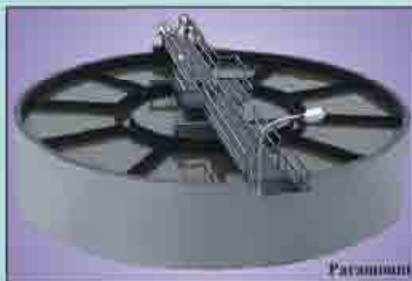


Aerators



Pressure Filter

- Aerators
- Pressure sand filters
- Tanks & vessels
- Activated Carbon Filters



High Rate Solid Contact Clarifier



Oil-Water Separator (CPI)

- Agitators/Mixers
- Clarifiers/Thickeners
- Oil Separator Mechanism



Clariflocculator



Vacuum Drum Filter

- Sludge Mixers
- Clariflocculators
- Vacuum Drum Filters

Equipments Manufactured



PARAMOUNT



Dosing Skid



**Skid Mounted
Dosing Systems**



Skid Mounted CPU System



Skid Mounted Recycle System

**Skid Mounted
CPU & Recycle System**

Packaged Plants & Systems



PARAMOUNT



Mix Bed & Dosing Skid (CPU)



Package STP



Condensate Polishing Unit (Krishi)



Multi Effect Evaporator



Dissolved Air Flotation

- Tilted Plate Interceptors & Separators
- Activated Sludge Package Plants
- Air Flotation Unit (DAF)
- Packaged Sewage Treatment Plants
- Incinerators
- Mutli Effect Evaporator

Packaged Plants & Systems



PARAMOUNT



Reverse Osmosis



SO₂ Scrubber

- Membrane Based MF/UF/RO Packaged Systems
- SO₂ Scrubber
- Coiled Pipe Flocculator
- Plastic Media Biotowers
- Flue Gas Desulphurisation (FGD)
- Trickling Filter Arms



Coiled Pipe Flocculator



Trickling Filter Arms



PARAMOUNT

PARAMOUNT'S DESIGN & ENGINEERING COMPETENCE





MAA Refinery (Kuwait): 818 m³/hr

**PARAMOUNT – A LEADING
PROJECT MANAGEMENT CONSULTANT (PMC) IN
WATER & WASTE WATER MANAGEMENT & TECHNOLOGIES**

Paramount – a recognized Project Management Consultant (PMC) Worldwide in Water & Waste Water Management



PARAMOUNT



- **Conceptual Design**

- **Front-End Engineering Design**



- **Detailed Engineering**

- **Advanced Process Solutions**



- **Project Management Expertise**

- **HSE Services**





- **Design & Engineering Competence with all global standards & codes like Shell DEP, ASME, BS, IS, Merkblatter, DIN EN , JIS, GHOST(R)**
- **Project Management**
 - PRIMAVERA
 - M. S. Project
- **3D Plant Design & Layout Package**
 - PDS[®]: Premier Plant Design and Layout & Piping Package
- **Heat Exchanger Design & Simulation**
 - HTRI[®]: Premier Heat Exchange Design & Analysis Package
- **Mechanical Design**
 - PVElite[®]: Columns, pressure vessels & U Code Stamp Vessels
 - E-Tank: Storage Tank Software for API-650, API-620, API-653

PRIMAVERA
ORACLE[®]





- **Electrical Design**
ETAP : Enterprise Software Solution for Power Systems
- **Structural / Civil Design:**
- **STAAD-Pro 2006 :**
(IS + BS + US) - For design of most of Civil/structural units including tanks, buildings, shed etc. with Indian, British & American codes of practice. For design of retaining wall, foundation/ footing in any material - concrete, timber, steel, masonry & foundation Work
- **STAAD Section Wizard/DTO:**
For working out properties of any shape section



Milestone PMC Projects – KNPC, Kuwait



PARAMOUNT



MAB Refinery (Kuwait): 900 m³/hr

Procurement Assistance including:

Preparation of Specification for Mechanical Equipment, Piping, Valves & Special Electrical Equipment & Material, Instrument for Floating Inquiries.

- Technical Evaluation of Vendor offers, checking & review vendor prints.
- Meeting with end client (KNPC) to facilitate approval of documentation.
- Preparation of As built Drawing for all Disciplines.

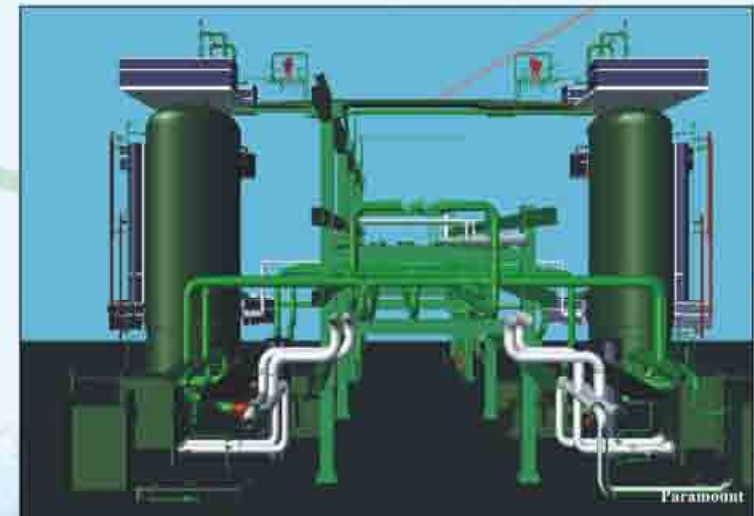
Total Project Cost: US\$ 200 million

Paramount PMC Cost : 30 Cr INR (US\$ 6.5 million)

The entire ETP engineering design is as per Shell DEP for all new facility and as per KNPC standards for modification in existing Refinery area.

Paramount scope of PMC work included following:

- Process Design -Detailed Civil design (STAAD Calculation & Drawings)
- Mechanical Equipment Engineering
- Piping Engineering
- Electrical Engineering
- Instrumentation Engineering
- Preparation and Finalization of the new RETF Plot Plan.
- Facilitation of HAZOP Study.



De-Hazing / Moisture Control System at Kuwait Refinery

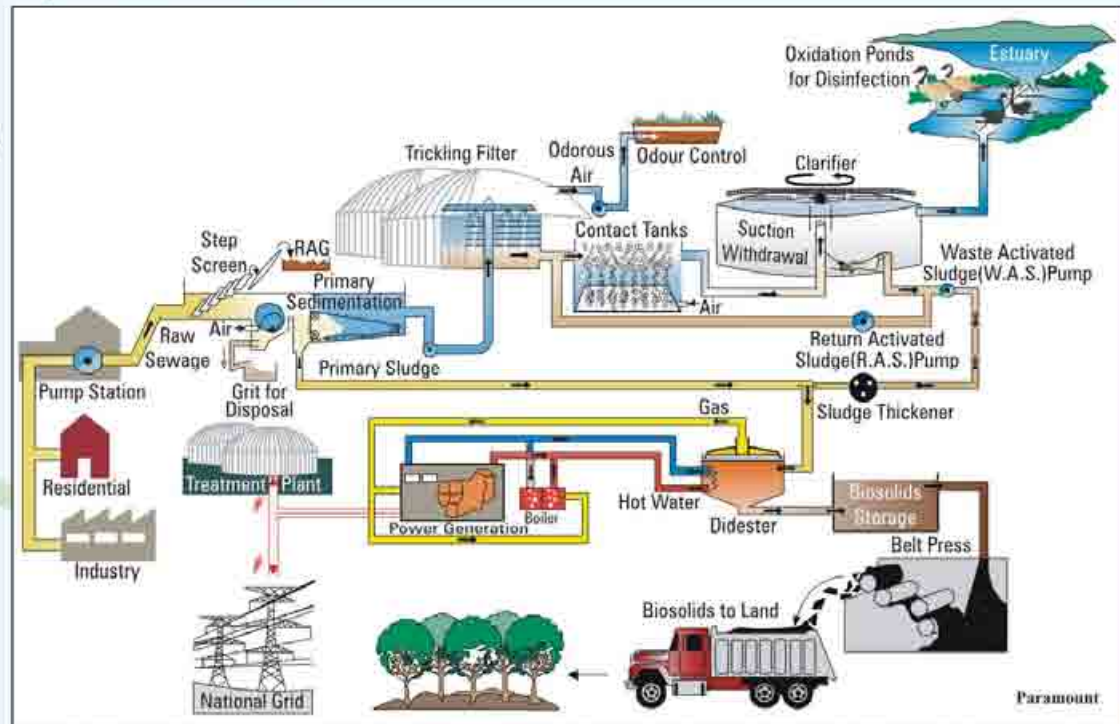
Milestone PMC Projects – Ebara, Japan



PARAMOUNT

Detailed Engineering Services for 200 MLD Sewage Treatment Plant for EBARA Corporation Japan for city of Asthana – Kazakhstan with scope of work as under:

- Process design
- Mechanical equipment engg.
- Piping engg.
- Electrical engg.
- Instrumentation engg.



Procurement Assistance including:

Preparation of specification for Mechanical Equipment, Piping, Valves & special Electrical Equipment & Material, Instrument for Floating Inquiries.

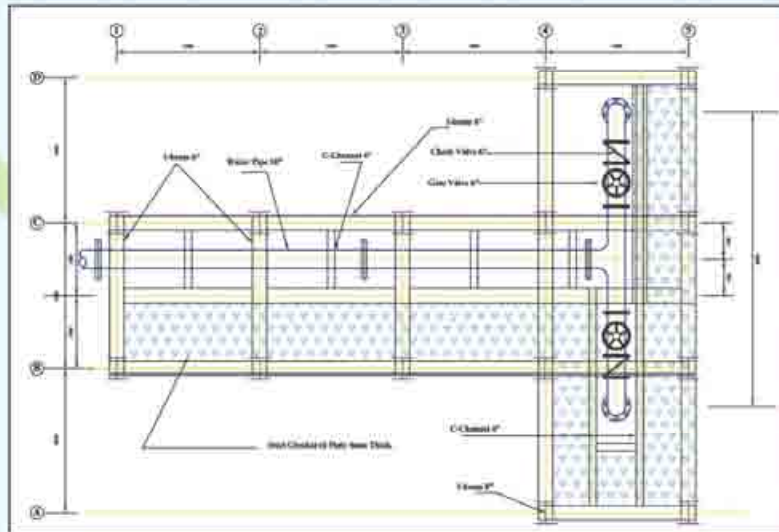
- Technical Evaluation of vendor offers, checking & review vendor prints.
- Preparation of As built drawing for all disciplines.

