Best Practices for Climate Action and Sustainability at Kokilaben Dhirubhai Ambani Hospitals

Kokilaben Dhirubhai Ambani Hospital (KDAH) in Mumbai is a leader in integrating climate action and sustainability into its healthcare operations. With a commitment to minimizing environmental impact, KDAH has adopted comprehensive strategies across various domains to reduce its carbon footprint while maintaining high standards of patient care. This article explores the hospital's best practices in facility management, biomedical equipment, laundry services, and sustainable procurement, illustrating how these efforts contribute to a healthier environment and a more sustainable future.

1. Facility Management

At KDAH, facility management is a critical aspect of sustainability. The hospital has implemented energy-efficient systems, including LED lighting, advanced HVAC systems, and water-saving technologies. Initiatives such as switching to renewable energy sources, like solar panels and wind energy, and optimizing energy consumption through building management software, highlight KDAH's commitment to reducing its environmental impact.

2. Bio Medical Equipment

KDAH prioritizes the use of environmentally friendly biomedical equipment. The hospital collaborates with leading manufacturers like Siemens for PET/CT systems and BD for sustainable medical supplies, ensuring that their technology choices align with global environmental standards.

3. Laundry Services

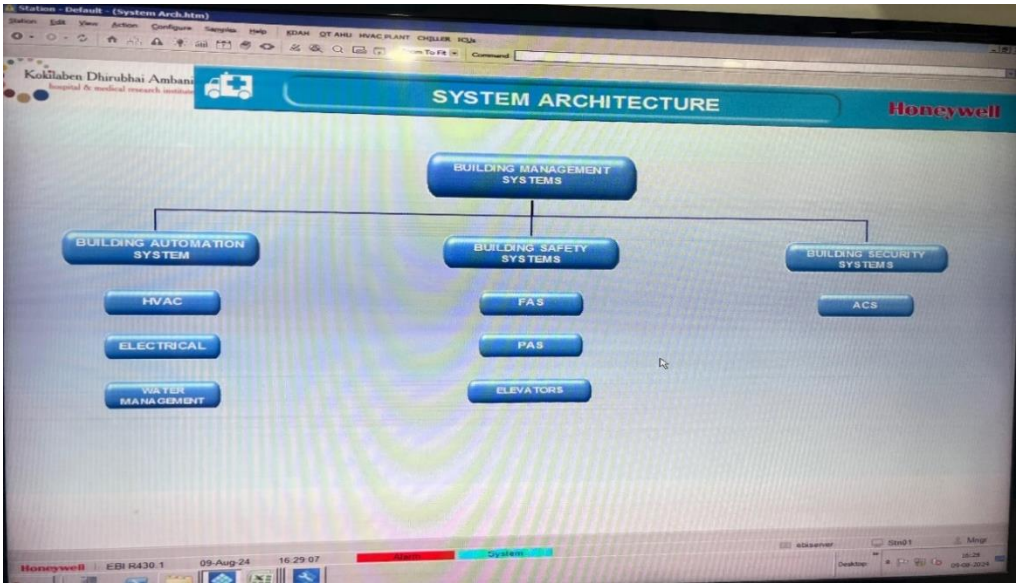
In partnership with Lindström, KDAH has outsourced laundry services that are environmentally friendly, using organic chemicals and energy-efficient processes. This collaboration ensures that the hospital's linen management contributes to a reduction in water and chemical pollution, energy consumption, and waste generation, reinforcing KDAH's commitment to sustainability.

4. Sustainable Procurement

KDAH's procurement practices reflect its dedication to sustainability. By tying up with suppliers like BD, who adhere to an environmentally friendly code of conduct, the hospital ensures that its supply chain supports its climate action goals. Sustainable sourcing, energy-efficient products, and waste reduction are at the core of KDAH's procurement strategy, making it a leader in sustainable healthcare practices.

1: Facility Management

1. **Implementation of Honeywell's BMS (Building Management Software):** It is playing a significant role in contributing to climate action and sustainability. BMS is focused on reducing the environmental impact of building, which are major contributors to global energy consumption and carbon emissions.
    a. BMS enables us to monitor and optimize energy usage down to the device level, helping to meet carbon reduction goals. It uses AI and ML to identify energy conservation opportunities, thereby enhancing efficiency and sustainability across the building.
    b. BMS helping us not only to ensure energy efficiency but also focuses on improving indoor air quality, ensuring that buildings are environmentally friendly. BMS helping us to meet stringent sustainability standards, reduce carbon footprints, and support global efforts toward achieving carbon neutrality.



2. LED Lighting and Energy Efficiency

- **Initiative**: Replacing traditional lighting with energy-efficient LED lights, transitioning from CFL to LED, and implementing a thyristor-based capacitor bank.
- **Impact**: Significant reduction in energy consumption and operational costs. A detail the transition and energy savings.

