

AGENDA

SCHOOL DISTRICT OF NEW GLARUS

SPECIAL SCHOOL BOARD MEETING

MONDAY, AUGUST 17, 2020

**HIGH SCHOOL LIBRARY/MEDIA CENTER, ROOM 183 JOIN ZOOM MEETING USING
LINK**

**HTTPS://US02WEB.ZOOM.US/J/85417904583?PWD=T29PY3JETZN5NGP2MLPLR
2XMUKGWDZ09 OR BY PHONE USING 1-646-568-7788 MEETING ID**

85417904583 & PASSWORD 59ENGT

1701 2ND STREET

NEW GLARUS, WISCONSIN 53574

5:45 PM

I. CALL TO ORDER

- A. Agenda Published
- B. Roll Call
- C. Approval of Agenda And Revisions

II. INTRODUCTIONS -PRESENTATIONS

III. PUBLIC COMMENT PERIOD

IV. APPROVAL OF CONSENT AGENDA

- A. Item(s) To Be Removed From Consent Agenda
 - 1. Board Minutes

**SCHOOL DISTRICT OF NEW GLARUS
DISCUSSION AND REGULAR SCHOOL BOARD MEETING**

Monday, August 3, 2020

CALL TO ORDER

The meeting was called to order at 7:16 p.m. by Board President, Kari Morrison. The agenda was posted at the New Glarus Elementary School, New Glarus Middle School, New Glarus High School, Bank of New Glarus, New Glarus Post Office, and the District Website. The meeting was held virtually via Zoom and at the New Glarus High School Library due to the Covid-19 pandemic.

ROLL CALL

Present: Kari Morrison, Bill Oemichen, Travis Zimmerman, Larry Stuessy, Debra Fairbanks, Jessica Geib, and Corrine Hendrickson.

APPROVAL OF AGENDA AND REVISIONS

Motion by Bill Oemichen to approve the agenda as presented. Second by Debra Fairbanks. Motion carried 7-0 following a roll call vote.

Kari Morrison, Aye, Bill Oemichen, Aye, Travis Zimmerman, Aye, Larry Stuessy, Aye, Debra Fairbanks, Aye, Jessica Geib, Aye, Corrine Hendrickson, Aye.

INTRODUCTIONS-PRESENTATIONS:

~None

PUBLIC COMMENT PERIOD

Anthony Edge, staff and community member, and Peter Johnson, community member, spoke in favor of the proposed reopening plan on the agenda.

APPROVAL CONSENT AGENDA

ITEM(S) TO BE REMOVED FROM CONSENT AGENDA

1. BOARD MINUTES & CLOSED SESSION MINUTES
2. APPROVAL OF BILLS
3. TREASURER'S REPORT
4. STAFFING REPORT
5. DONATIONS

Motion by Jessica Geib to approve the Consent Agenda. Second by Debra Fairbanks. Motion carried 7-0 with a roll call vote.

Kari Morrison, Aye, Bill Oemichen, Aye, Travis Zimmerman, Aye, Larry Stuessy, Aye, Debra Fairbanks, Aye, Jessica Geib, Aye, Corrine Hendrickson, Aye.

COMMITTEE UPDATES

POLICY, COMMUNICATION & ADVOCACY; Met. Reviewed policies 2266 – Title IX Regulations, and 6320 – Purchasing.

HANDBOOK AND PERSONNEL; Met. Discussed the addition of 3 Substitute Teacher positions for 2020-2021, reviewed the Covid-19 Addendum to the Employee Handbook, and discussed staffing for 2020-2021.

BUDGET; Did not meet.

CURRICULUM, SPORTS & CO-CURRICULAR; Did not meet.

FACILITIES, TRANSPORTATION, AND TECHNOLOGY; Did not meet.

DISCUSSION AND POSSIBLE ACTION ITEMS

A. SUMMER HEALTH AND SAFETY PROTOCOL

The Board reviewed the current Summer Health and Safety Protocols. The Board recommended adding the new statewide mask order to the Summer Health and Safety Protocols.

Motion by Jessica Geib to amend the current Summer Health and Safety Protocols to include the recent statewide mask order. Second by Corrine Hendrickson. Motion carried 7-0 with a roll call vote.

Kari Morrison, Aye, Bill Oemichen, Aye, Travis Zimmerman, Aye, Larry Stuessy, Aye, Debra Fairbanks, Aye, Jessica Geib, Aye, Corrine Hendrickson, Aye.

B. REOPENING PLAN FOR FALL 2020-2021

Dr. Thayer presented the District's Reopening Plan for Fall of 2020-2021. The Board discussed the plan in depth with the Administration.

Motion by Bill Oemichen to approve the plan as presented with the District beginning the school year with plan B, giving Administration discretion to move to other plans as needed making best efforts to maintain sanitation and social distancing. Second by Jessica Geib. Motion passed 5-2 with a roll call vote.

Board member Corrine Hendrickson prefaced her vote with a statement regarding a concern brought to her by a member of the public regarding a potential conflict of interest with her daycare business. Board member Hendrickson denied any conflict of interest and proceeded with her vote to approve the District Reopening Plan as presented.

Kari Morrison, Aye, Bill Oemichen, Aye, Travis Zimmerman, Aye, Jessica Geib, Aye, Corrine Hendrickson, Aye, Larry Stuessy, Nay, Debra Fairbanks, Nay

C. GPS IONIZATION HVAC SYSTEM

Dr. Thayer presented information to the Board regarding a GPS Ionization HVAC system. This system can be added to our current HVAC system to improve air quality in all our buildings.

The Board tabled this item for further research and discussion at a future meeting.

D. COVID-19 ADDENDUM TO HANDBOOK

Dr. Thayer reviewed the Covid-19 Addendum addition to the Employee Handbook with the Board.

Motion by Larry Stuessy, Handbook & Personnel Committee Chair, to approve the Covid-19 Addendum to the Employee Handbook as presented. Motion carried 7-0 with a roll call vote.

Kari Morrison, Aye, Bill Oemichen, Aye, Travis Zimmerman, Aye, Larry Stuessy, Aye, Debra Fairbanks, Aye, Jessica Geib, Aye, Corrine Hendrickson, Aye.

E. THREE SUBSTITUTE TEACHER POSITIONS FOR 2020-2021 SCHOOL YEAR

The Administration proposed adding 3 substitute teacher positions for the 2020-2021 school year. Substitutes would be assigned to each building and would work daily when students are present to help support staff as needed.

Motion by Larry Stuessy, Handbook & Personnel Committee Chair, to approve the three substitute teacher positions for the 2020-2021 school year as presented. Motion carried 7-0 with a roll call vote.

Kari Morrison, Aye, Bill Oemichen, Aye, Travis Zimmerman, Aye, Larry Stuessy, Aye, Debra Fairbanks, Aye, Jessica Geib, Aye, Corrine Hendrickson, Aye.

F. FALL SPORTS

Dr. Thayer provided the Board with an update on fall sports for 2020-2021.

Motion by Bill Oemichen to move fall sport start dates for low risk sports to a date beginning after the 8/17 Special Board Meeting pending additional guidance from the upcoming WIAA and conference meetings. Second by Debra Fairbanks. Motion passed 7-0 with a roll call vote.

Kari Morrison, Aye, Bill Oemichen, Aye, Travis Zimmerman, Aye, Larry Stuessy, Aye, Debra Fairbanks, Aye, Jessica Geib, Aye, Corrine Hendrickson, Aye.

G. SPECIAL BOARD MEETING – AUGUST 17TH AT 5:45 P.M.

The Board and Administration discussed holding a Special Board Meeting on August 17, 2020 at 5:45 p.m.

Motion by Debra Fairbanks to approve a Special Board Meeting on August 17, 2020, at 5:45 p.m. as presented. Second by Jessica Geib. Motion carried 7-0 with a roll call vote.

Kari Morrison, Aye, Bill Oemichen, Aye, Travis Zimmerman, Aye, Larry Stuessy, Aye, Debra Fairbanks, Aye, Jessica Geib, Aye, Corrine Hendrickson, Aye.

H. POLICY 2266 – TITLE IX REGULATIONS

Dr. Thayer reviewed policy 2266 – Title IX Regulations with the Board.

Motion by Debra Fairbanks, Policy, Communications, and Advocacy Committee Chair to approve policy 2266 – Title IX Regulations as presented to the Board. Motion carried 7-0 with a roll call vote.