Milestone PMC Projects – IPCL, Gandhar



PARAMOUNT

Indian Petrochemicals Corporation Ltd.



Water Supply scheme for
Gandhar Petrochemicals Complex
Bharuch District

22.0 MGD (100.0 MLD)

- **Client :**
Reliance Industries Limited
(Formerly Indian Petrochemicals
Corporation Ltd. (IPCL) Gandhar,
Bharuch.)
- **Capacity :**
22.0 MGD (100.0 MLD)
- **Project Cost :**
16 Million US\$

- **Project :** Project Feasibility Study and finalization of Narmada Water Intake System, Pumping and Transmission of Water (70 kms) to Water Reservoirs at Plant site.
- **Scope of Work :**
 - Feasibility Study
 - Survey
 - Design, Detail Engineering & Construction Supervision



PARAMOUNT

PARAMOUNT TECHNOLOGIES FOR CRUDE OIL REFINERIES – HYDROCARBON – OIL & GAS - PETROCHEMICALS



Biological Process- Activated Sludge Process



PARAMOUNT



Indian Oil Corporation Ltd, Vadodara - 1600 m³/hr Capacity



Indian Oil Corporation Ltd, Panipat - 400 m³/hr Capacity

- **Scheme :** Free oil separation in TPI oil separator --> Physico Chemical Treatment in DAF --> 2 stage biological system with plastic media bio tower as 1st stage followed by Activated Sludge Process operating under extended Aeration Process --> final polishing by PSF & ACF followed by Chlorination.

Biological Processes (SBR & Bio-Tower)



PARAMOUNT



Sequential Batch Reactor (SBR)
Mangalore Refinery & Petrochemicals Ltd., Mangalore(MRPL)



Plastic Media Bio-Tower
Alembic Limited, Gujarat

- **Client :**
Mangalore Refinery & Petrochemicals Ltd.,
Mangalore
- **Project :**
Effluent Treatment Plant with treated water
Recycle in Refinery
- **SBR Capacity :**
600 m³/hr

- **Client :**
Alembic Limited, Gujarat
- **Project :**
Effluent Treatment Plant for Pharmaceutical &
Bulk Drugs
- **Bio-Tower Capacity :**
3000 m³/day

Biological Processes (Membrane Bio Reactor)



PARAMOUNT



Flat Sheet Membrane
Mangalore Refinery & Petrochemicals Ltd., Mangalore (MRPL)

- **Client :**
Mangalore Refinery & Petrochemicals Ltd.,
Mangalore
- **Project :**
Effluent Treatment Plant with treated water
Recycle in Refinery
- **MBR Capacity :**
600 m³/hr (Flat Sheet Membrane)



Hollow Fibre Membrane
Sanofi Aventis, Gujarat

- **Client :**
Sanofi Aventis, Gujarat
- **Project :**
ETP with Zero Liquid Discharge System for API
Unit (Bulk Drugs)
- **MBR Capacity :**
200 m³/day (Hollow Fibre Membrane)

“First Refinery ETP with Unique Biological Process”



Bharat Petroleum Corporation Limited, Kochi, Kerala.

- **Customer :**
Bharat Petroleum Corporation Limited,
Kochi Refinery, Kochi, Kerala.
- **Consultant :**
Engineers India Ltd.
- **Capacity :**
700 m³/hr
- **Project Value :**
INR 1140 Million

Salient Features

- Tailored bacterial cocktail
- Low bacterial concentration throughout the process
- Full automation of monitoring and control

Advantage

- No effects of High COD Fluctuation in Waste Water
- Can work as high as TDS 40000 ppm
- Produces half the amount of Bio Sludge
- Can degrade oil from 1000 ppm to as low as 2 ppm

Biological Processes (Anaerobic Technologies)



PARAMOUNT



Anaerobic Upflow Fluidised Bed Reactor (UFB)
Orchid Pharma & Chemicals Ltd, Chennai

- **Client :**
Orchid Pharma & Chemicals Ltd, Chennai
- **Project :**
Bio-bed an Anaerobic Treatment facility
for Treatment of Highly Organic Waste
Water for a API Plant.



Upflow Anaerobic Sludge
Blanket Reactor (UASB)
Alembic Limited, Gujarat

- **Client :**
Alembic Limited, Gujarat
- **Project :**
ETP for Effluent from
Molasses Distillery, Erythromycin
& Penicillin Plant.
- **Capacity :**
120 m³/day

Bio Remediation



PARAMOUNT



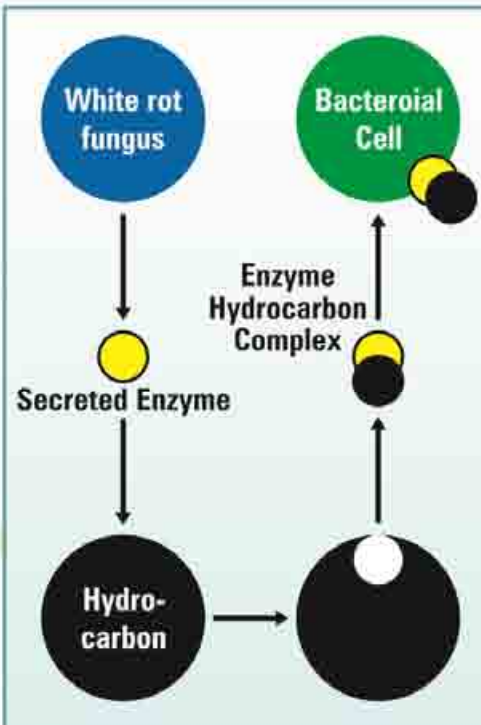
Bio-Remediation at
M/s. Mangalore Refinery & Petrochemicals Ltd.

Oily and Chemical Sludge from Oily Effluents if dumped as land fill can damage Soil & Water table due to its Toxic Leachate.

Bio remediation is a principle adopted to utilize Microbial action to reduce the Total Petroleum Hydrocarbon from the Sludge & convert as non Hazardous Land fill Bio sludge.

Microbes in a confined atmosphere maintaining appropriate nutrients enhance the Bioremediation procedures.

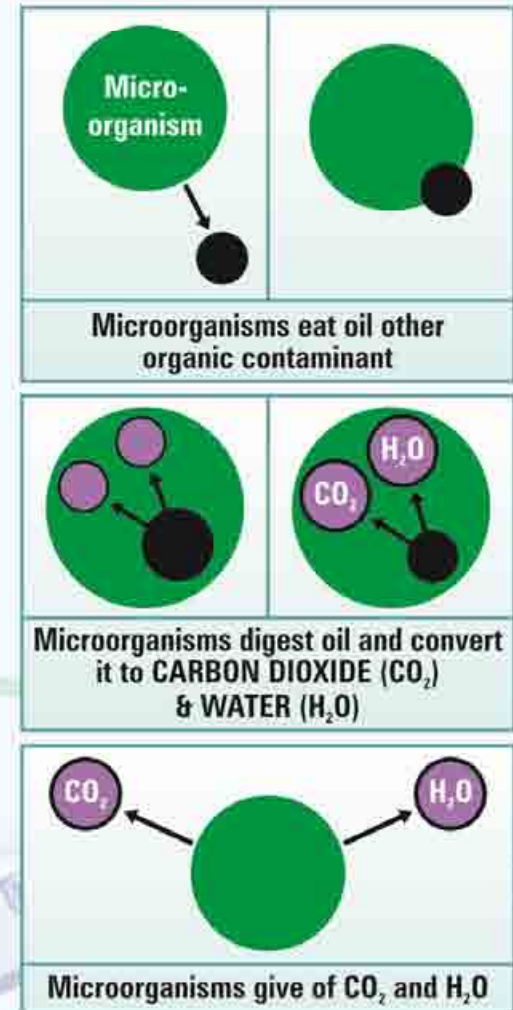
Enzymes Enhanced Bioremediation



Paramount's Milestone References:

- MRPL Phase-III Capacity : 1000 M³/yr

Petroleum Bioremediation



Bio-Remediation System



PARAMOUNT

Client : MRPL, Mangalore
Capacity : 1000 m3/annum



Wet Air Oxidation (WAO)



PARAMOUNT



MRPL, Mangalore Wet Air Oxidation Plant 5 m³/hr



ONGC, Hazira 1 m³/hr
Wet Air Oxidation Plant

Paramount's Milestone References:

- MRPL, Mangalore
- ONGC, Hazira

- Spent caustic effluent from Refinery generally contains high levels of Sulphidic, Cresylic & Naphthenic contaminants.
- Oxidation of contaminants is the methodology followed for WAO treatment.
- The effluent is subjected to partial Oxidation with the help of diffusing compressed air & steam. The vent gas is passed through an activated carbon filter before vent to atmosphere for prevention of odour.
- The second step is Oxidation in the presence of a strong catalyst in an Oxidation Reactor.
- Further Oxidation of the contaminants by treatment with a strong oxidizing agent in a Reaction Chamber is final step to treat the effluent before disposal.

Volatile Organic Component (VOC) Control



PARAMOUNT



**Paramount's
Milestone Reference:**

- **MRPL Phase-III Capacity:
4000 nm³/hr**

- Oil in Effluent from Refinery consist varied variety of Hydrocarbon that will liberate Volatile Organic components to atmosphere from the Oily Effluent and may create a combustibile atmosphere.
- VOC system is required to reduce VOC components vent to atmosphere by 90% as per CPCB norms.
- The method uses Activated Carbon as Adsorbents for removal of VOC gas.
- VOC Adsorption is an Exothermic reaction and adequate safety system is combined for safe operation.

“Paramount's On – Shore Oil & Gas Solutions”

- Effluent Treatment Plants
- Produced Water Systems
- Water Reinjection Systems
- Group Gathering Stations

PARAMOUNT'S ON – SHORE OIL & GAS SOLUTIONS



PARAMOUNT

- **Effluent Treatment Plants**
- **Produced Water Systems**
- **Water Reinjection Systems**
- **Group Gathering Stations**



Paramount – A Leading Player in Produced Water Treatment for Oil & Gas Industry



PARAMOUNT

Water Injection & Produced Water Treatment Capabilities for On/ Offshore Platforms



Water Re-injection system & ETP for ONGC, Karaikal, Pondichery



Water Re-injection Plant & ETP for ONGC, Mehsana

- **Water Re - Injection Systems :**

Sea Water Lift Pumps & Coarse filtration, Chlorine Generators, Pre Treatment Systems, Deaeration packages, Chemical Storage, Dosing & Injection.