Open access saving statement - November 2014 to October 2015							Rs. Lacs	296.51
Sr.No.	Month	Unit consumed (KWH)	Unit rate	Total Bill Amount	Gepl bill amt	Tata / R infra bill amt.	Rinfra / Tata + GEPL	Saving due to Open Accees
1	Nov-14	1,332,360	10.62	14,151,761	1,372,998	12,778,763	14,151,761	1,543,440
12	Dec-14	1,287,048.00	11.62	14,960,790.46	3,604,570	11,356,220	14,960,790	200,635
3	Jan-15	1,242,600	8.05	10,003,150				4,634,678
4	Feb-15	1,196,172	11.07	13,242,136	3,265,686	9,976,450	13,242,136	848,770
5	Mar-15	1,350,528	11.08	14,961,215	3,564,555	11,396,660	14,961,215	948,005
6	Apr-15	1,384,848	9.60	13,295,749	3,511,449	9,784,300	13,295,749	1,632,912
7	May-15	1,435,655	9.50	13,635,421	3,913,071	9,722,350	13,635,421	1,840,940
8	Jun-15	1,394,606	8.18	11,405,712	3,967,112	7,438,600	11,405,712	3,628,140
9	Jul-15	1,472,858	8.27	12,183,876	4,140,836	8,043,040	12,183,876	3,693,533
10	Aug-15	1,426,640	8.29	11,822,264	4,084,414	7,737,850	11,822,264	3,556,915
11	Sep-15	1,385,409	8.23	11,395,579	3,964,069	7,431,510	11,395,579	3,539,130
12	Oct-15	1,425,860	8.27	11,786,906	4,075,186	7,711,720	11,786,906	3,583,865

November 2015 to October 2016	Rs. Lacs	525.42

November 2016 to October 2017	Rs. Lacs	166.87

November 2017 to October 2018	Rs. Lacs	137.83
November 2018 to August 2019	Rs. Lacs	5.06
Total Saving from Nov 2014 to July 2018	Rs. Lacs	1,131.69

3. **Motion Sensors:** Installed 650 motion sensors for lighting control to reduce energy waste

Existing Led Light With Motion Sensor								
	Present				Proposed with sensor			
Existing Light to be replaced by LED Light		1 x 18 watts Down light				1 x 18 watts Down light		
Qty installed		1000				1000		
Cost of motion sensor						1250		
total investment		0				1250000		
Power Consumption in KWH per tube light per day considering 24 hours operation [watt / 1000 x 11 = KWH]		0.432				0.198		
Power Consumption in KWH per light per year		157.68				72.27		
Power Consumption in KWH for total no of fittings per year		157680				72270		
Power Consumption in Rs. per year unit rate considered Rs. 11/-- per unit		1734480				794970		
Saving Rs.						**939510**		
Pay back period calculation								
total investment for sensor	**1250000**							
Total saving in year	**939510**							
Difference	**310490**							
Pay back period	**15 months**							

4. **Motors and Pumps**

- **Initiative**: Installation of energy-efficient motors and replacing old pumps with Kirloskar energy-efficient pumps in the plant room (March 2024).
- **Impact**: Enhanced operational efficiency and reduced energy consumption.

5. **Refrigerants**

- **Initiative**: Transition planning to environmentally friendly refrigerants such as R404A and R134A.
- **Impact**: Reduced greenhouse gas emissions, aligning with environmental regulations and sustainability goals.

6. **Mini Bar Refrigerators**

- **Initiative**: Replaced compressor minibars with heat absorption minibars in inpatient rooms.
- **Impact**: Energy conservation and reduced operational costs.

7. **Chillers and HVAC Systems**

- **Initiative**: Use of R123 chiller gas and energy-efficient centrifugal chillers (600 TR). Upgrade of HVAC systems, including AHU (Air Handling Units) and FCUs (Fan Coil Units), for better efficiency.

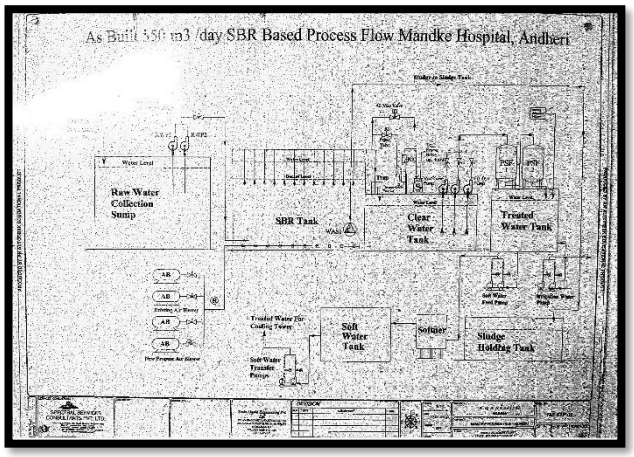
- **Impact**: Lower KW/TR, resulting in decreased energy usage and improved cooling efficiency. Regular monitoring ensures optimal performance.

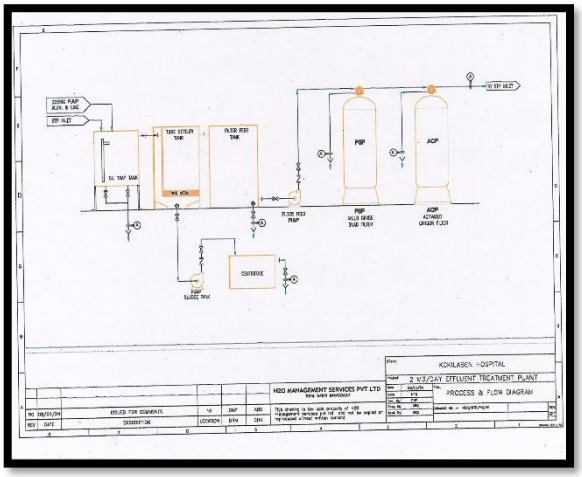
8. Renewable Energy

- **Initiative**: Utilization of open access energy from windmills for electricity.
- **Impact**: Reduction in carbon footprint and operational costs, contributing to long-term sustainability.