Kari Morrison, Aye, Bill Oemichen, Aye, Travis Zimmerman, Aye, Larry Stuessy, Aye, Debra Fairbanks, Aye, Jessica Geib, Aye, Corrine Hendrickson, Aye.

I. POLICY 6320 - PURCHASING

Dr. Thayer reviewed policy 6320 – Purchasing with the Board.

Motion by Debra Fairbanks, Policy, Communications, and Advocacy Committee Chair to approve policy 6320 – Purchasing as presented. Motion carried 7-0 with a roll call vote.

Kari Morrison, Aye, Bill Oemichen, Aye, Travis Zimmerman, Aye, Larry Stuessy, Aye, Debra Fairbanks, Aye, Jessica Geib, Aye, Corrine Hendrickson, Aye.

J. CONSTRUCTION MANAGER INTERVIEWS – AUGUST 24, 2020

The Board discussed holding Construction Manager Interviews on August 24, 2020.

Motion by Bill Oemichen to authorize the Facilities, Technology, and Transportation Committee to interview J.H. Findorff, Kraemer Brothers, and C.G Schmidt for Construction Management. Second by Travis Zimmerman. Motion carried 7-0 with a roll call vote.

Kari Morrison, Aye, Bill Oemichen, Aye, Travis Zimmerman, Aye, Larry Stuessy, Aye, Debra Fairbanks, Aye, Jessica Geib, Aye, Corrine Hendrickson, Aye.

K. CONSTRUCTION MANAGER SELECTION PROCESS

The Board discussed the process for selecting a Construction Manager. The Facilities, Transportation, and Technology Committee will hold a Special Meeting on August 24, at 6:00 p.m. to conduct the Construction Manager interviews. The full Board will schedule a special meeting shortly thereafter to discuss the interviews and make a final selection.

L. LONG-TERM FACILITY PLANNING

Dr. Thayer provided the Board with an update on Long-Term Facility Planning.

M. RESIGNATIONS

~None

N. NEW HIRES

1. Sam Weinbrenner – Special Education Teacher

The Administration recommended hiring Sam Weinbrenner as Special Education Teacher.

Motion by Bill Oemichen to approve hiring Sam Weinbrenner as Special Education Teacher as presented. Second by Debra Fairbanks. Motion carried 7-0 with a roll call vote.

Kari Morrison, Aye, Bill Oemichen, Aye, Travis Zimmerman, Aye, Larry Stuessy, Aye, Debra Fairbanks, Aye, Jessica Geib, Aye, Corrine Hendrickson, Aye.

2. Jance Marty – HS Football Assistant Coach

The Administration recommended Jance Marty as HS Football Assistant Coach.

Motion by Bill Oemichen to approve hiring Jance Marty as HS Football Assistant Coach as presented. Second by Jessica Geib. Motion carried 7-0 with a roll call vote.

Kari Morrison, Aye, Bill Oemichen, Aye, Travis Zimmerman, Aye, Larry Stuessy, Aye, Debra Fairbanks, Aye, Jessica Geib, Aye, Corrine Hendrickson, Aye.

FUTURE SCHOOL BOARD AND COMMITTEE MEETINGS

- August 17, 2020 – Special Board Meeting – 5:45 p.m.
- August 17, 2020 – Annual Meeting – 7:15 p.m.
- August 24, 2020 – Facilities, Transportation, & Technology Meeting – 6:00 p.m.
- September 14, 2020 – Discussion & Regular Board Meeting – 7:15 p.m.

ADJOURN

Motion by Bill Oemichen, second by Jessica Geib to adjourn the meeting at 10:07 p.m. Motion carried 7-0 with a roll call vote.

Kari Morrison, Aye, Bill Oemichen, Aye, Travis Zimmerman, Aye, Larry Stuessy, Aye, Debra Fairbanks, Aye, Jessica Geib, Aye, Corrine Hendrickson, Aye.

Respectfully submitted by Larry Stuessy/Kris Anderson

2. Approval of Bills
3. Treasurer's Report
4. Staffing Report

**STAFFING REPORT
AUGUST 17, 2020**

CHANGES	Employee Leaving Position	New Employee in Position	hours per day / % of empl	Term of Employment	Position
	Jeanne Devine resignation	Jeanne Devine	hourly	temporary for 2020-21 school year	Occupational Therapy

OPEN POSITIONS	Position	Term of Employment	hours per day / % of empl	Reason for opening	
Support Staff	Special Education Assistant	2020-21 school year	7.25 hrs/day (Tues - Friday) 29 hrs/week	Jody Gerner Resignation	reorganized position from 8 hrs/day, 40 hrs/week
Support Staff	Special Education Assistant	2020-21 school year	7.25 hrs/day	Weinbrenner transf Spec Ed Teacher	on hold
Support Staff	Custodian	Year Round	8 hours/day	Dale Freidig resignation	
Coach	HS Volleyball Asst Coach	2020 Fall Season	varies	Kendra Mussehl coaching resignation	
Coach	HS Boys Baseball Asst Coach	2020 Spring Season	varies	Additional need per policy	on hold
Coach	MS Track Coach	2020 Spring Season	varies	Tammy Newberry resignation	on hold
Coach	MS Track Coach	2020 Spring Season	varies	Mark Woelfel coaching resignation	on hold

5. Donations

- B. Discuss Item(s) Removed From Consent Agenda

V. COMMITTEE UPDATES

- A. Policy, Communications & Advocacy
- B. Handbook and Personnel
- C. Budget
- D. Curriculum, Sports & Co-Curricular
- E. Facilities, Transportation And Technology

VI. DISCUSSION AND POSSIBLE ACTION ITEMS

- A. Fall Sports for 2020-2021
- B. Facility Use for Fall
- C. GPS Ionization HVAC Bids

Bids for GPS Ionization System

North American Mechanical (NAMI)-----\$104,310.00

Johnson Controls Inc.-----\$104,755.00

Recommend awarding bid to NAMI because it's the low bid and they perform all regular maintenance on our HVAC system

*With either vendor there will be some additional electrical work that is needed to be done by an electrician

INNOVATIVE BI•ANALYSIS

creating solutions | getting results

Innovative Bioanalysis
5630 Cerritos Ave
Cypress CA, 90630
www.InnovativeBioanalysis.com
Email: Albert.Brockman@innovativebioanalysis.com

SARS - CoV - 2 Neutralization by Needlepoint Bipolar Ionization, Powered by GPS

CLIENT: ACA/IAE

PROJECT: Needlepoint Bipolar Ionization "NPBI™" applied to COVID19

PRODUCT: ACA-RN-0001 and ACA4800GU-1, Powered by GPS DM48 - AC NPBI™ Technology

CAP LIC NO: 9501843

CLIA LIC NO: 05D1064850

SAMPLE RECEIVED: 05/21/2020

START DATE: 05/27/2020

REPORT DATE: 06/02/2020

CHALLENGE VIRUS: SARS-CoV-2

EXPERIMENTAL SUMMARY:

Single RE22 control chambers set on a table stainless steel table with pressure verification seals. Internal working dimensions 16.5"W x 9"H x 12"D for a total cubic footage of 1.031. Under initial observation it was determined to seal the unit completely with no intake or exhaust port. Control ionization counts were performed prior to initial test. Testing and control were conducted in an average ambient temperature of 72.6 degrees Fahrenheit.

A singular fan unit was set up at a 45-degree angle to the two ionization units affixed to the testing chamber. The initial control fan speed was measured at an average of 870 Ft/m. At these airflow speeds the initial ionization saturation counts were taken so adjustment could be made to lower or raise ionization levels depending on the testing parameters needed. Under the original control section, the primary fan was set 10 inches away from ion production unit A and the average air flow speed past the ion producing nodes was 250Ft/m

Under the original control section, the primary fan was set 13 inches away from ion production unit B and the average air flow speed past the ion producing nodes was 240Ft/m. Initial observations indicated large fluctuations of ions throughout the interior of the testing chamber based in the airflow. With unit B running the Ion count fluctuated from 800 thousand ions per cubic centimeter in the center of the testing chamber directly below the ionization unit to 152 thousand ions per cubic centimeter at the exterior edges of the testing chamber.