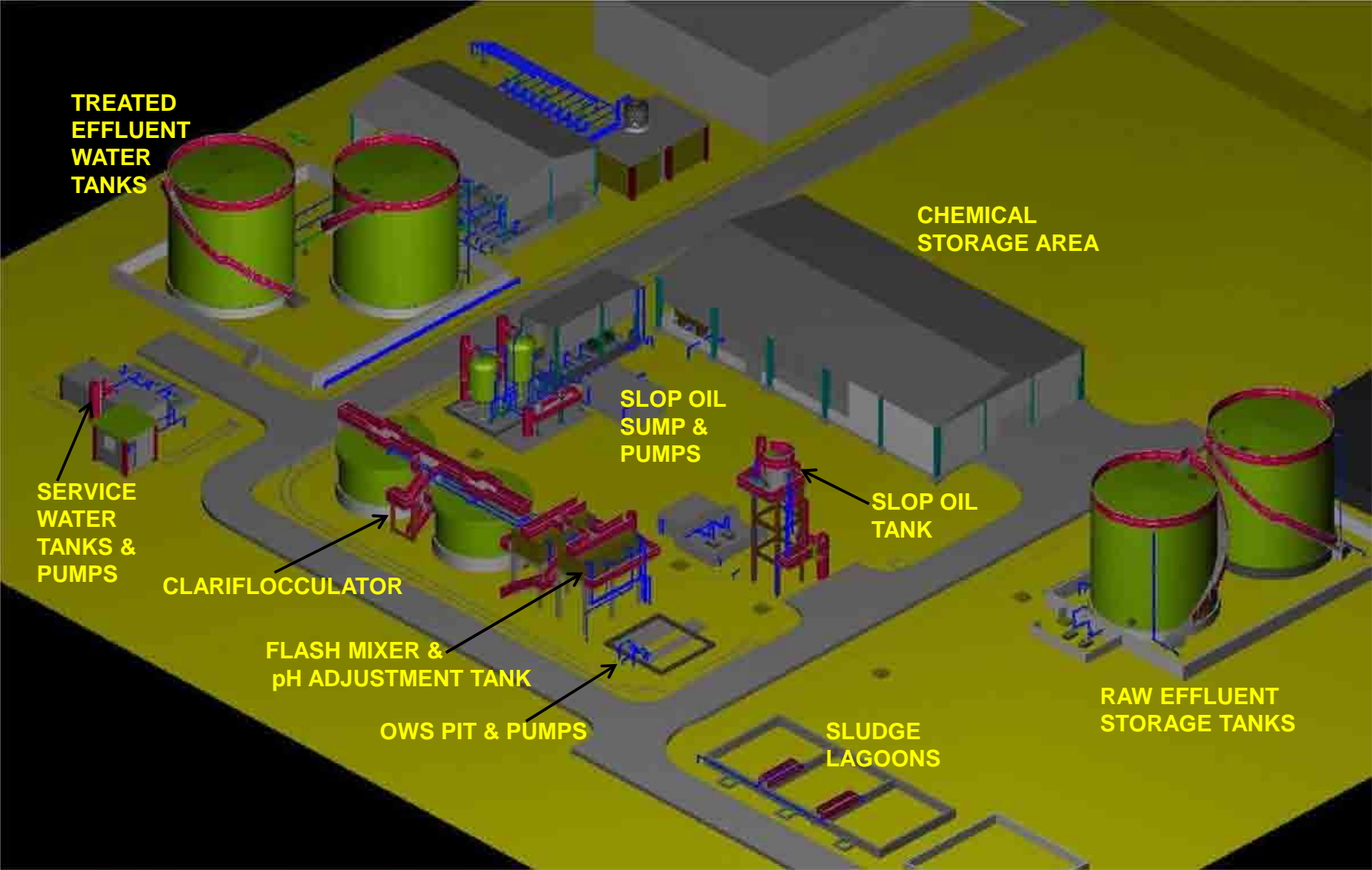
- **Produced Water Treatment Capabilities :**

Tilted Plate Oil/ Water Plate Separators, Dissolved Air / Gas Floatation Systems, PSF/DMF/ACF, Ceramic Membrane Filtration Systems.