9. Recycling Programs

- Comprehensive recycling programs .STP plant used for recycling 550 cubic meters for gardening and flushing. **ETP**: Installed a 2 KL/day system to treat lab waste effectively.
- **Impact**: Conservation of resources and reduction in environmental impact.





10. Heat-Resistant Paints

- **Initiative**: Application of heat-resistant paints in cooking areas to reduce ambient temperature, with plans to implement across the hospital using Japanese nano-technology.
- **Impact**: Improved energy efficiency in temperature management.

11. Preventive Maintenance and Monitoring

- **Initiative**: Regular chiller rounds for hourly monitoring of energy consumption and installation of heat pumps to replace PNG gas for hot water generation.
- **Impact**: Enhanced energy management and reduced greenhouse gas emissions.

12. Water Conservation

- **Initiative**: Installed of water-saving devices and replacement of flush valves with fixed quantity flushing cisterns in public toilets.
- **Impact**: Significant water conservation.

13. Fire and Safety

- **Initiative**: Regular testing and audits of fire safety equipment and systems, with upgrades based on safety rounds.
- **Impact**: Ensured compliance with safety regulations and enhanced protection for patients and staff.

14. Staff Engagement and Education

- **Initiative**: Ongoing education and engagement programs to share best practices with staff, promoting a culture of sustainability within the organization.
- **Impact**: Empowering staff to contribute to sustainability efforts, leading to better overall outcomes.

15. **Natural Light:** Maximize the use of natural light to reduce the need for artificial lighting. All the inpatient rooms.

16. **Energy audit:** An upcoming energy audit to identify further opportunities for improvement.
    a. Regular Electricity Audits: **Electricity audit** is a component of a broader **energy audit** done in the month of June 2024. It examines the consumption, efficiency, and cost of electricity used in a facility. It includes analysing lighting systems, electrical motors, HVAC systems, and other electrically powered equipment to find areas for improvement

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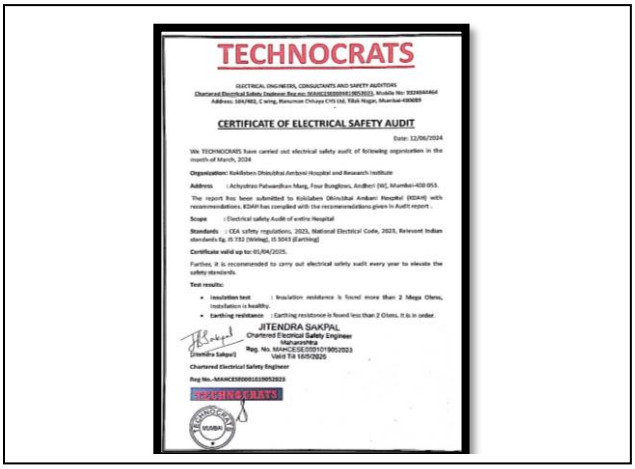

TECHNOCRATS

ELECTRICAL ENGINEERS, CONSULTANTS AND SAFETY AUDITORS

CERTIFICATE OF ELECTRICAL SAFETY AUDIT

Date: 11/06/2024

We TECHNOCRATS have carried out electrical safety audit of following organization in the month of March, 2024

Organization: Kokilaben Dhirubhai Ambani Hospital and Research Institute

Address : Achyutrao Patwardhan Marg, Four Bungalows, Andheri (W), Mumbai-400 053.

The report has been submitted to Kokilaben Dhirubhai Ambani Hospital (KDAH) with recommendations. KDAH has complied with the recommendations given in Audit report .

Scope : Electrical safety Audit of entire Hospital

Standards : CEA safety regulations, 2023, National Electrical Code, 2023, Relevant Indian standards Eg. IS 732 (Wiring), IS 3043 (Earthing)

Certificate valid up to: 01/04/2025.

Further, it is recommended to carry out electrical safety audit every year to elevate the safety standards.

Test results:

- Insulation test : Insulation resistance is found more than 2 Mega Ohms, Installation is healthy.
- Earthing resistance : Earthing resistance is found less than 2 Ohms. It is in order.

JITENDRA SAKPAL
Chartered Electrical Safety Engineer
Maharashtra
Reg. No. MAHCESE/00101905/2023
Valid Till 18/5/2026

Jitendra Sakpal

Chartered Electrical Safety Engineer

Reg No.-MAHCESE00001019052023

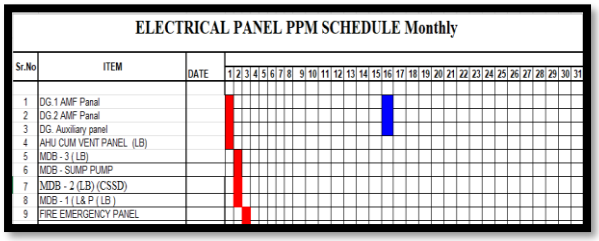
TECHNOCRATS

17. **Preventive maintenance and Calibrations:** Regular maintenance of equipment, such as HVAC systems, motors, and lighting, ensures they operate at peak efficiency. Well-maintained equipment consumes less energy, which in turn reduces greenhouse gas emissions associated with electricity production.