Initial observations indicated large fluctuations of ions throughout the interior of the testing chamber based in the airflow. With unit A running the Ion count fluctuated from 1.8 million ions per cubic centimeter in the center of the testing chamber directly below the ionization unit to 600 thousand ions per cubic centimeter at the exterior edges of the testing chamber.

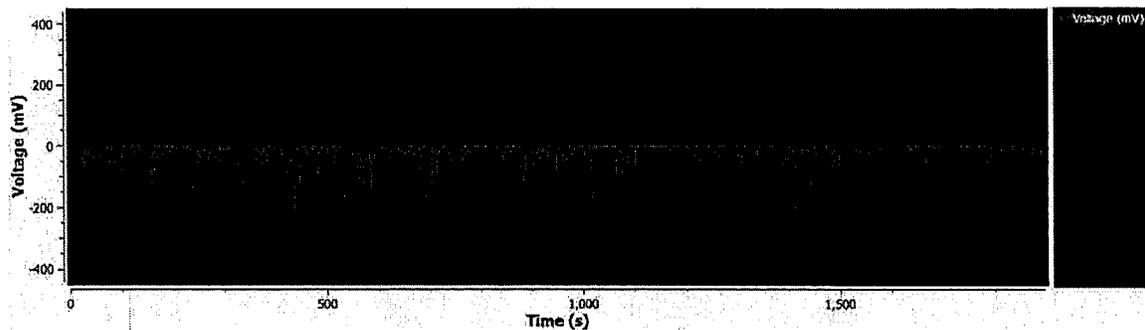
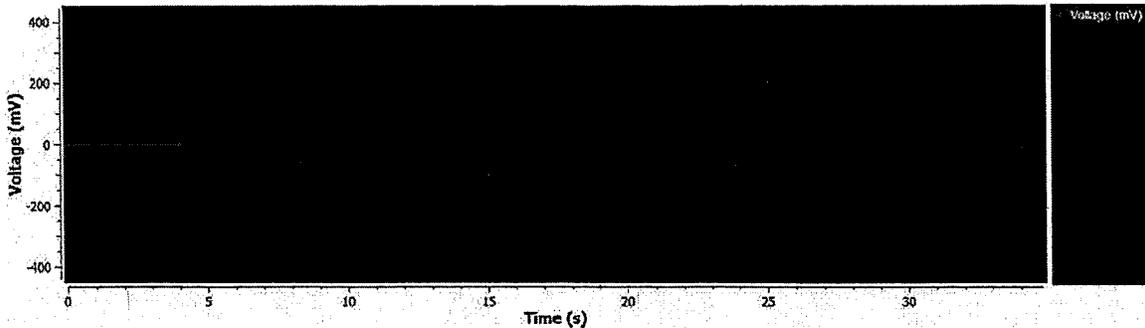
When looking at initial overall Ion situation of an open area with a controlled airflow we observed the below graph range. Ion count recorded in the 100 thousand range when.

	1	2	3
Ft/m	230	330	380
FT	ION	ION	ION
4'	630	1100	1400
7'	250	240	380
11'	92	143	170
15'	21	40	arc
19'	6	24	arc
24'	6	18	9
46'			5

After control samples were completed for saturation levels a slower moving fan was introduced to lessen the airflow across the ionization nodes to reduce the overall Ion concentration levels to something more similar to conditions found inside a standard aircraft when running the ion cleaning system. Based on historical observations the standard Ion count inside aircrafts was 10,000 – 50,000 ions per cubic centimeter. With the slower fan speed and slightly altered angle the average negative ion count inside the test chamber was reduced to an average of 27 thousand per cubic centimeter for the viral testing phase.

During viral sample testing the viral chamber had one continual ionization sensor document the overall ion counts and logged for the course of the test. The average Ion count within the testing chamber at point of viral placement was -27,2307 (+_ 10,000) cm³. Viral cultures added to test chamber in independent sealable dishes. The initial test the ionizations units were ran for 30 minutes. Each viral sample was sealed at a pre-determined time. Sample A sealed up after 10 minutes of Ion exposure. Sample B sealed after 15 minutes of ion exposure. Sample C sealed up after 30 min of Ion exposure. After final sample was sealed the samples were removed from testing chamber and transferred to lab staff for further testing.

Attached is the continual time points for test on the minute as well as a constant graph of ion levels in the test chamber. Recommended further testing with various times and concentrations of ion levels in the atmosphere.



Secondary wave of tests recommended aerosol product upon confirmation of safety review.

Upon test results data completion determine safety of using 8x20x8 containment pod for large scale control testing.

PROCEDURE:

VIRUS: SARS-CoV-2

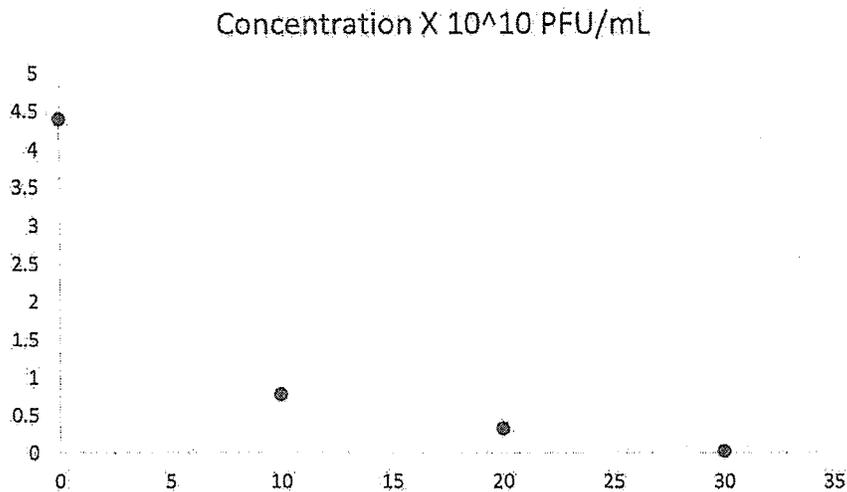
Nasopharyngeal swabs were collected on day 4 post symptom onset, placed in 2–3 mL of viral transport medium, used for molecular diagnosis, and frozen. Vero CCL-81 cells were cultured in Dulbecco minimal essential medium (DMEM) supplemented with heat-inactivated fetal bovine serum (5% or 10%) and antibiotics/antimycotics. For isolation, limiting dilution, and passage 1 of the virus, 50 μL of serum-free DMEM was pipetted into columns 2–12 of a 96-well tissue culture plate. Then 100 μL of clinical specimens pipetted into column 1 and serially diluted 2-fold across the plate. Then trypsinized and resuspended Vero cells in DMEM containing 10% fetal bovine serum, 2 \times penicillin/streptomycin, 2 \times antibiotics/antimycotics, and 2 \times amphotericin B at a concentration of 2.5×10^5 cells/mL. 100 μL of cell suspension added directly to the clinical specimen dilutions and mixed gently by pipetting. The inoculated cultures were grown in a humidified 37°C incubator in an atmosphere of 5% CO_2 and observed for cytopathic effects (CPEs) daily.

INNOCULATION OF THE TEST CARRIER:

Sterile sealable dishes were coated with 1 mL viral suspension containing samples with a viral titer of 4.4×10^{10} PFU/mL crude SARS-CoV-2 virus. Using the Poisson distribution, one would determine the TCID50 value would be equivalent to roughly .7 X PFU/mL or 3.8×10^{10} TCID50/mL

EFFICACY TESTING:

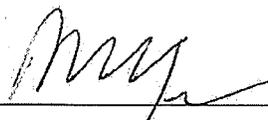
Viral media with a known concentration of Plaque Forming Units was applied to a sterile static dish composed of polystyrene plastic and individually sealable and exposed to bipolar ionization for a period of 10, 15, and 30 minutes. Swabs were taken of all plates and cultured by the same means as the original nasopharyngeal swab culture. Based on viral titrations it was determined that at 10 minutes 84.2 % of the virus was inactivated, at 15 minutes 92.6% of the virus was inactivated, and at 30 minutes 99.4% of the virus was inactivated.



CONCLUSIONS/OBSERVATIONS:

Based on the results listed above, it can be determine that hydrolysis via positively charged hydrogen ions binding to peplomers of the SARS-CoV-2 virus can render 99.4 % or viral particles are inactivated on a stagnant surface at 30 minutes. The ionization technology allows for the saturation of hemagglutinin with hydroxyl groups effectively inactivating the hemagglutinin receptors and rendering the virus ineffective and eliminating its ability to bind to and infect cells. Initial testing has demonstrated the ionizers ability to neutralize pathogen, namely SARS-CoV-2, on a static surface. Further studies are required for reproducibility testing as well as variation in environment and environmental factors.