ONGC Karaikal – Produced Water Treatment & Reinjection Plant



PARAMOUNT



TREATED EFFLUENT WATER TANKS

CHEMICAL STORAGE AREA

SERVICE WATER TANKS & PUMPS

SLOP OIL SUMP & PUMPS

SLOP OIL TANK

CLARIFLOCCULATOR

FLASH MIXER & pH ADJUSTMENT TANK

OWS PIT & PUMPS

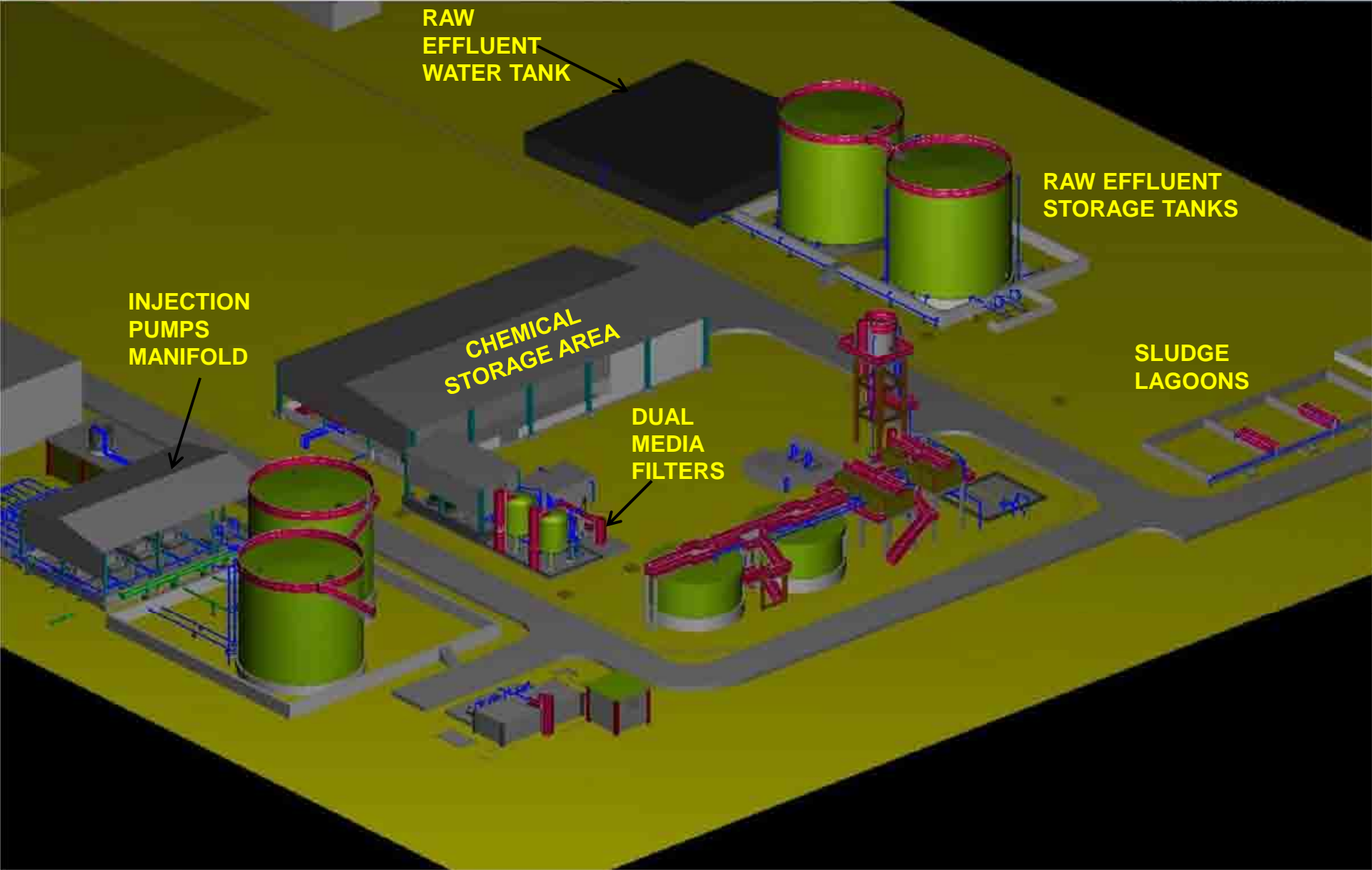
RAW EFFLUENT STORAGE TANKS

SLUDGE LAGOONS

ONGC Karaikal – Produced Water Treatment & Reinjection Plant



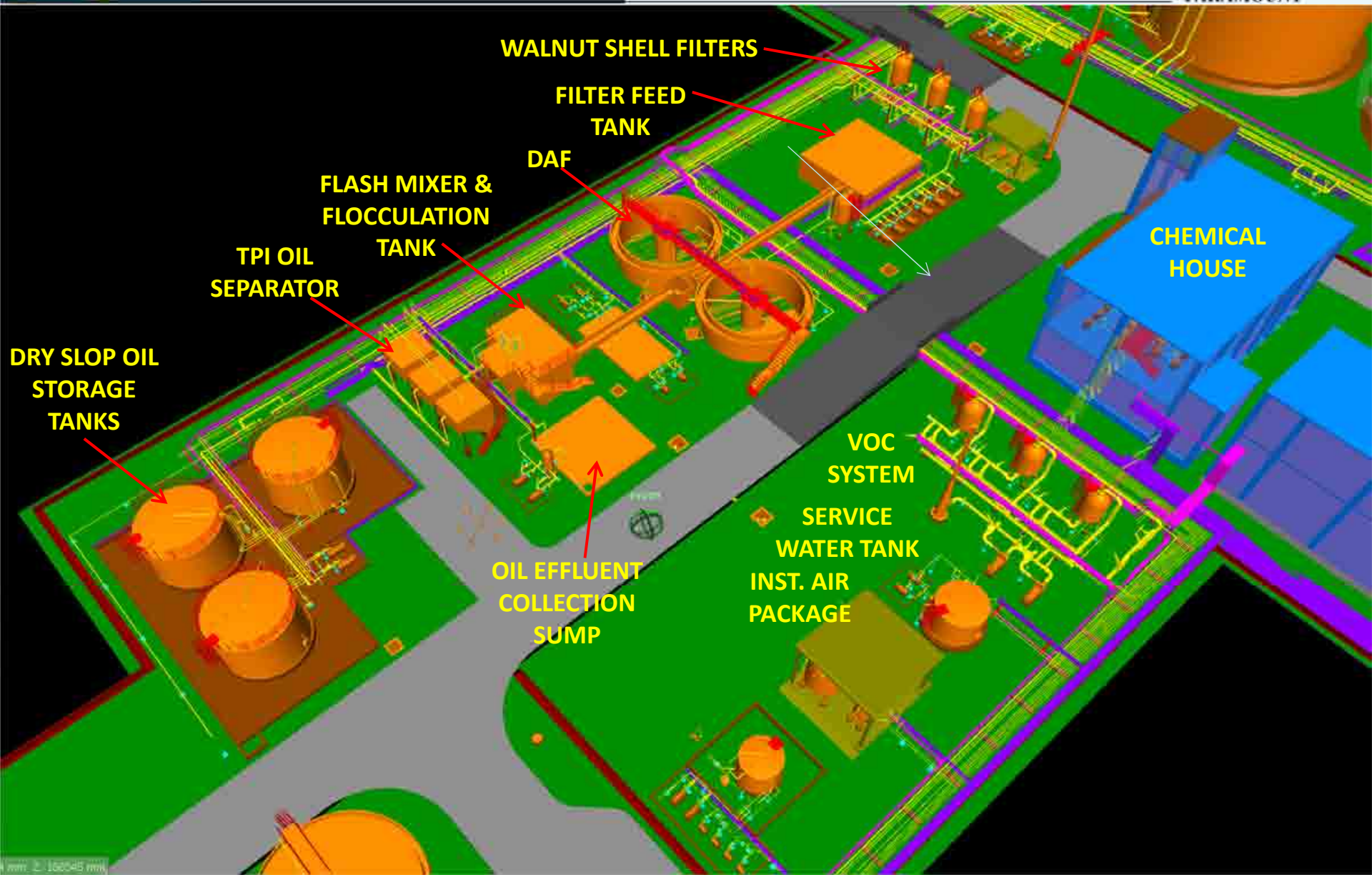
PARAMOUNT



Oil India – Produce Water Treatment Plant



PARAMOUNT



Oil India – Produced Water Treatment Plant



PARAMOUNT

INJECTION WATER
STORAGE TANKS

VACUUM DEAERATOR

EFFLEUNT TREATMENT
PLANT AT TENGAGHAT,
ASSAM

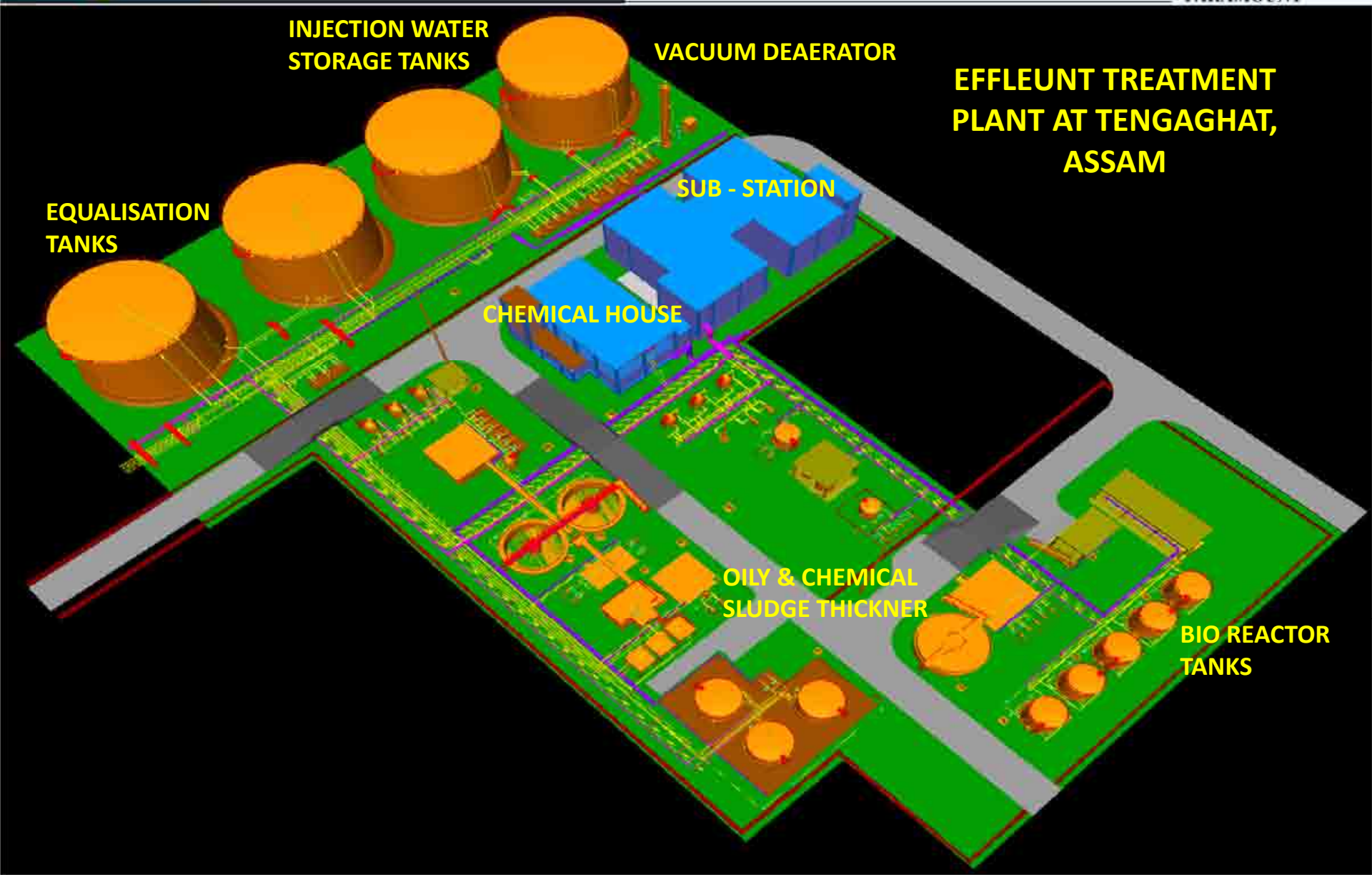
EQUALISATION
TANKS

SUB - STATION

CHEMICAL HOUSE

OILY & CHEMICAL
SLUDGE THICKNER

BIO REACTOR
TANKS

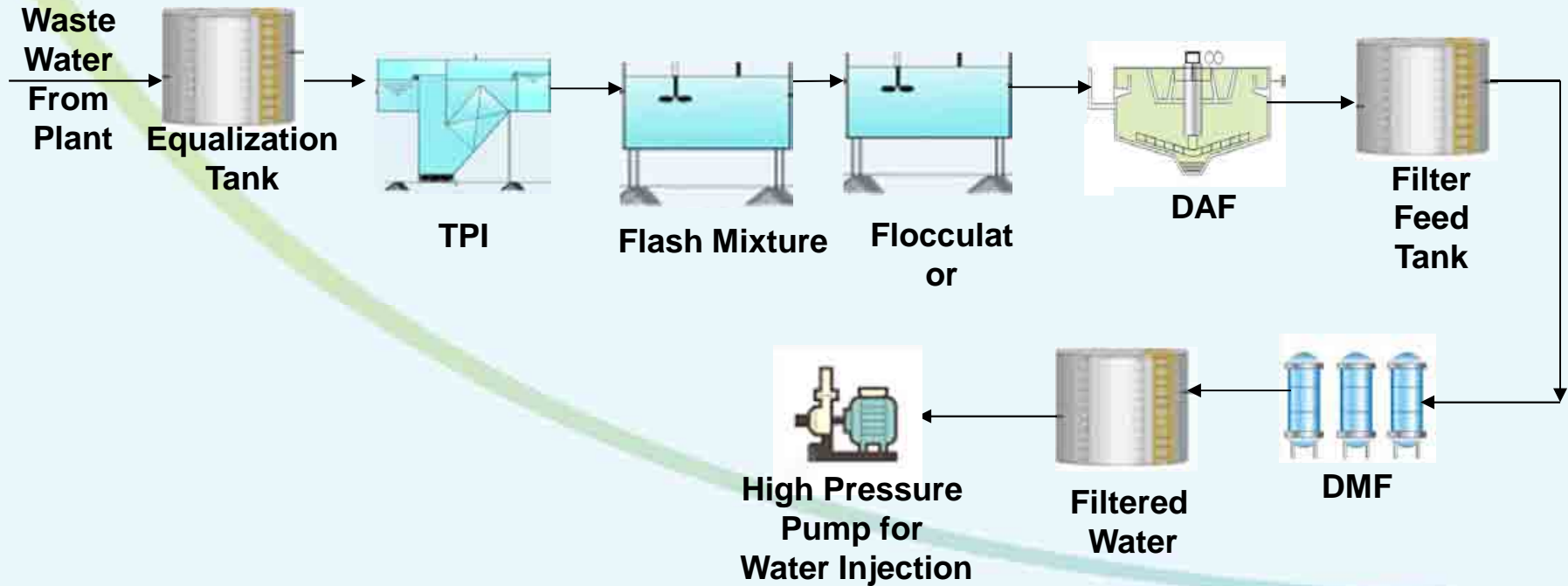


Paramount's references at ONGC - Produce Water Treatment Plant



PARAMOUNT

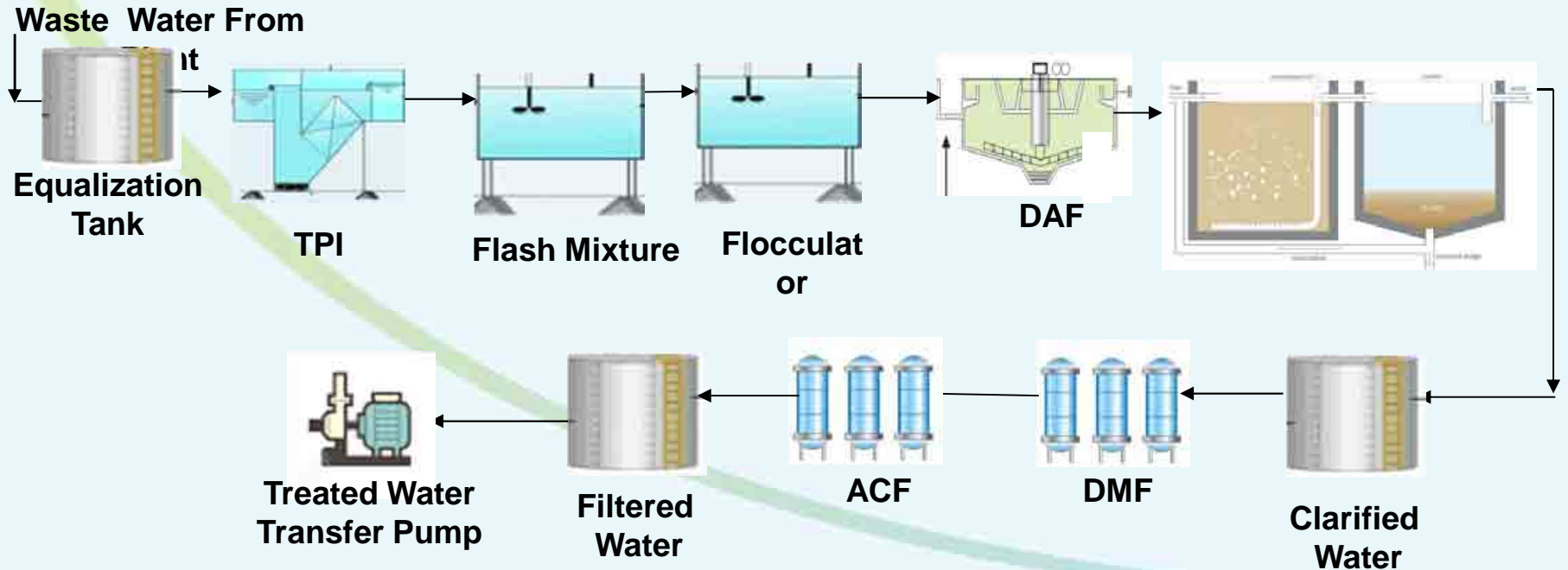
ONGC Becharaji & ONGC Kathana



Paramount's references at ONGC - Produce Water Treatment Plant



ONGC Ankleshwar



Group Gathering Station – ONGC Becharaji



PARAMOUNT



ONGC ASP Re-injection Plant – ONGC Mehsana



PARAMOUNT

ETP & Water Re-Injection System for Oil & Gas





PARAMOUNT

Mangalore Refinery

Flow : 24000 m³/day

(Refinery & Petrochemical Industry)

Waste Water Treatment & Recycling Plant – Industrial Effluents



PARAMOUNT

**A unique “Refinery ETP with Recycle System” - First of its kind with combination of all latest Technologies
- SBR / MBR / UF / RO / VOC Control System / Bio Remediation / Wet Air Oxidation.....**



One of India's Largest Industrial Waste Water Treatment & Recycle Plant at M/s. Mangalore Refinery & Petrochemicals Ltd. (Phase III Refinery Project).

- **Customer :**
Mangalore Refinery & Petrochemicals Ltd.
(Phase III Refinery Project).
- **Consultant :**
Engineers India Ltd.
- **Capacity :**
1000 m³/hr
- **Project Value :**
INR 1600 Million

- **Scope :** A Project on “Concept to Commissioning Basis” with Complete Scope of Design, Engineering, Procurement, Supply, Manufacturing, Construction & Erection of Civil & Structural, Mechanical, Electrical, Piping & Instrumentation Works, Testing Commissioning & PG Test of WWTP & Recycle Plant.