a. Timely Calibration: Proper calibration of sensors, thermostats, and other control devices ensures accurate readings and optimal operation**.**

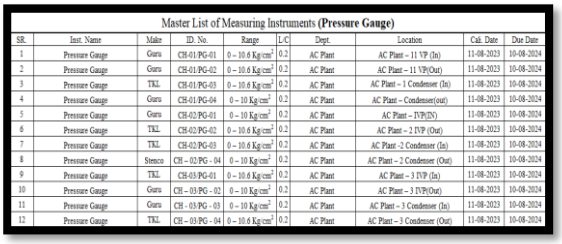
b. Reduction in Waste and Emissions: Reducing the likelihood of equipment failure minimizes unexpected shutdowns or malfunctions that could lead to increased emissions or waste.

c. Both preventive maintenance and timely calibration contribute to reducing the overall carbon footprint of a facility by optimizing energy use, reducing waste, and extending the life of equipment. This contributes to global efforts to mitigate climate change.



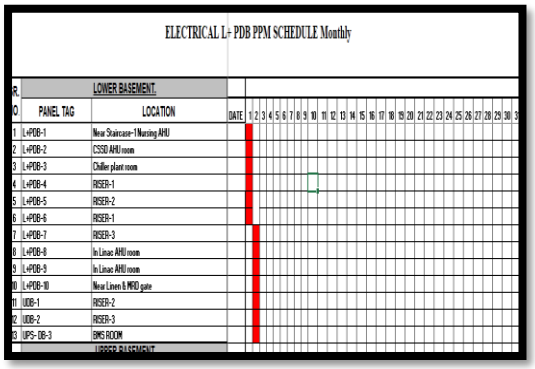
ELECTRICAL PANEL PPM SCHEDULE Monthly

Sr.No	ITEM	DATE
1	DG 1 AMF Panal	
2	DG 2 AMF Panal	
3	DG. Auxiliary panel	
4	AHU CUM VENT PANEL (LB)	
5	MDB - 3 (LB)	
6	MDB - SUMP PUMP	
7	MDB - 2 (LB) (CSSD)	
8	MDB - 1 (L& P (LB)	
9	FIRE EMERGENCY PANEL	



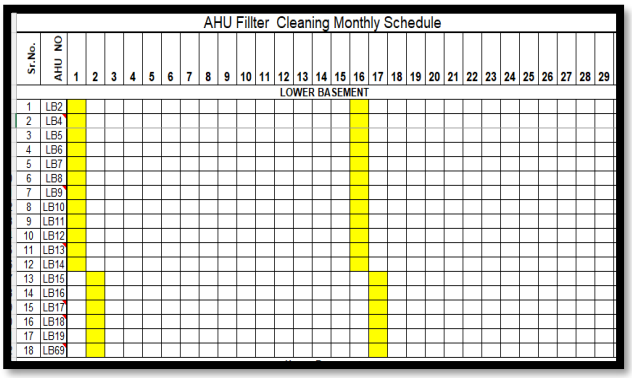
Master List of Measuring Instruments **(Pressure Gauge)**

SR.	Inst. Name	Make	ID. No.	Range	L/C	Dept.	Location	Cali. Date	Due Date
1	Pressure Gauge	Guru	CH-01/PG-01	0 – 10.6 Kg/cm²	0.2	AC Plant	AC Plant – 11 VP (In)	11-08-2023	10-08-2024
2	Pressure Gauge	Guru	CH-01/PG-02	0 – 10.6 Kg/cm²	0.2	AC Plant	AC Plant – 11 VP(Out)	11-08-2023	10-08-2024
3	Pressure Gauge	TKL	CH-01/PG-03	0 – 10.6 Kg/cm²	0.2	AC Plant	AC Plant – 1 Condenser (In)	11-08-2023	10-08-2024
4	Pressure Gauge	Guru	CH-01/PG-04	0 – 10 Kg/cm²	0.2	AC Plant	AC Plant – Condenser(out)	11-08-2023	10-08-2024
5	Pressure Gauge	Guru	CH-02/PG-01	0 – 10 Kg/cm²	0.2	AC Plant	AC Plant – 1VP(IN)	11-08-2023	10-08-2024
6	Pressure Gauge	TKL	CH-02/PG-02	0 – 10.6 Kg/cm²	0.2	AC Plant	AC Plant – 2 IVP (Out)	11-08-2023	10-08-2024
7	Pressure Gauge	TKL	CH-02/PG-03	0 – 10.6 Kg/cm²	0.2	AC Plant	AC Plant -2 Condenser (In)	11-08-2023	10-08-2024
8	Pressure Gauge	Stenco	CH – 02/PG - 04	0 – 10 Kg/cm²	0.2	AC Plant	AC Plant – 2 Condenser (Out)	11-08-2023	10-08-2024
9	Pressure Gauge	TKL	CH-03/PG-01	0 – 10.6 Kg/cm²	0.2	AC Plant	AC Plant – 3 IVP (In)	11-08-2023	10-08-2024
10	Pressure Gauge	Guru	CH – 03/PG - 02	0 – 10 Kg/cm²	0.2	AC Plant	AC Plant – 3 IVP(Out)	11-08-2023	10-08-2024
11	Pressure Gauge	Guru	CH – 03/PG - 03	0 – 10 Kg/cm²	0.2	AC Plant	AC Plant – 3 Condenser (In)	11-08-2023	10-08-2024
12	Pressure Gauge	TKL	CH – 03/PG - 04	0 – 10.6 Kg/cm²	0.2	AC Plant	AC Plant – 3 Condenser (Out)	11-08-2023	10-08-2024