Disclaimer:



Dr. Dana Yee M.D Medical Director

03 JUN 2020
Date



Sam Kabbani, MS, BS, MT(ASCP), CLS
Chief Scientific Officer, Innovative Bioanalysis

06/03/2020
Date



Albert Brockman
Director of Biosafety, Lead Biosafety Officer

6/02/2020
Date

Engineering Air For A Better World™



G

Global

P

Plasma

S

Solutions

Tom Beutell

VP Sales - Upper Midwest Region

GPS Company Data

- Corporate Offices, Manufacturing, R&D located in Savannah, GA
- Sales, engineering & marketing located in Roanoke, VA
- International Sales Office located in Abu Dhabi
- 10+ years operating
- 15 patents granted



GPS

Installation Base

- Over 1500 K-12 Schools with OA reduced to 5 CFM Per Student
- Over 2000 Healthcare Applications including hospitals, outpatient centers and offices
- Over 200,000 installations worldwide

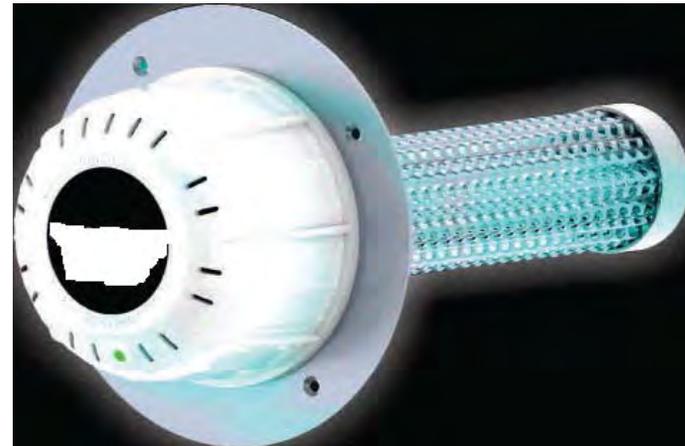


Older Existing Technology

**Ion Tube
(Dielectric Barrier Discharge)**



**Photocatalytic Oxidation
(PCO)**





Needlepoint Bipolar Ionization – Cold Plasma (NPBI)



Large Projects

Presidential Palace, Abu Dhabi

277 GPS-IBAR Systems Throughout Palace
Over 4,000 Tons Cooling Capacity



Tampa Bay Times Forum

Over 700 Ton Reduction
(12) 40,000 CFM Air Handlers with GPS-IBARS



Hospitals

- University of Miami Medical Center
- Tulane Medical, New Orleans
- Children's Hospital, Boston
- Mayo Clinic, Rochester, MN
- Cleveland Clinic, Westin, FL
- Methodist Hospital, Houston, TX
- Anderson Medical Center, Houston, TX
- Baylor College of Medicine, Houston, TX
- Winn Army Hospital, Ft. Stewart, GA
- Duke Medical, Raleigh, NC
- Banner Healthcare, Phoenix, AZ
- Alfred duPont Hospital, Wilmington, DE
- Christ Advocate, Chicago, IL
- Abbott NW Heart Hospital, Minneapolis, MN



CLEAN THE AIR NATURALLY

Ions are present naturally in the air and are found in the highest concentrations where the ocean meets the shore and high elevation in the mountains.

The plasma process will artificially create the ions found in these desirable locations and supply them into the building, enhancing the indoor air quality. Process has been around since the late 1800's

Units of Measure = ions/cc
(cubic centimeter)
Waterfalls/High Elevation – 5,000 i/cc
City – 200 ions/cc
Inside Buildings - <100 ions/cc



Ion Deficiency Issues

Few human activities lead to an increase in ions. Most activities cause a depletion.

According to research conducted by Columbia University, ion depletion can cause sleepiness, attention deficit, discomfort and headaches

These effects can be controlled by artificially increasing ion levels using needlepoint bipolar ionization, which has been reported to reverse the issues.



No research has reported any adverse effects on people from even high concentrations of balanced or monopolar ionization

Applications for GPS Ionization

Item 1

Particle Reduction – Technology makes particles clump together through agglomeration and a lower efficiency filter can capture them from the air

Item 2

Odor Control – Odors, volatile organic compounds and the like are oxidized to gases already prevalent in the air such as oxygen, nitrogen, water vapor or carbon dioxide, eliminating the odors

Item 3

Pathogen Control – Independent testing by CDC Affiliate Labs confirms kill rates as high as 99.9% of various pathogens and mold spores

Item 4

Keeps new cooling coils clean and cleans up old coils

Item 5

Energy Savings by Outside Air Reduction – By cleaning indoor air and recirculating it – Less Outside Air is required. Less OA = Less Load on Cooling/Heating System – ASHRAE 62.1 & IMC Compliant



GPS

GPS' technology can reduce particles, control odors & kill pathogens.

The Problem - A large Midwest medical device manufacturer contacted GPS due to a new chemical being introduced into the manufacturing process that was creating odor issues for the employees working in those rooms and adjoining spaces that shared the same air handling system. Upon reviewing the molecular structure of the chemical, it was determined that GPS' cold plasma technology could control the odor effectively.

The Solution - A GPS-iBar system was installed on the air entering side of the cooling coil in the air handler conditioning the clean rooms.

The Results – After installation of the GPS-iBar system, the odors were eliminated in less than 24 hours. The GPS-iBar system also provided a pleasant surprise to the owner when the annual clean room certification occurred. The clean room certification company found the total particle counts to be 89.7% less than any other time prior to the GPS-iBar installation, which includes over 10 years of prior testing with similar, consistent results.

Total Particle Counts

Date	Before	After
6/17/2013	2015	
6/25/2014		208*

Total Particle Count Reduction 89.7%

*GPS-iBar installed & activated 6 months prior to "After" testing



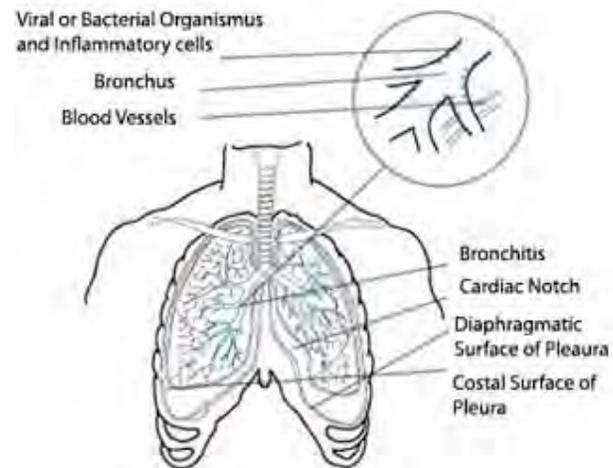
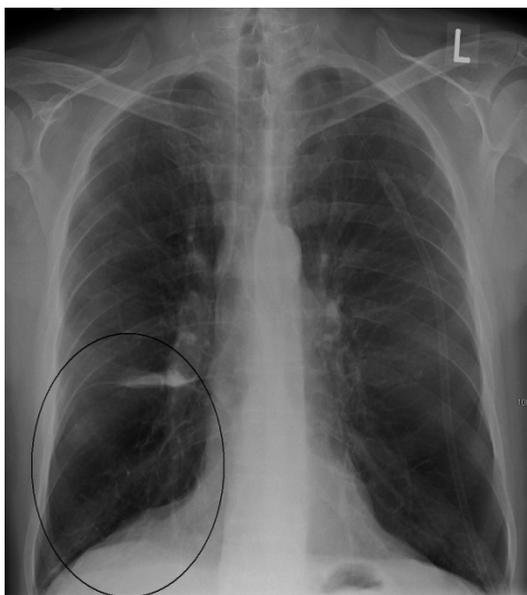
GPS



Needlepoint Bipolar Ionization for Allergy and Asthma Triggers

Healthcare Professionals Consider VOCs/Particles a Key Trigger For:

- Asthma
- Allergies
- Bronchitis
- Emphysema



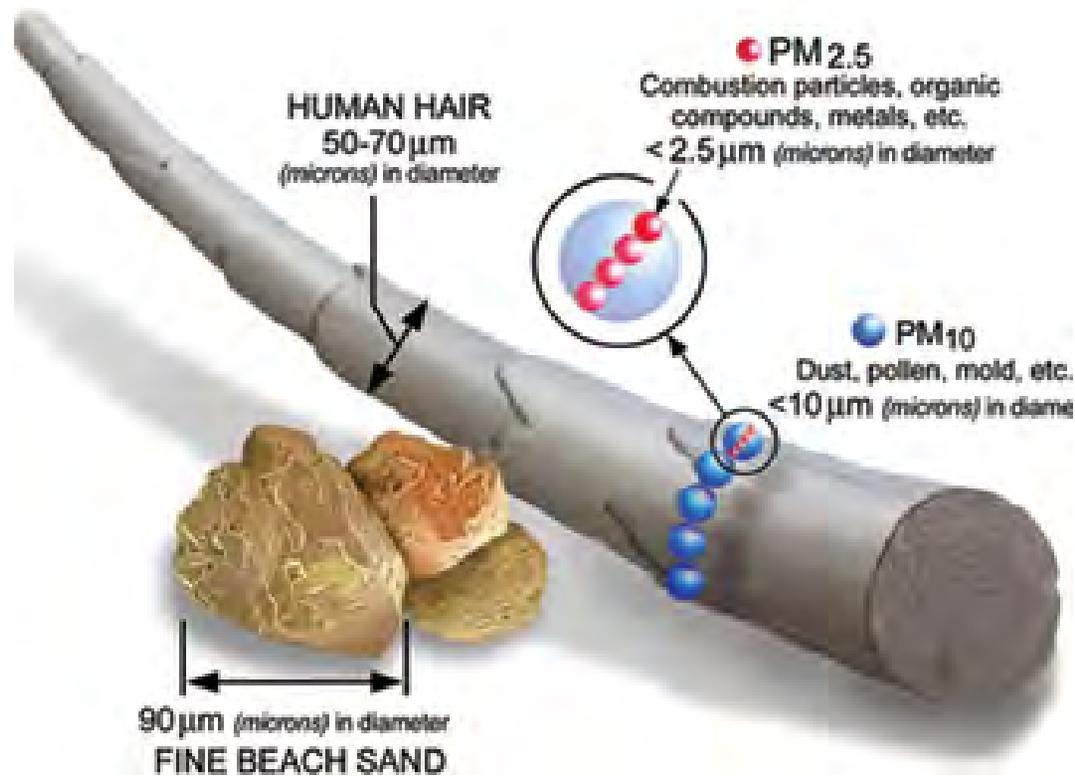
Technology Reduces PM 2.5

California EPA Air Resources Board

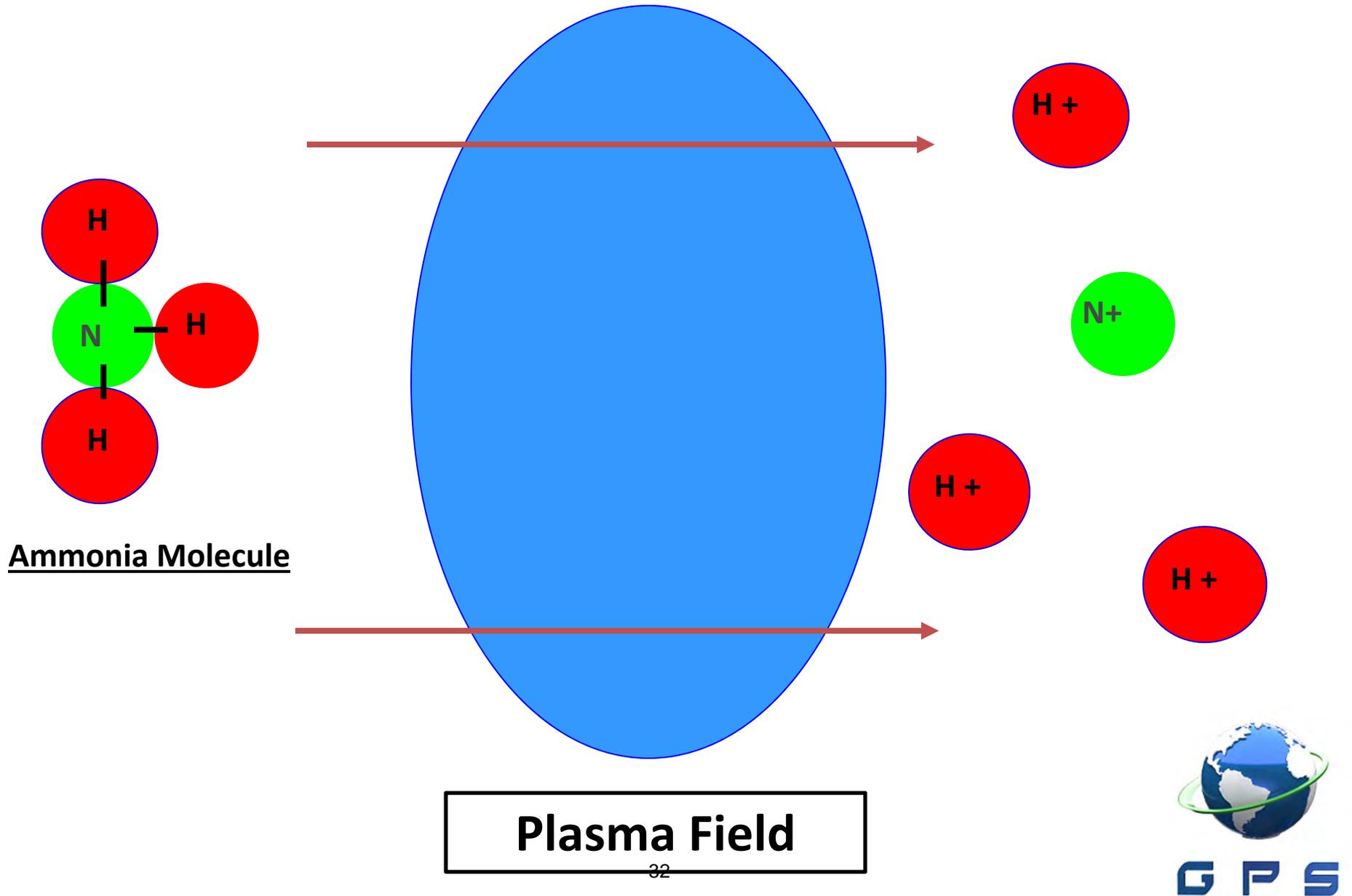
Inhalation of particulate pollutants, especially PM_{2.5}, has been linked to increased risk for a number of adverse health effects. Long-term exposure to **elevated levels of PM_{2.5} is associated with premature death in older adults with heart or lung diseases, and with reduced lung growth in children.** Short-term exposures to elevated levels of PM_{2.5} also have been linked to premature death, primarily in people who already have heart or lung disease, as well as hospitalization for cardiovascular causes, including stroke, heart attacks and congestive heart failure, and chronic obstructive disease and asthma. PM_{2.5} exposure also has been associated with emergency room visits for asthma and increased asthma symptoms. PM₁₀ exposure has been associated with premature death and hospitalization for respiratory causes in people who have chronic lung disease. Children, the elderly and people with heart or lung diseases are more likely to be affected than healthy adults.