Waste Water Treatment & Recycling Plant – Industrial Effluents



PARAMOUNT



Control Room for ETP & Recycle Plant at
M/s. Mangalore Refinery & Petrochemicals Ltd.



RO Skids at M/s. Mangalore Refinery & Petrochemicals Ltd.

Key Features of Project :

- Largest UF/MBR + RO Plant of its kind in India.
- 75% of Refinery Effluent reused for Cooling Tower & DM Application.
- Combination of latest Technologies of PT - SBR – MBR - RO for Oily Water & PT - DMF - ACF - UF - RO for CTBD and DM Regeneration Water.
- Most Ecofriendly “VOC Control” Technology and “Bio Remediation Sludge Treatment Technology.
- A Unique Wet Air Oxidation Technology used in Plant for High Sulphide removal.
- Over 15000 m³ of RCC Work.
- Over 1000 MT of Site Fabricated 6 Nos. Storage Tanks of Capacities varying from 1100 m³ to 3500 m³.
- Fully DCS Controlled Plant.

MRPL Characteristics



PARAMOUNT

Inlet Characteristics

Parameter	Units	CTBD & DM neutralized stream Concentration	Inlet to ETP Concentration
Total Suspended Solids	mg/l	75	< 500
TDS	mg/l	2049	1200
Total Oil	mg/l	< 10	< 10000
BOD 27°C, 3 days	mg/l	4	< 600
COD	mg/l	17	< 1200
M Alkalinity	mg/l	100	300
Calcium Hardness as CaCO ₃	mg/l	226	85
Magnesium Hardness as CaCO ₃	mg/l	126	55

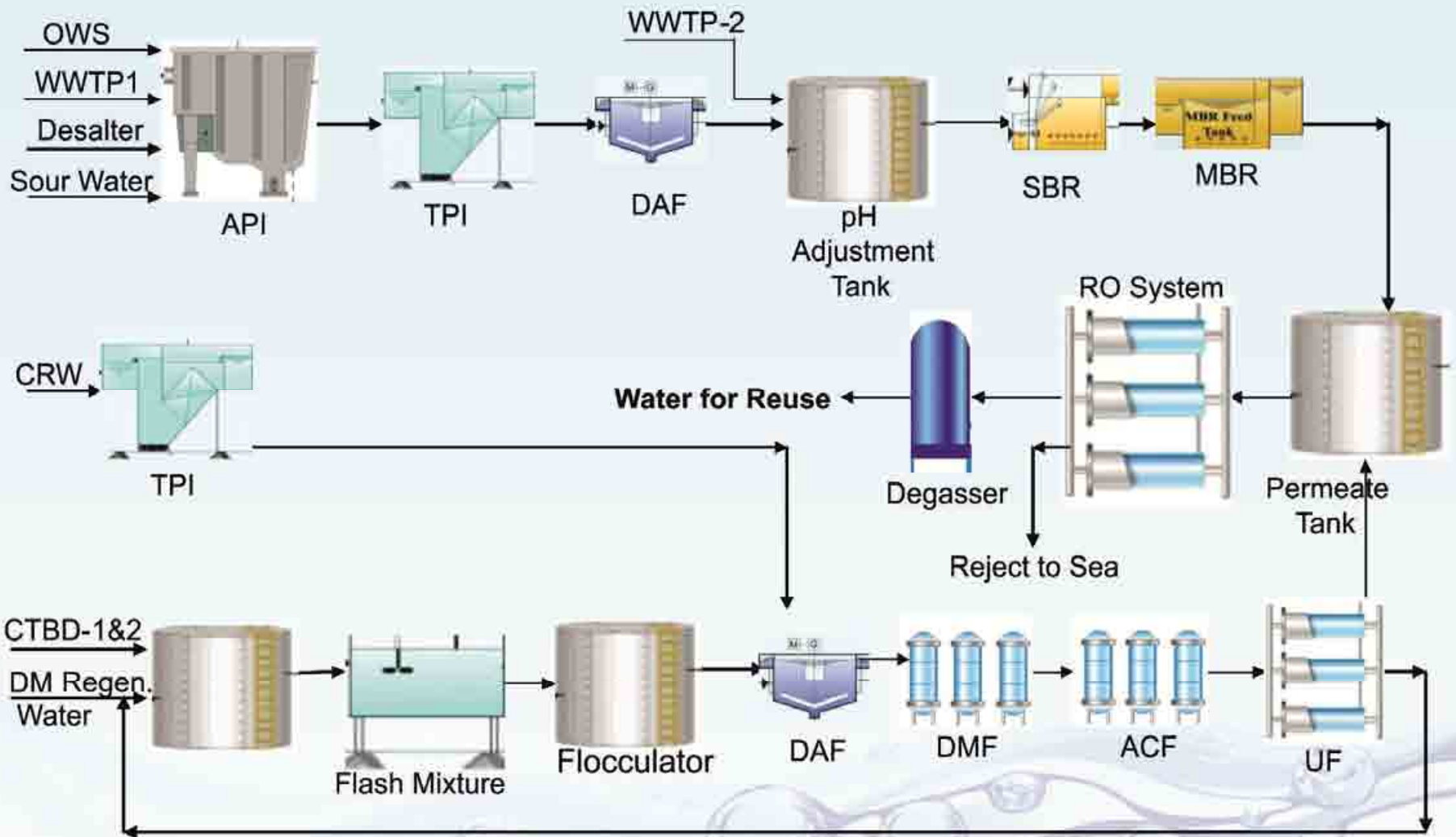
Outlet Characteristics

Parameter	Units	Concentration
Total Suspended Solids	mg/l	Nil
TDS	mg/l	80
BOD 27°C, 3 days	mg/l	BDL
COD	mg/l	BDL
M Alkalinity	mg/l	10
Calcium Hardness as CaCO ₃	mg/l	5
Magnesium Hardness as CaCO ₃	mg/l	3
Operating Cost	Rs.	27/m3

Block Diagram MRPL



PARAMOUNT



MRPL - Site



PARAMOUNT



TPI Unit



API Unit



DAF Unit



SBR Unit



MBR Unit



DMF - ACF Filter

MRPL - Site



PARAMOUNT



Wet Air Oxidation



Chemical House



RO Skid



RO Degasser



Micron Filter



Bio-Remediation



PARAMOUNT

Chennai Petroleum Corporation Ltd

**Flow : 10,000 m³/day
(Petrochemical Industry)**

CPCL Characteristics



PARAMOUNT

Inlet Characteristics

Parameter	Units	CTBD & DM neutralized stream Concentration	Inlet to ETP Concentration
Total Suspended Solids	mg/l	< 100	< 600
TDS	mg/l	4000	1500
BOD 27°C, 3 days	mg/l	5	< 600
COD	mg/l	20	< 1500
Total Oil	mg/l	< 10	< 50000
M Alkalinity	mg/l	100	300
Calcium Hardness as CaCO ₃	mg/l	226	85
Magnesium Hardness as CaCO ₃	mg/l	126	55