ELECTRICAL L+ PDB PPM SCHEDULE Monthly

SR NO	LOWER BASEMENT. PANEL TAG	LOCATION	DATE
1	L+PDB-1	Near Staircase-1 Nursing AHU	
2	L+PDB-2	CSSD AHU room	
3	L+PDB-3	Chiller plant room	
4	L+PDB-4	RISER-1	
5	L+PDB-5	RISER-2	
6	L+PDB-6	RISER-1	
7	L+PDB-7	RISER-3	
8	L+PDB-8	In Linac AHU room	
9	L+PDB-9	In Linac AHU room	
10	L+PDB-10	Near Linen & MRD gate	
11	UDB-1	RISER-2	
12	UDB-2	RISER-3	
13	UPS- DB-3	BMS ROOM	
		UPPER BASEMENT	



AHU Fillter Cleaning Monthly Schedule

Sr.No.	AHU NO	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29
	LOWER BASEMENT																													
1	LB2																													
2	LB4																													
3	LB5																													
4	LB6																													
5	LB7																													
6	LB8																													
7	LB9																													
8	LB10																													
9	LB11																													
10	LB12																													
11	LB13																													
12	LB14																													
13	LB15																													
14	LB16																													
15	LB17																													
16	LB18																													
17	LB19																													
18	LB69																													

Master List of Measuring Instruments **(Glass Thermometer)**

12	Glass Thermometer	RSI	CH – 03/TG - 04	0 - 50°C	1	AC Plant	AC Plant – 3 Condenser (Out)	11-08-2023	10-08-2024
13	Glass Thermometer	RSI	CH-04/TG - 01	0 - 50°C	1	AC Plant	AC Plant – 4 EVP (In)	11-08-2023	10-08-2024
14	Glass Thermometer	RSI	CH-04/TG-02	0 - 50°C	1	AC Plant	AC Plant – 4 EVP(Out)	11-08-2023	10-08-2024
15	Glass Thermometer	RSI	CH-04/TG-03	0 - 50°C	1	AC Plant	AC Plant – 4 Condenser (In	11-08-2023	10-08-2024
16	Glass Thermometer	RSI	CH-04/TG-04	0 - 50°C	1	AC Plant	AC Plant – 4 Condenser (Out)	11-08-2023	10-08-2024
17	Glass Thermometer	RSI	CH-05/TG-01	0 - 50°C	1	AC Plant	AC Plant – 5 EVP (In)	11-08-2023	10-08-2024
18	Glass Thermometer	RSI	CH-05/TG-02	0 - 50°C	1	AC Plant	C PlantA – 5 EVP(Out)	11-08-2023	10-08-2024
19	Glass Thermometer	RSI	CH-05/TG-03	0 - 50°C	1	AC Plant	AC Plant – 5 Condenser (In)	11-08-2023	10-08-2024
20	Glass Thermometer	RSI	CH-05/TG-04	0 - 50°C	1	AC Plant	AC Plant – 5 Condenser (Out)	11-08-2023	10-08-2024

Master List of Measuring Instruments **(Temperature Gauge)**

SR.	Inst. Name	Make	ID. No.	Range	L/C	Dept.	Location	Cali. Date	Due Date
1	Temperature Gauge	RSI	PL-01/TG-01	0 - 150°C	1	Plumbing Plan Room	OT Mixing Tank Coil Supply	11-08-2023	10-08-2024
2	Temperature Gauge	RSI	PL-01/TG-02	0 - 150°C	1	Plumbing Plan Room	OT Mixing Tank Coil Supply Return	11-08-2023	10-08-2024
3	Temperature Gauge	RSI	PL-01/TG-03	0 - 150°C	1	Plumbing Plan Room	Boiler	11-08-2023	10-08-2024
4	Temperature Gauge	RSI	PL-01/TG-04	0 - 150°C	1	Plumbing Plan Room	TO PHE Out	11-08-2023	10-08-2024
5	Temperature Gauge	RSI	0 – 300°C	0 - 150°C	1	Plumbing Plan Room	OT Mixing Tank	11-08-2023	10-08-2024

Master List of Measuring Instruments **(Temperature Controller With Sensor)**

SR.	Inst. Name	Make	ID. No.	Range	L/C	Dept.	Location	Cali. Date	Due Date
1	Temperature Controller With Sensor	RSI	00011/TCS-G/K01	-50 to -50°C	1	Plumbing Plan Room	Kitchen Cold Room	11-08-2023	10-08-2024

18. Additional Initiatives

- **Tank Cleaning**: Regular maintenance of water tanks to ensure cleanliness and efficiency.
- **Old Pump Replacement**: Replaced insulation in chilled plants to prevent energy loss.
- **Flooring Replacement**: Kota flooring with vinyl flooring for better durability and efficiency.