Particulate Size



Plasma Breaks Down Gases To Less Objectionable Forms



Chemical Compounds Plasma Can Easily Control

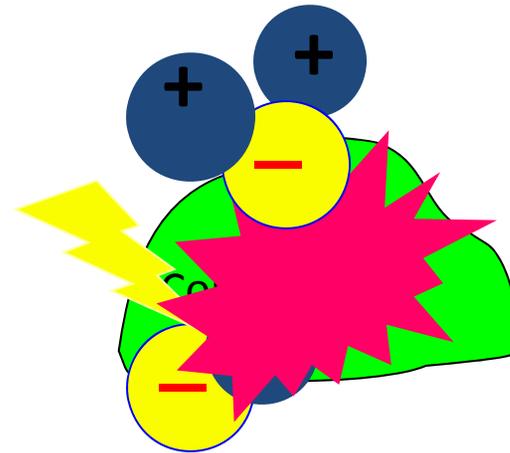
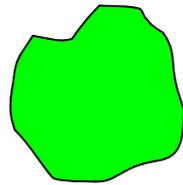
CHEMICAL	FORMULA	Electron Volt
Xylene	C_8H_{10}	7.89
Styrene	C_8H_8	8.46
Methyl Ethyl Ketone	C_3H_8O	9.52
Ammonia	NH_3	10.07
Acetaldehyde	CH_3CHO	10.23
Ethyl Alcohol	C_2H_5OH	10.48
Formaldehyde	CH_2O	10.88
Oxygen	O_2	12.07



Mold, Virus & Bacteria Control

The Positive and Negative Ions Attack DNA/RNA Cell Structure of Single Cell Organisms & Removes Hydrogen

Plasma
Source



Like Purell for the air and surfaces



Independent Testing by World Renowned EMSL & ATS Labs

THE ONLY PRODUCT PROVEN TO KILL PATHOGENS IN THE SPACE

<u>Pathogen</u>	<u>Time Exposed</u>	<u>Kill Rate</u>
E.coli	15 minutes	99.68%
MRSA	30 minutes	96.24%
TB	60 minutes	69.01%
Noro Virus	30 minutes	93.50%
C.diff	30 minutes	86.50%
Legionella	30 minutes	99.71%



EMSL ANALYTICAL, INC.



GPS

Application of Air Ionization

Needlepoint Bi-Polar Ionization v/s UVC

CHEMICAL	Bi-polar Ionization	UVC Light
Replacement Interval?	None ★	Annually
Produces Detectable Ozone?	No	No
Kill Mold, Bacteria and Virus?	Yes	Yes
Kills Pathogens in the Space?	Yes ★	No
Controls Odors?	Yes ★	No
Reduces Particulates?	Yes ★	No
Contains Mercury?	No ★	Yes
Electrodes Fragile?	No ★	Yes
Shock Resistant	Yes ★	No
Hazardous Disposal Req'd	No	Yes



Note: Cleans entire coil depth, not just "line of sight".

Meets Code for IMC/ICC

- IMC 2006 & 2009 includes a provision for engineered ventilation systems
 - Section 403.2 – Exception

403.2 Outdoor air required. The minimum ventilation rate of outdoor air shall be determined in accordance with Section 403.3.

Exception: Where the registered design professional demonstrates that an engineered ventilation system design will prevent the maximum concentration of contaminants from exceeding that obtainable by the rate of outdoor air ventilation determined in accordance with Section 403.3, the minimum required rate of outdoor air shall be reduced in accordance with such engineered system design.



Global Plasma Solutions

10 Mall Terrace, Building C
Savannah, GA 31406

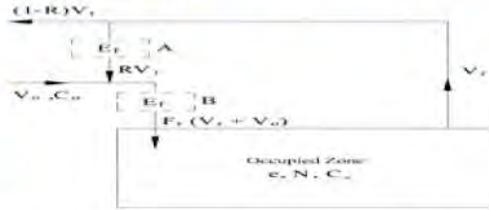
Phone: (912) 356-0115 Fax: (912) 356-0114

Email: info@globalplasma.com Web: www.globalplasma.com

VERSION 1.3 running ASHRAE 62.1-2010

Zone Tag	Facility Type	Zone Use	Zone Floor Area (square ft) Az	Zone Max Occupancy Pz	Table 6.1 OA per Occupant Rp	Table 6.1 cfm/ft2 Ra	Pz * Rp	Az * Ra	Table 6.2 Ventilation Effectiveness Ez	Outdoor Air to Zone (CFM) with Ez correction (Vbz/Ez)
CLASSROOM	Educational Facilities	Classrooms (AGE 9 +)	800.0	28.0	10.0	0.12	280	96	0.8	470
										OA required per VRP

Zone Height (feet)	8
Desired Outside Air (Vo) IAQP	140
Supply Air (Vs)	1,000
Return Air (Vr)	860
Recirc. Flow Factor (R)	0.86
Ventilation Effectiveness (Ez)	0.8
Level of Physical Activity	Standing (desk work)
Filter Location	B
HVAC Flow Type	Constant
Outdoor Air Flow Type	Constant



Air Changes Per Hour	9.4	VRP OA CFM per person	16.8
Outside Air Per VRP	470 CFM	IAQ OA CFM per person	5.0
Outside Air Per IAQ	140 CFM		
Outside Air Savings	330 CFM		
OA Drybulb	95.0		
OA Wetbulb	80.0		
Coil Leaving Air Drybulb	55.0		
Coil Leaving Air Wetbulb	55.0		
OA MBH Saved*	30.3		
OA Tons Saved*	2.5		

Indoor Contaminants Generated By People	Maximum Threshold Value (PPM)**	Steady State Using the VRP* (Prescribed OA) Plasma Off	Steady State Using the IAQ Method (Reduced OA) Plasma On	Is Steady State Level Acceptable at Reduced OA Levels?
Acetaldehyde	20.0	0.01112	0.00333	Yes
Acetone	19.0	0.00175	0.00102	Yes
Ammonia	2.50	0.01771	0.01930	Yes
Benzene	0.1000	0.00252	0.00092	Yes
2- Butanone (MEK)	10.0	0.00020	0.00022	Yes
Carbon dioxide**	5000	1115	2802	Yes
Chloroform	0.2000	0.00011	0.00001	Yes
Dioxane	100.0	0.00000	0.00000	Yes
Hydrogen Sulfide	20.0	0.00000	0.00000	Yes
Methane	NA	1.68094	1.68094	Yes
Methanol	200.0	0.00000	0.00000	Yes
Methylene Chloride	50.0	0.00078	0.00073	Yes
Propane	100.0	0.00998	0.00998	Yes
Tetrachloroethane	35 mg/m3	0.00000	0.00000	Yes
Tetrachloroethylene	2.5000	0.00037	0.00016	Yes
Toluene	2.0000	0.00533	0.00134	Yes
1,1,1 - Trichloroethane	0.2000	0.00078	0.00006	Yes
Xylene	0.4000	0.00230	0.00057	Yes

All values are in PPM unless otherwise noted

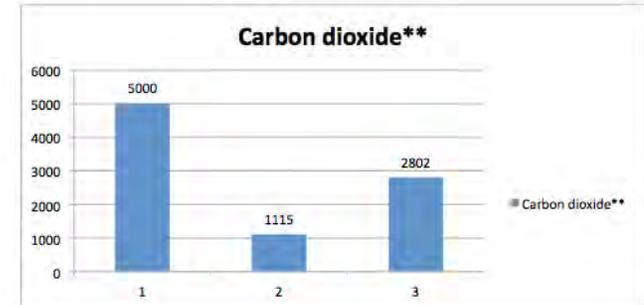
All shaded boxes require user input or review

Is IAQ acceptable at reduced outside air levels?	Yes
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Date	11/9/14
Job Name	Typical School
Representative	-
Engineer	-
Contractor	-

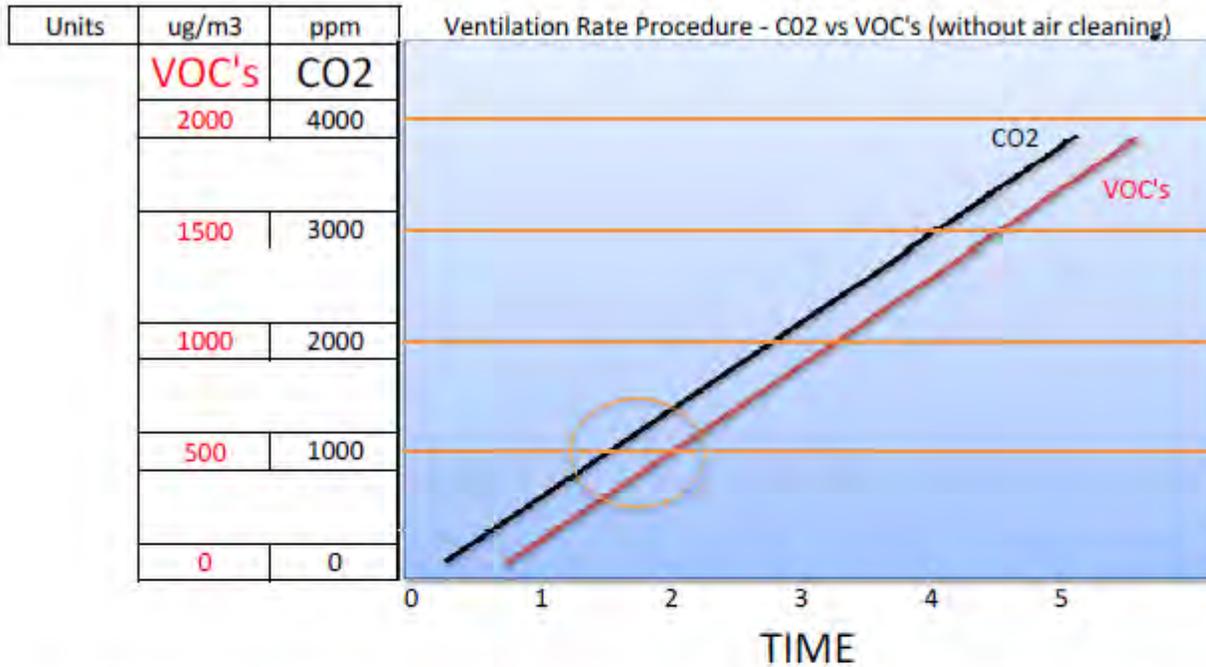
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IMC 2006 & later allows for ASHRAE 62 IAQP through the engineered exception found in Section 403.2