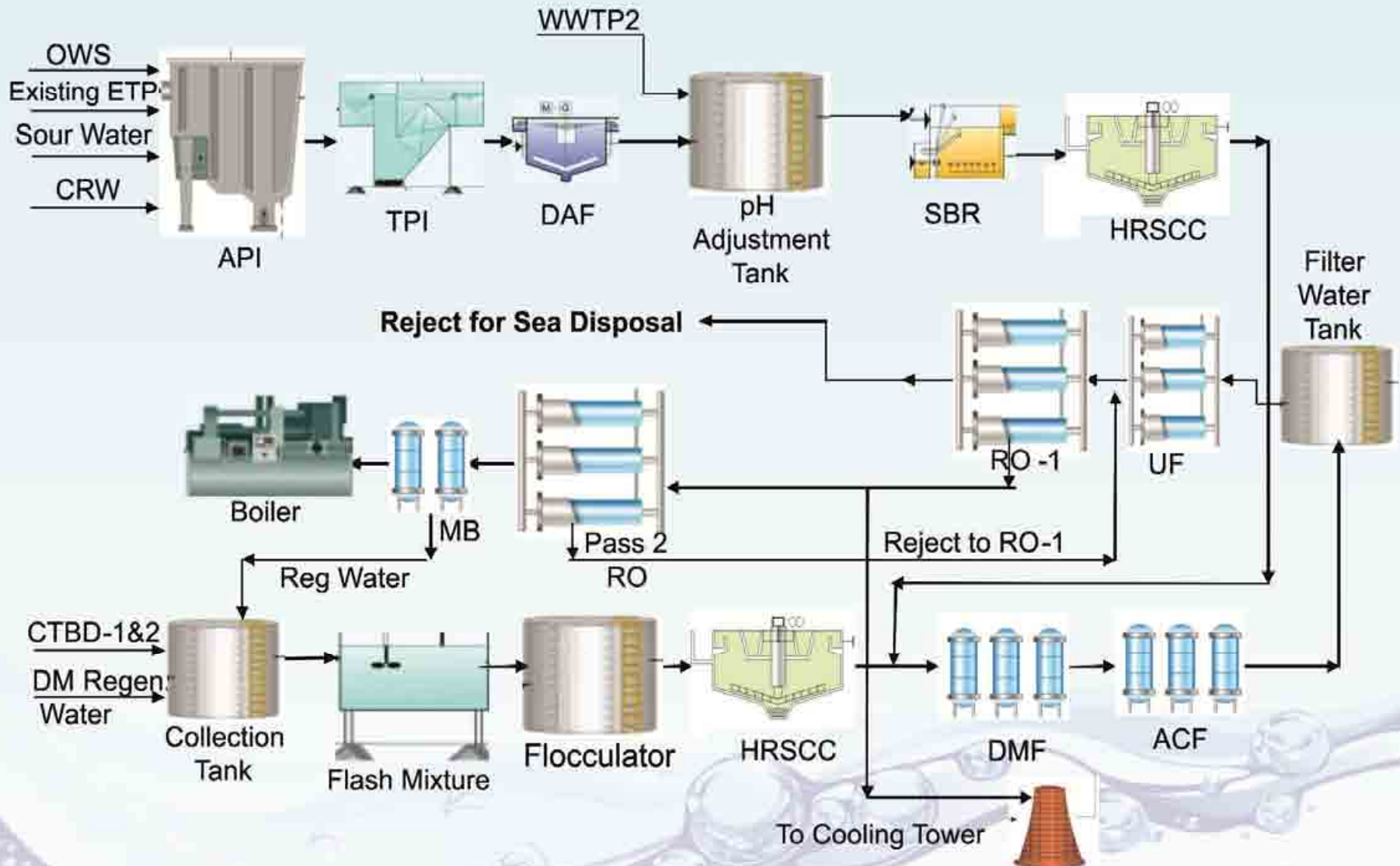
Outlet Characteristics after MB

Parameter	Units	Concentration
Total Suspended Solids	mg/l	Nil
TDS	mg/l	< 1
BOD 27°C, 3 days	mg/l	BDL
COD	mg/l	BDL
Silica	mg/l	0.02
Operating Cost	Rs.	45/m ³

Block Diagram CPCL



PARAMOUNT



CPCL's ETP Plant



PARAMOUNT



CPCL's UF – RO – DM Plant



PARAMOUNT



Bharat Petroleum Corporation Ltd

**Flow : 18000 m³/day
(Refinery & Petrochemical Industry)**

Inlet Characteristics

Parameter	Units	Concentration
Total Suspended Solids	mg/l	< 300
BOD 27°C, 3 days	mg/l	500 to 600
COD	mg/l	800 to 1000
Sulphides	mg/l	50
Phenols	mg/l	50
Ammonia as N	mg/l	50 to 60
Oil	Mg/l	1000

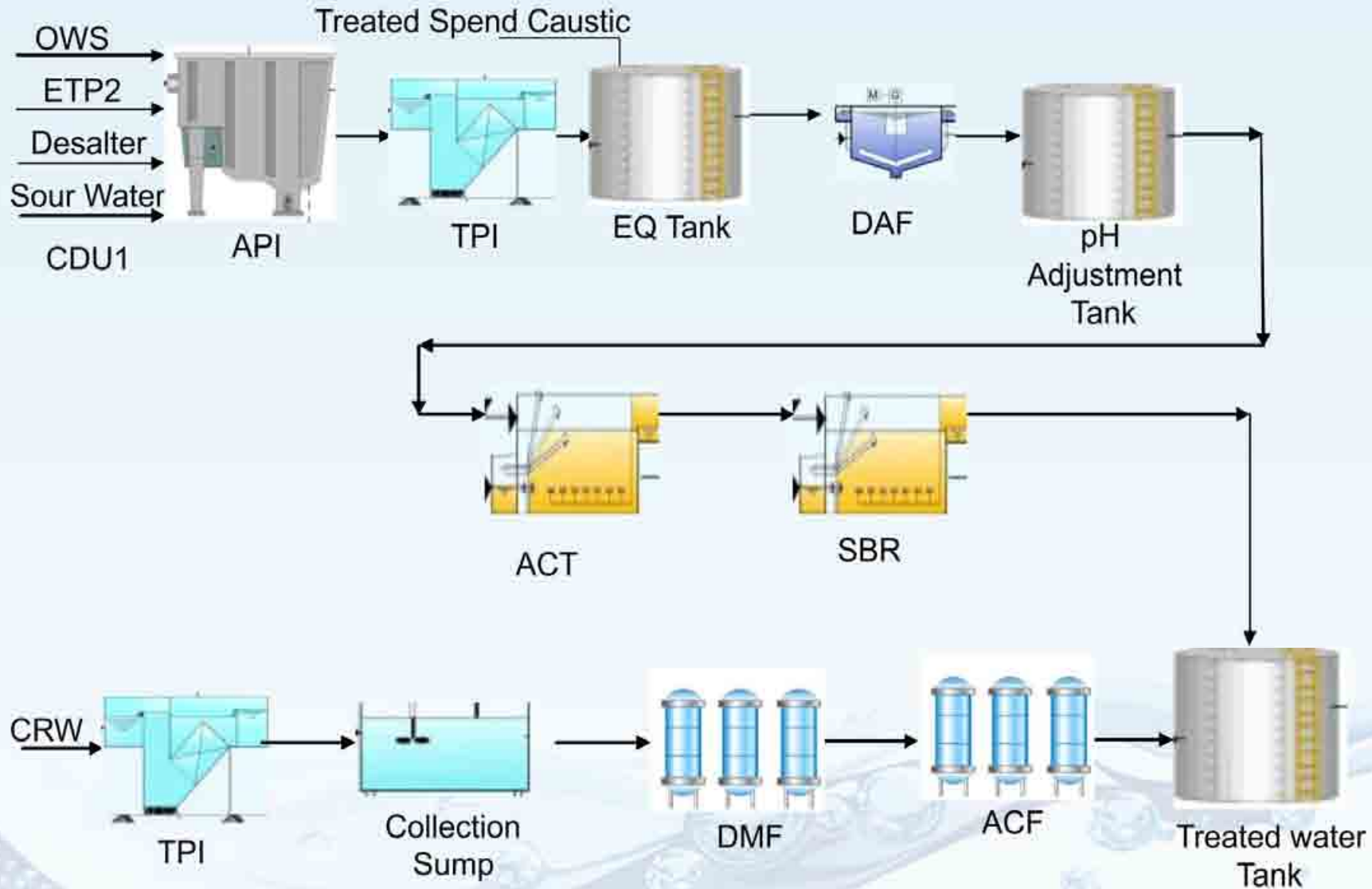
Outlet Characteristics after MB

Parameter	Units	Concentration
Total Suspended Solids	mg/l	20
Sulphides	mg/l	0.5
BOD 27°C, 3 days	mg/l	15
COD	mg/l	125
Phenols	mg/l	0.35
Ammonia as N	mg/l	5
Oil	mg/l	5

Block Diagram BPCL, Kochi



PARAMOUNT





PARAMOUNT

Skid Mounted Plants



PARAMOUNT

SKID MOUNTED PLANTS MANUFACTURED AT PARAMOUNTS' FACILITIES



Skid Mounted Tilted Plate Separator (TPS)



PARAMOUNT

Client : BIS, Singapore
Capacity : m3/hr



Skid Mounted-Oil Water Separator



PARAMOUNT

Client : IOT - Fujairah UAE

Flash Mixture, Pipe flocculator Followed by DAF including dosing systems



Skid Mounted-Oil Water Separator



PARAMOUNT

Client : IOT - Fujairah UAE

Flash Mixture, Pipe flocculator Followed by DAF including dosing systems



Skid Mounted-Oil Water Separator



PARAMOUNT

Client : IOT - Fujairah UAE

Flash Mixture, Pipe flocculator Followed by DAF including dosing systems



Skid Mounted Produce Water treatment Plant



PARAMOUNT

End User : ONGC Assam

Skid mounted ETP having flash mixture, Flocculator, DAF, Dosing systems followed by PSF & Cartridge filter



Skid Mounted Produce Water treatment Plant



PARAMOUNT

End User : ONGC Assam

Skid mounted ETP having flash mixture, Flocculator, DAF, Dosing systems followed by PSF & Cartridge filter



Filtration Plants



PARAMOUNT

Client : Krishi Hydrocracker, Russia

Pretreatment Skid – DMF followed by two stage ACF



Condensate Polishing Unit



PARAMOUNT

Client : Krishi Hydrocracker, Russia – Mixed Bed



Condensate Polishing Unit



PARAMOUNT

Client : Krishi Hydrocracker, Russia



Filtration Plants



PARAMOUNT

Client : IOCL, Panipat
Capacity : 400 m³/hr

**PRESSURE SAND FILTERS
INDIAN OIL (PANIPAT)**



Client : MRPL, Mangalore
Capacity : 600 m³/hr

Skid Mounted Tilted Plate Interceptor (TPI)