2.The Role of Medical Equipment at at Kokilaben Dhirubhai Ambani Hospitals

1. Replaces Old Biograph 40 PET CT with Siemens Biograph Vision 600 PET/CT System

The Siemens Biograph Vision 600 PET/CT system is designed with sustainability in mind. Siemens Healthineers is committed to reducing carbon emissions and enhancing resource efficiency in its products. The Biograph Vision 600 incorporates advanced imaging technologies that require **lower doses of radioactive tracers**, which helps minimize the environmental impact associated with medical imaging procedures.

- **Reduced Waste: The design emphasizes reducing waste through the efficient use of materials and components**
- **Sustainability Strategy:** The system aligns with Siemens' broader environmental strategy, which includes the development of medical equipment with a minimized

- **Energy Efficiency:** The system is engineered to optimize energy consumption, making it more environmentally friendly compared to traditional imaging systems.

KDAH is adopting climate action and sustainability measures, and medical equipment plays a significant role in these efforts. The implementation of advanced technologies, energy-efficient devices, and environmentally friendly practices in medical equipment can substantially reduce the environmental impact of healthcare operations. Below is a detailed report on climate action and sustainability at Kokilaben Dhirubhai Ambani Hospitals , focusing on the role of medical equipment.

2.. Energy-Efficient Equipment in Operating Theatres

Servo-Air Ventilators: The use of ventilators with turbine technology, such as the new Servo air ventilators that only require an oxygen supply, eliminates the need for air compressors. This not only enhances patient safety but also reduces energy consumption and operational costs.

LED Lighting: Replacing OT halogen lights with LED lights (Dr. Mach) significantly reduces energy consumption. LEDs are more energy-efficient and have a longer lifespan, contributing to lower carbon emissions and reduced waste.

3. Laboratory and Diagnostic Systems

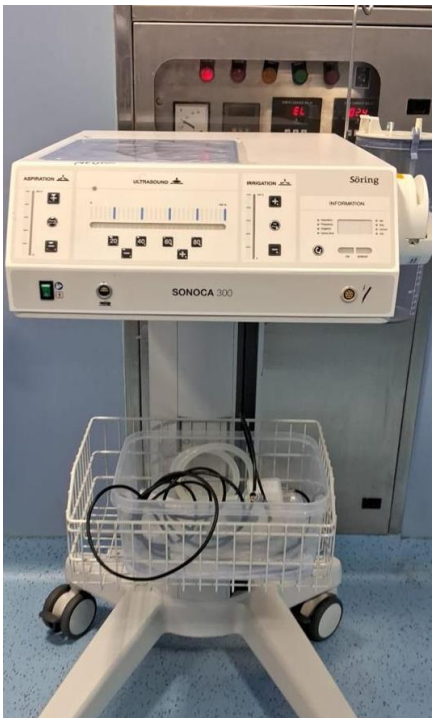
- **Roche TLA and Cobas Systems:** Advanced laboratory systems , the Roche TLA and Cobas Pro analyzers optimize the use of reagents and samples, reducing waste and energy

consumption. These systems are designed to be efficient, minimizing the ecological footprint of laboratory operations.

4. Advanced Diagnostic and Treatment Equipment

Digital OPG Machine: The installation of the Carestream digital OPG machine enhances imaging efficiency while reducing radiation exposure and energy use.

Ultrasonic Surgical Systems: The CUSA Soring machine operates using ultrasonic waves, which require less energy compared to traditional surgical devices that might use mechanical or thermal methods. This energy efficiency contributes to lower overall power consumption in surgical settings, aligning with climate action goals to reduce energy use.



4. Infrastructure and Facility Management

- **Air Compressors and Pneumatic Chutes:** Upgrading to modern air compressors and installing pneumatic chutes (e.g., Swisslock) for the efficient transport of materials within the hospital reduces energy use and enhances operational efficiency.
- **Alarm Panels for Gas Pressure Monitoring:** Installed alarm panels in ICUs and OTs to monitor gas pressure ensures the efficient use of medical gases, reducing waste and potential emissions.

6. Timely Preventive Maintenance and Calibration for all Bio- Medical equipments:

- **Regular Maintenance:** Implementing preventive maintenance schedules for all medical equipment ensures that devices operate at peak efficiency, reducing energy consumption and prolonging equipment life. This approach minimizes the need for frequent replacements, thereby reducing the environmental impact associated with the production and disposal of medical devices.
- **Timely Calibration:** Proper calibration of medical devices ensures accuracy and efficiency, preventing unnecessary energy use and waste. Accurate devices also reduce the risk of overuse of resources, such as energy or consumables, during medical procedures.