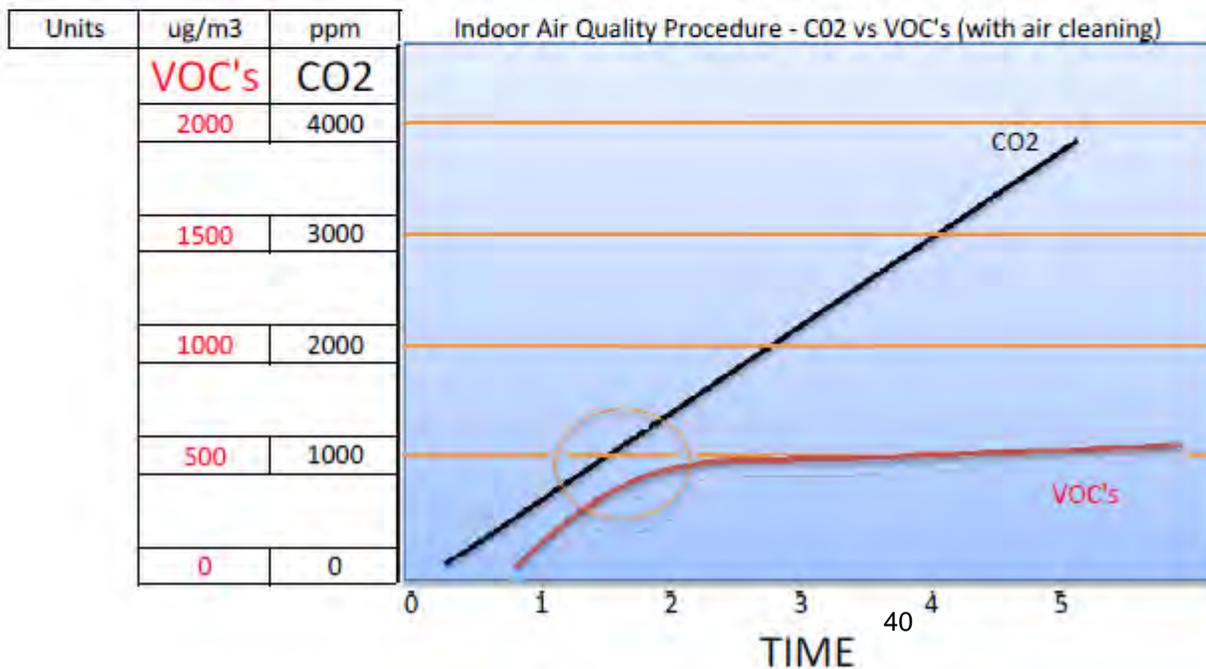
- 1 = ASHRAE C02 Limit
- 2 = C02 Level at Ventilation Rate OA Flow Rate
- 3 = C02 Level at IAQ Procedure OA Flow Rate

**Carbon dioxide has been provided for reference only for gathering demand control ventilation (DCV) setpoints. The National Research Council was commissioned by the US Navy to prove CO2 is not a contaminant of concern when using air purification to control the other contaminants of concern, as found on submarines.



CO2 vs VOCs

ASHRAE 62.1 VRP
Must maintain 700 PPM above outdoors



ASHRAE 62.1 IAQP
Allows up to 5,000 PPM in accordance with OSHA & NIOSH PPM



2016 Best Public High Schools in Georgia

Explore the best public high schools in your area based on statistics, student and parent reviews, and expert insights. Ranking factors include state test scores, college readiness, graduation rates, SAT/ACT scores, [More](#)

- NBPI is in over 80% of the top 100 performing schools in Georgia, including the top 10.
- According to Columbia University Research on Ion Depletion, with systems adding ions back to the space, the students are more alert and perform better even though the OA is decreased 50-75% due to the NBPI.



<https://k12.niche.com/rankings/public-high-schools/best-overall/s/georgia/>

NAVY SUBMARINE STUDY

According to the National Research Council, CO₂ < 8,000 PPM has no affect on humans

CONCLUSION FROM REPORT:

The subcommittee also considers a 8,000-ppm level to be protective against other end points, such as headache and metabolic and acid-base changes, that have been studied.

TABLE S-1 Comparison of Navy's Exposure Guidelines with Those Recommended by the Subcommittee

Chemical	Exposure Level	U.S. Navy Values ^a		NRC Recommended Value ^a
		Current	Proposed	
Acrolein	1-h EEGL	0.05	0.07	0.1
	24-h EEGL	0.01	0.03	0.1
	90-day CEGL	0.01	0.01	0.02
Carbon dioxide	1-h EEGL	40,000	30,000	25,000
	24-h EEGL	40,000	15,000	25,000
	90-day CEGL	5,000	7,000	8,000
Carbon monoxide	1-h EEGL	400	55	180
	24-h EEGL	50	20	45
	90-day CEGL	20	10	9
Formaldehyde	1-h EEGL	3	0.4	2
	24-h EEGL	1	0.1	1
	90-day CEGL	0.5	0.04	0.3
Hydrazine	1-h EEGL	—	4	1
	24-h EEGL	—	0.3	1
	90-day CEGL	—	0.01	0.03
Methanol	1-h EEGL	200	200	600
	24-h EEGL	10	10	50
	90-day CEGL	10	7	10
Monoethanolamine	1-h EEGL	50	6	4
	24-h EEGL	3	3	4
	90-day CEGL	0.5	0.5	0.5
Nitric oxide ^b	1-h EEGL	—	—	130
	24-h EEGL	—	—	50
	90-day CEGL	—	—	3
Nitrogen dioxide	1-h EEGL	1	3	10
	24-h EEGL	1	1	2
	90-day CEGL	0.5	0.5	0.7
Oxygen (min.-max.)	1-h EEGL	130-220 mmHg	—	105 mmHg (min.)
	24-h EEGL	130-160 mmHg	—	127 mmHg (min.)
	90-day CEGL	130-160 mmHg	—	140 mmHg (min.)

^aAll values in parts per million (ppm) unless otherwise noted.

^bNavy considers the guidance levels for nitrogen dioxide to be also protective of nitric oxide exposure.