PARAMOUNT

Client : GAIL, Pata
Capacity : 110m³/hr



Ultra Filtration Skid



PARAMOUNT

Client : Asahi Songwon India Pvt. Ltd.
Capacity : 50 m³/hr



Ultra Filtration Skid



PARAMOUNT

Client : Mangalore Refinery
Capacity : 150 m³/hr



Ultra Filtration Skids Installed At Site



PARAMOUNT

Client : Mangalore Refinery
Capacity : 600 m³/hr



Cartridge Filter – Skid Mounted



PARAMOUNT



Cartridge Filter – Skid Mounted



PARAMOUNT

Client : MRPL, Mangalore

Capacity : 1000 m³/hr



ETP Recycle Plant



PARAMOUNT

Client : Sandoz
Capacity : 400 m³/day



Reverse Osmosis Skids Installed At Site



PARAMOUNT

Client : Mangalore Refinery

Capacity : 1000 m³/hr



Reverse Osmosis Skid



PARAMOUNT

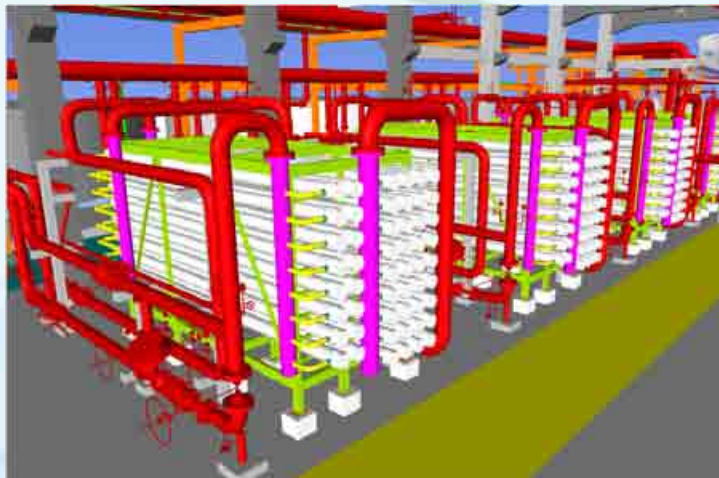
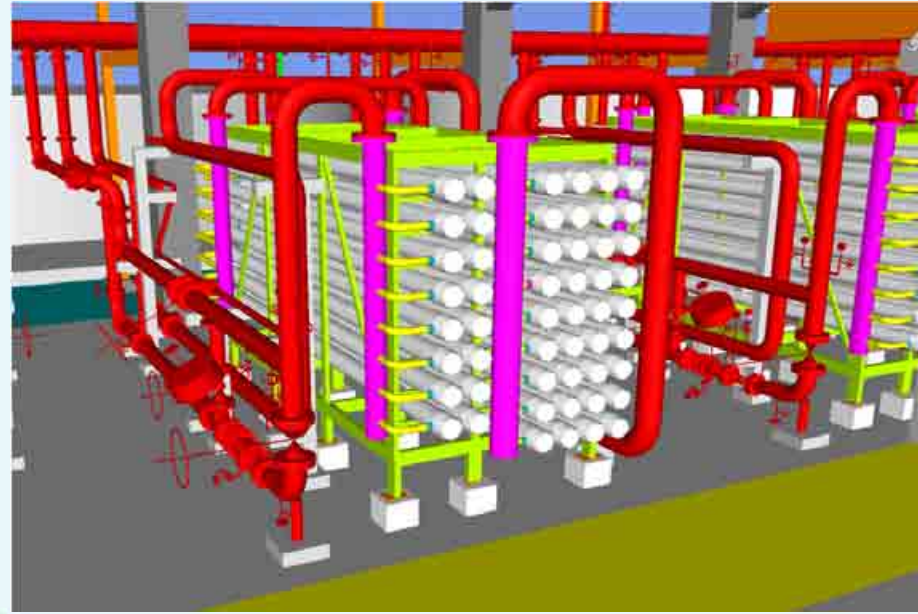
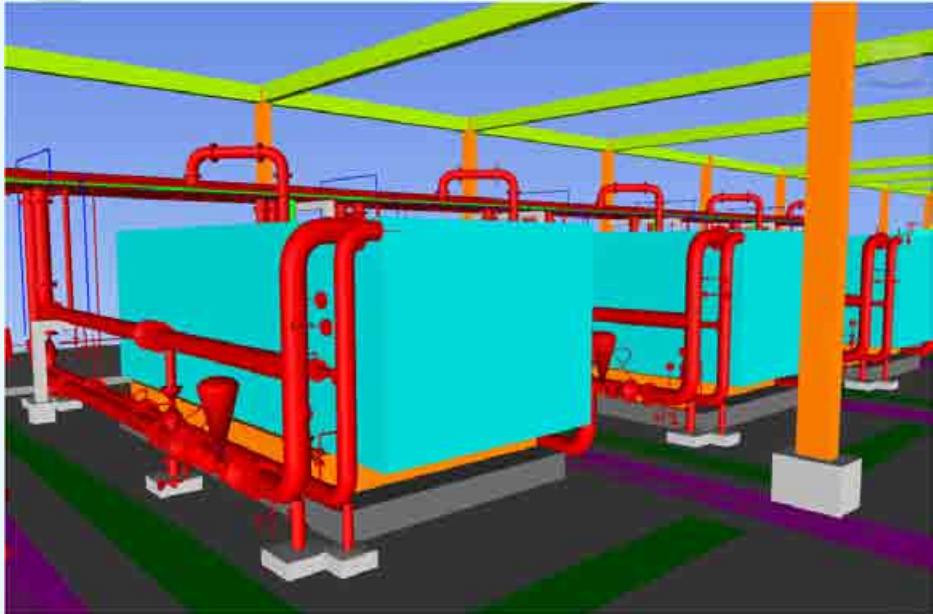
Client : Mangalore Refinery
Capacity : 167 m³/hr



3D Model – UF & RO Skid



PARAMOUNT



Skid Mounted - Condensate Polishing Unit



PARAMOUNT

Client : BCPL (Petrochemical)
Capacity : 30 m³/hr



BCPL Skid Mounted CPU



PARAMOUNT



Condensate Polishing Unit



PARAMOUNT

Client : BCPL (Petrochemical) Installed at Site



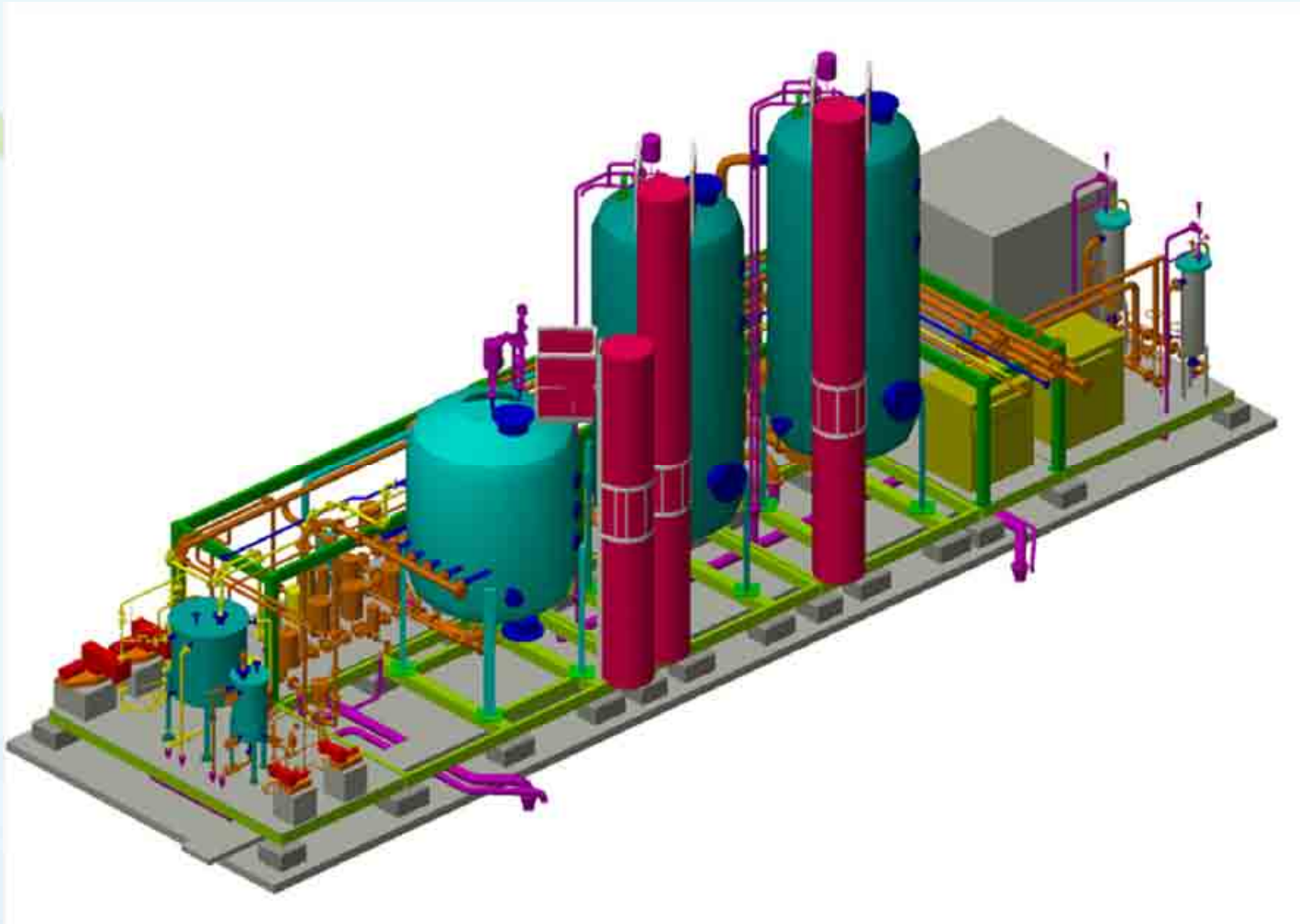
3D Model - Condensate Polishing Unit



PARAMOUNT

Client : BCPL (Petrochemical)

Skid Mounted CPU including all Instruments & Electrical Items



3D Model - Condensate Polishing Unit

Client : BCPL (Petrochemical) – Front View



Mixed Bed Unit



PARAMOUNT

Client : ONGC, Uran- Mumbai
Capacity : 75m³/hr



Paramount

Skid Mounted – Water Softener



PARAMOUNT

Client : Sumiyoshi - Singapore



Lenntech, Netherland - Water Softening Skid for Samref Refinery, Saudi Arabia



PARAMOUNT



Lenntech, Netherland - Water Softening Skid for Samref Refinery, Saudi Arabia



PARAMOUNT



24 11 2018

Dosing Skids



PARAMOUNT

Client : Doosan Hydro, USA



Dosing Skids



PARAMOUNT

Client : Doosan Hydro, USA



3D Model – Pre-Treatment



PARAMOUNT

Client : Doosan Hydro, USA

Filters (PSF & ACF) including Dosing Skids for RO System



Designed & Supplied By - PARAMOUNT LIMITED.