Sr.No	Vendor	Equipment Name	Model.	Sr.No	Dept	EIN.	PM Done.	PM Due.	Cal Done.	Cal Due.
1	Covidien	Cerebral Somatic Oximeter	INVOS	14-G11506X	OT	3082	08-09-2022	07-03-2023	NA	NA
2	Philips	Defibrillator	Heart Start XL	US00462171	OT	84	24-01-2024	23-07-2024	24-01-2024	23-01-2025
3	Philips	Defibrillator	Heart Start XL	US00462175	OT	85	24-01-2024	23-07-2024	24-01-2024	23-01-2025
4	Philips	Defibrillator	Heart Start XL	US00462168	OT	89	24-01-2024	23-07-2024	24-01-2024	23-01-2025
34	GE	Pulse Oximeter.	Trusat	FCC08200123SA	OT	267	22-07-2023	21-07-2024	NA	NA
35	GE	Pulse Oximeter.	Trusat	FCC08210058SA	OT	269	22-07-2023	21-07-2024	NA	NA
89	Karl Storz	Morcellator	ROTOCUT G1	BB2113	OT	774	28-02-2024	27-02-2025	NA	NA
90	Medtronic	ACT Machine	ACT Plus Machine	ACT 2002167	OT	812	10-05-2024	09-11-2024	NA	NA
91	Medtronic	Cell Saver	Autolog	ATLG012218	OT	814	04-03-2024	03-09-2024	NA	NA
92	Philips	Defibrillator	Heart Start XL	US00575380	OT	910	24-01-2024	23-07-2024	24-01-2024	23-01-2025
93	Medtronic	ACT Machine	ACT Plus Machine	ACT 2002186	OT	1030	10-05-2024	09-11-2024	NA	NA
94	Stryker	Core Motor Controller	5400-050-000	816202843	OT 5th floor	1051	02-05-2024	01-11-2024	NA	NA
95	B L Lifescience Pvt. Ltd.	Head Light Band	Luxtec	R10998	OT	1103	NA	NA	NA	NA
96	B L Lifescience Pvt. Ltd.	Head Light Band	Luxtec	R11000	OT	1104	NA	NA	NA	NA

PICU

Sr.No	Vendor	Equipment Name	Model	Sr.No	Department	EIN	PM DONE	PM DUE	CAL DONE	CAL DUE
3	Philips	Defibrillator with out pacing	HeartStart XL	US00462174	PICU	95/ PICU	24-01-2024	23-07-2024	24-01-2024	23-01-2025
4	B Braun	Infusion Pump	Infusomat P	45568	PICU	206/ PICU	02-07-2022	02-07-2024	02-07-2022	02-07-2024
5	B Braun	Infusion Pump	Infusomat P	45573	PICU	209/ PICU	02-07-2022	02-07-2024	02-07-2022	02-07-2024
6	B Braun	Infusion Pump	Infusomat P	45590	PICU	227 /PICU	02-07-2022	02-07-2024	02-07-2022	02-07-2024
7	GE	Pulse Oximeter	Trusat	FCC08210035SA	PICU	282 /PICU	18-03-2024	18-03-2025	NA	NA
8	Drager	Multiparameter Monitors	Delta	5399100961/ 5398199651	PICU	311 /PICU	15-03-2024	15-09-2024	09-09-2023	09-09-2024
9	Drager	Multiparameter Monitors	Delta	5399353857/ 5399203458	PICU	333 /PICU	15-03-2024	15-09-2024	09-09-2023	09-09-2024
10	Drager	Multiparameter Monitors	Delta	5399296847	PICU	334 /PICU	15-03-2024	15-09-2024	09-09-2023	09-09-2024
11	Drager	Multiparameter Monitors	Delta	5399220163/ 5399215454	PICU	335 /PICU	15-03-2024	15-09-2024	09-09-2023	09-09-2024
12	Drager	Multiparameter Monitors	Delta	5399356658/ 5399220760	PICU	336 /PICU	15-03-2024	15-09-2024	09-09-2023	09-09-2024
13	Drager	Multiparameter Monitors	Delta	5399024161	PICU	338 /PICU	15-03-2024	15-09-2024	09-09-2023	09-09-2024
14	Drager	Multiparameter Monitors	Delta	5399325754	PICU	339 /PICU	15-03-2024	15-09-2024	09-09-2023	09-09-2024
15	Drager	Multiparameter Monitors	Delta	5399329652/ 5399106456	PICU	341 /PICU	15-03-2024	15-09-2024	09-09-2023	09-09-2024
16	Drager	Central station Monitors	ICS	12946M00375	PICU	354 /PICU	08-01-2024	08-07-2024	NA	NA
17	Drager	Adult Ventilator	Evita	ARZA 0163	PICU	375 /PICU	24-01-2024	24-07-2024	20-10-2023	20-10-2024
18	Drager	Adult Ventilator	Evita	ARZA 0156	PICU	376 /PICU	24-01-2024	24-07-2024	20-10-2023	20-10-2024
19	Drager	Adult Ventilator	Evita	ARZA 0154	PICU	377 /PICU	24-01-2024	24-07-2024	20-10-2023	20-10-2024
20	Drager	Handheld FtCo2 Monitor	Scio	ARZA 0063	PICU	406 /PICU	02-01-2024	02-07-2024	09-09-2023	09-09-2024

A&E | ICU 1 | ICU 2 | ICU 3 | ICU 4 | ICU 5 | ICU 6 | ICU 7 | ICU 8 | BMT | PCICU

Biochemistry / Immunology

Sr. No	Vendor	Name Of Equipment (EIN)	Model	Sr. No.	EIN	CAL Done	CAL Due	PM Done	PM Due
1	Olympus	Laboratory Microcope (412)	CX-21	7M06143	412	NA	NA	10-02-2024	09-08-2024
2	Biotek	Semi Automated ELISA reader (687)	ERBA Microscan	215208	687	30-08-2023	29-08-2024	30-08-2023	29-08-2024
3	Remi	Cyclo Mixer (818)	CM101	HBCM 1380	818	22-05-2024	21-11-2024	22-05-2024	21-11-2024
4	Transasia	Compact automated ELISA washer (1143)	ERBA smartwash III	317076	1143	NA	NA	08-02-2024	07-02-2025
5	Olympus	ED Fluroscence unit (for microscope) (157	FRAEN Blue 480nm	NA	1572	NA	NA	10-02-2024	09-08-2024
6	Biorad	Hemoglobin Machine (1713)	D10	DJ5D025513	1713	01-04-2024	30-10-2024	01-04-2024	30-10-2024
7	[illegible]	Immuno Assay Analyser (1725)	Mini Vidas	IVD 1204863	1725	23-06-2023	22-06-2024	22-12-2023	21-06-2024
8	Olympus	Aqua Filter for Microscope (1902)	LED	NA	1902	NA	NA	10-02-2024	09-08-2024
9	Abbott	Immuno Assay Analyzer (2951)	2000iSR	ISR53148	2951	13-12-2023	12-12-2024	13-12-2023	12-06-2024
10	CPC	Immunofluoresence Microscope (2988)	Eurostar III Plus	16627	2988	NA	NA	13-02-2024	12-08-2024
11	CPC Diagnost	Elisa Reader	Euroimmuno I-2P	6238000177	3353	22-08-2023	21-08-2024	22-08-2023	21-08-2024
12	IKA	High Speed Vortexer	VORTEX 4 digital	6.202898	3662	12-01-2024	11-07-2024	12-01-2024	11-07-2024
13	Remi	centrifuge	Neya 6	ZGLN-30654	3753	22-05-2024	21-11-2024	22-05-2024	21-11-2024
14	Genotec	Osmometer	Osmomat 030	81117	3780	24-06-2023	23-06-2024	24-06-2023	23-06-2024
15	Radiome	ABG Machine	ABL 800 Flex	754R2754N0007	3816	18-12-2023	17-06-2024	18-12-2023	17-06-2024
16	Radiome	ABG Machine	ABL 800 Flex	754R2739N0018	3817	18-12-2023	17-06-2024	18-12-2023	17-06-2024
17	Radiome	ABG Machine	ABL 800 Flex	754R2754N0008	3818	30-12-2023	29-06-2024	30-12-2023	29-06-2024
18	Eppendo	Centrifuge	5702R	5703KK722085	3868	22-05-2024	21-11-2024	22-05-2024	21-11-2024
19	REMI	Centrifuge	Neya 6	ZHKN-44633	3874	22-05-2024	21-11-2024	22-05-2024	21-11-2024
20	REMI	Rotary Shaker	RS-12R	ZHH5-30290	3875	22-05-2024	21-11-2024	22-05-2024	21-11-2024
21	bia Servicen	Analyzer Capillary Gel Electophoresis Sy	Minicap FP	95256	3887	16-04-2024	15-10-2024	16-04-2024	15-10-2024
22	h Fisher Sc	-40 Deep Freezer	FD40040LV	115710801210324	3889	12-01-2024	11-07-2024	12-01-2024	11-07-2024

Biochem-Immuno | HLA | Haemat | Histopath | Molbio & Genetics | Blood Bank | Micr

3.Outsourcing laundry services

Outsourcing laundry services to an environmentally friendly provider like Lindström, which uses organic chemicals, is a significant step toward promoting sustainability in healthcare. Here's how it contributes to climate action:

1. **Reduced Chemical Pollution:**
    - By using organic chemicals, Lindström minimizes the release of harmful substances into the water and air. Traditional laundry services often rely on harsh chemicals that can contribute to water pollution and have broader environmental impacts.

Outsourcing to a provider like Lindström aligns with broader climate action goals by ensuring that laundry services are conducted in an environmentally responsible manner, contributing to the overall sustainability efforts within the hospital.

4.Sustainable Procurement

Tying up with suppliers like BD (Becton, Dickinson, and Company), who adhere to an environmentally friendly code of conduct, contributes significantly to a hospital's sustainability and climate action efforts. BD's Code of Conduct emphasizes environmental responsibility in several ways.

5. Sustainable Waste Management Practices

KDAH is committed to promoting sustainable waste management and reducing environmental impact.

- **Macerators** are used to safely dispose of contaminated items such as bandages, cloth, and gloves. This reduces manual handling, improves infection control, and minimizes landfill burden.
- **100% source segregation** of biomedical waste ensures compliance with BMW 2016 guidelines and enhances recycling and recovery.
- Partnerships with **approved vendors** ensure environmentally sound disposal and treatment of biomedical and hazardous waste.

- Reduction of **plastic use, chemical waste, and paper consumption** supports a circular economy approach.
- Sustainability practices, including **eco-friendly procurement** and **ESG compliance in vendor agreements**, further strengthen responsible operations.

Through these practices, KDAH actively contributes to **SDG 12 targets (12.4, 12.5, 12.6, and 12.8)** by promoting safe, efficient, and sustainable consumption and production patterns.

Kokilaben Dhirubhai Ambani Hospital (KDAH) in Mumbai has set a benchmark for integrating climate action and sustainability into healthcare operations. Through strategic initiatives in facility management, the use of eco-friendly biomedical equipment, environmentally responsible laundry services, and sustainable procurement practices, KDAH demonstrates that high-quality patient care and environmental stewardship can go hand in hand. These efforts not only contribute to global climate goals but also create a healthier, more sustainable environment for the community. As healthcare institutions globally strive to reduce their environmental impact, KDAH's approach serves as a model of excellence, proving that sustainability in healthcare is not just achievable but essential.