Customer - Doosan Hydro Technology

Contractor - Doosan Heavy industries & Construction Co. Ltd

Owner - AES-VCS MONG DUONG POWER COMPANY LIMITED

Project - AES MONG DUONG 2 POWER PROJECT-VIETNAM

Title - ACID & CAUSTIC AREA

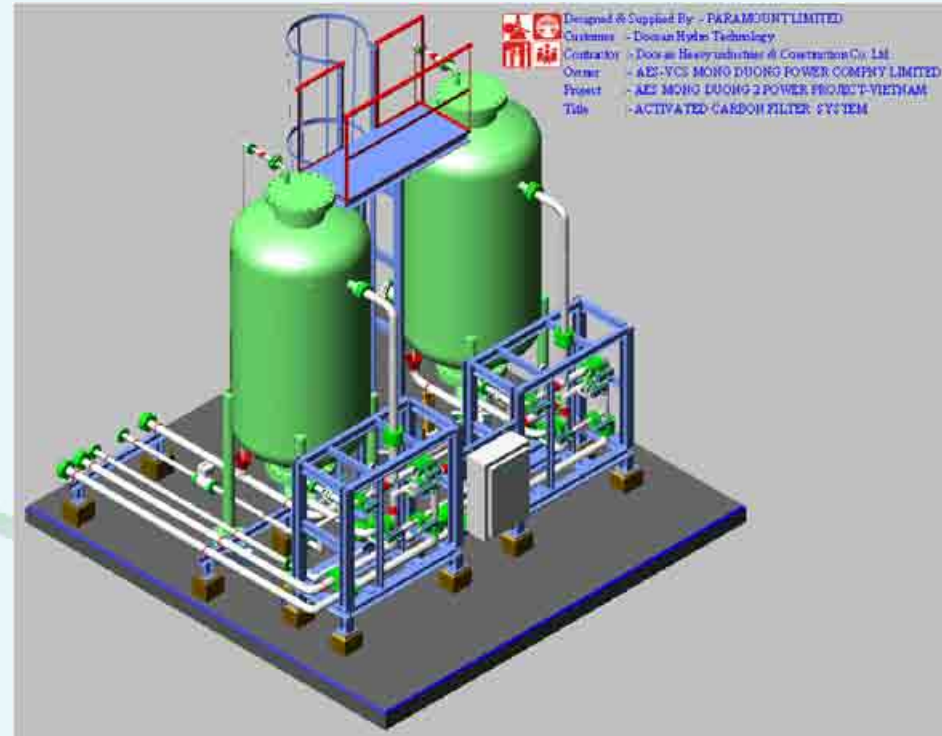


Dosing Skids



PARAMOUNT

Client : Doosan Hydro, USA



Package Sewage Treatment Plant



PARAMOUNT

Client : Cairn Energy - India



Skid Mounted ETP



PARAMOUNT

Client : Shell L N G, Hazira



Skid Mounted ETP



PARAMOUNT

Client : Shell LNG, Hazira

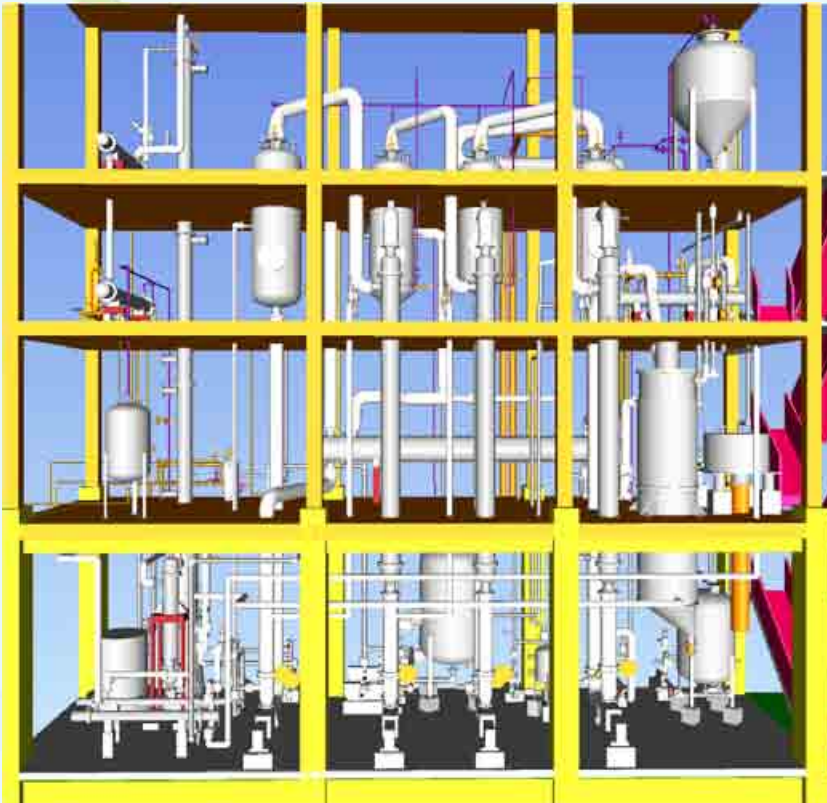


3D Model Skid Mounted Multiple Effect Evaporator



PARAMOUNT

Client : Sanofi, India



Skid Mounted Multiple Effect Evaporator



PARAMOUNT

Client : Sanofi, India



Multi Effect Evaporators for Mazda Colours



PARAMOUNT



Pigment Industry-Ceramic Micro Filtration



PARAMOUNT



Side Stream Filters and Activated Carbon Filters for BOREL, Bina



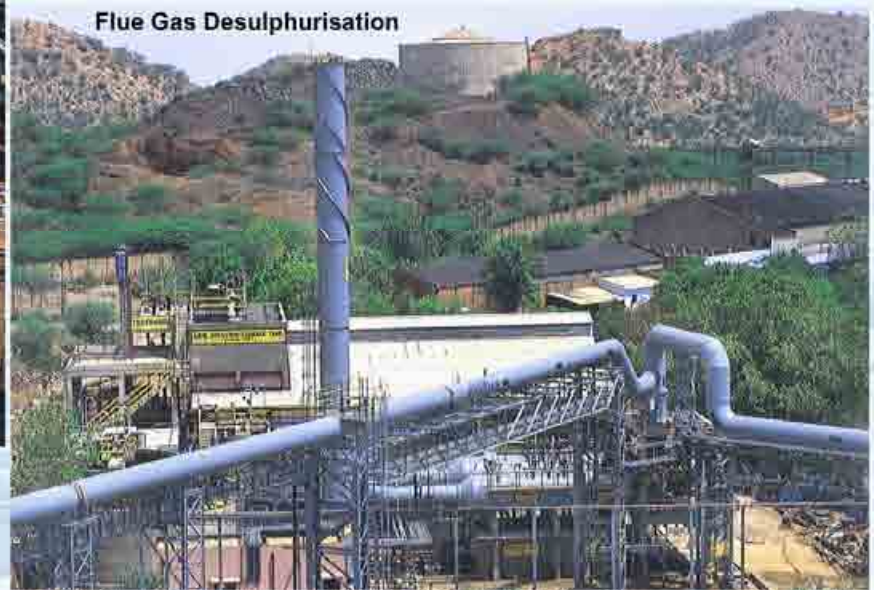
PARAMOUNT



Flue Gas Desulphurization for Hindustan Copper Limited, Khetri



PARAMOUNT



Incinerators



PARAMOUNT

**Central Waste Incinerator
for Petrochemical Complex**



**WASTE HEAT
RECOVERY BOILER
IN INCINERATION
SYSTEM
(NOVARTIS)**



**Incinerator at IOCL,
Paradeep for Solid Waste
(Oily Sludge and Spent
Carbon)**



Our International clientele includes



PARAMOUNT

Client

- Petroleum Coke Industries (Kuwait)
- Sawfan Petroleum Technologies Co. WLL (Kuwait)
- Ahmadiyah Contracting & Trading Co. (Kuwait)
- Consolidated Contracting Co. (Oman)
- Metito Overseas Ltd. (UAE)
- FFE Minerals (USA)
- EBARA Corp. (Japan)
- ENPPI (Egypt)
- Tokyo Engineering (Japan)
- Pan Century (Malaysia)
- Aquatech International
- Plant Engineering Construction Pte. Ltd. (Singapore)
- Punj Lloyd (India)
- Esmil Process Systems (U.K.)
- DHV Water (BV) (Netherlands)
- TNO (Netherlands)
- Bechtel (USA)

- Stone & Webster (USA)
- Novartis
- Sanofi Aventis
- Bayer Corp Science Ltd.

Project Executed for

- Petroleum Coke Industries (Kuwait)
- Kuwait Oil Co. (Kuwait)

- Kuwait National Petroleum Co. (Kuwait)
- Oman Refinery (Oman)
- South Paras Oil Basin (Iran)
- Green Coke Calcination Co. (Iran)
- Asthana Water Supply Sewerage Project (Kazakhstan)
- Total (France)
- Tokyo Engineering (Niger)
- Pan Century (Malaysia)
- Mitsubishi Engg. (Phillipines)
- Bulk Liquid Terminal Products (Singapore)

- Tank Store Petroleum Pulan Busing (Singapore)
- Shell (U.K.)
- Krishi Hydrocracker (Russia)
- TNO (Netherlands)
- Petroleum Company of Trinidad and Tobago Ltd. (West Indies)
- SABIC (Saudi Arabia)
- Novartis
- Sanofi Aventis
- Bayer Corp Science Ltd.

Our association with Consultants include



PARAMOUNT

- ABB Lummas Golbal B. V. Netherlands
- Jacobs, Mumbai
- Fluor Daniel, Netherlands
- Toyo Engineering (I) Ltd., Mumbai
- Kvaerner Power Gas, Mumbai
- UHDE India Ltd., Mumbai
- Worley Parsons, Oman
- Bechtel, USA
- DHV Water, Netherlands
- Ciba - Geigy, Basel, Switzerland
- Engineers India Ltd. (EIL)
- Tata Consulting Engineers (TCE), Mumbai

Thank You



PARAMOUNT LIMITED

(Formerly Paramount Pollution Control Limited)

(An ISO 9001 Company)

Corporate Office:

Paramount Complex, Gotri Road, Race Course, Vadodara - 390 007 INDIA

Tel. : +91-265-2397111 (7 Lines) Fax : +91-265-2398251

E-mail : sales@paramountlimited.com

Web : www.paramountlimited.com