GPS-FC-1 and GPS-FC-2

1200 CFM or 3 Tons



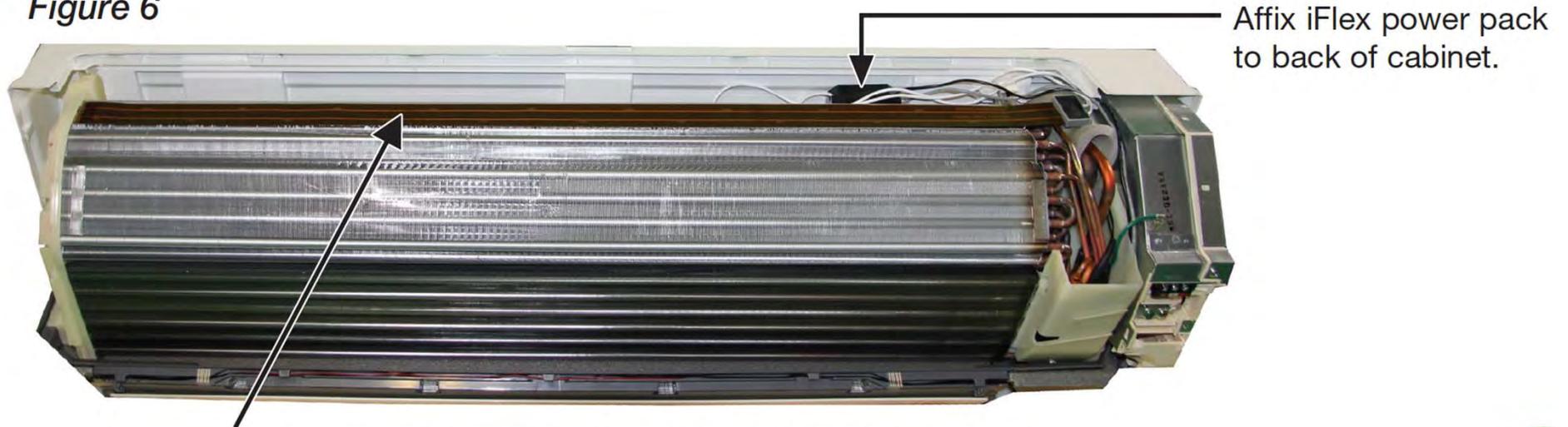
GPS-iRIB-18/36

Flexible Ionization Strip



Typical Location Install on Ductless Wall System:

Figure 6



Affix iFlex to the top of coil on plastic strip (or top of fins) to treat coil, blower and living space. 44

GPS-FC-3-BAS (FC, WSHP, AHU MOUNTED)

Capacity: 3,200 CFM

24VAC Input

Integral LED

BAS Contacts

Mounts Inside AHU – 2.6”L x 1.3”W x 1.9”H



GPS-FC24-AC

Capacity: 0 - 2400 CFM

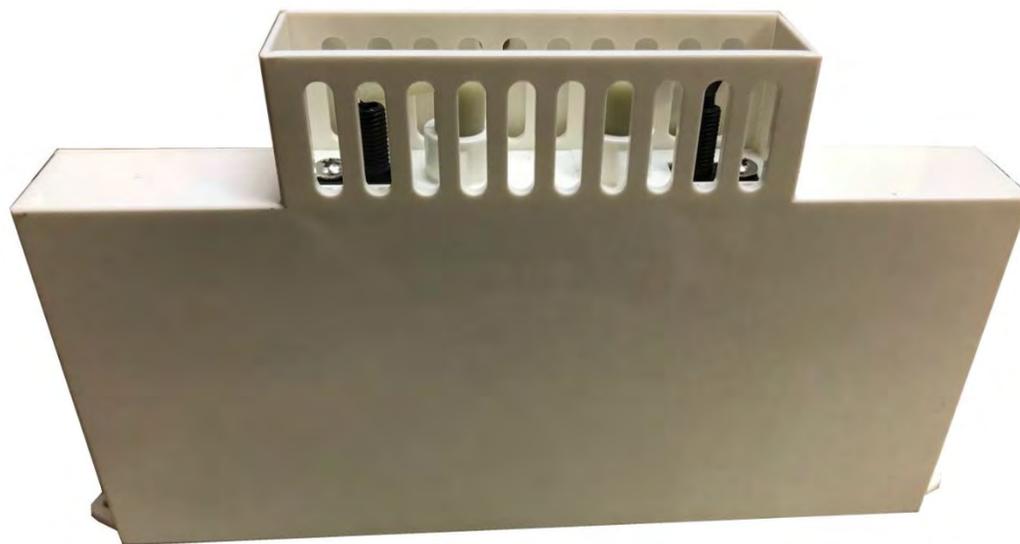
Auto Cleaning

24 – 260 VAC

Integral LED

BAS Contacts

Mounts above filter – 7.9”L x 1.1”W x 5.0”H



GPS-FC24-AC

Magnet mounts

Replaceable emitters

Plasma on indicator light

Inline on/off switch



GPS-FC48-AC (FC, WSHP, AHU MOUNTED)

Capacity: 0 - 4800 CFM

Auto Cleaning

24 – 260 VAC

Integral LED

BAS Contacts

Mounts Inside AHU – 11.1”L x 1.84”W x 3.52”H



GPS-DM48-AC (Duct Mounted)

Capacity: 0 – 4800 CFM

Auto Cleaning

24 – 260 VAC (3 wires)

Integral LED

BAS Contacts

Duct mounted (4" hole)

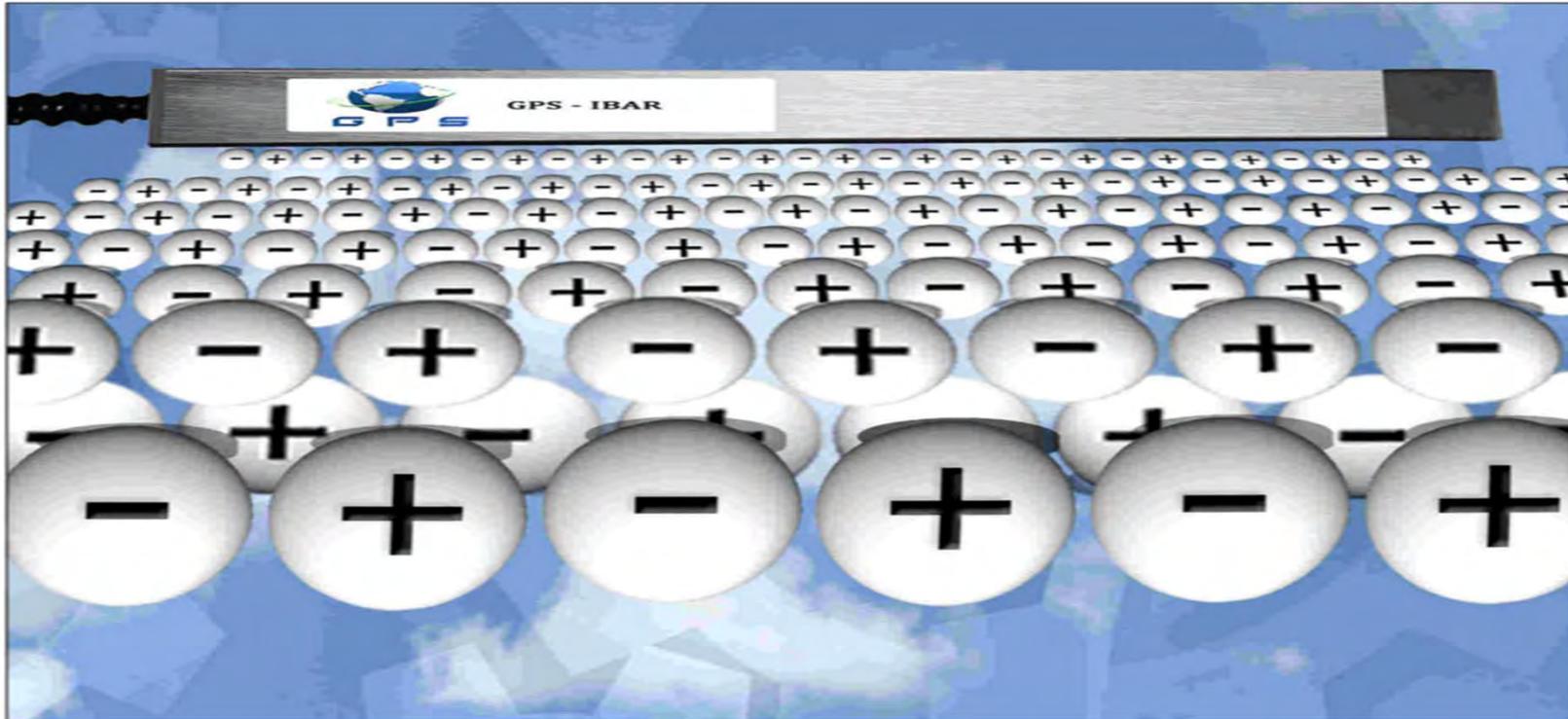
UL listed indoor or outdoor apps

Replaceable emitters





GPS-IBAR



- Aluminum Exterior
- Stainless Steel Needles
- Liquid-Tight Flex Cables
- Custom Manufactured Length
- Any Air Flow Capacity

Vallencia College

Independent
Testing Results:

0 Bacteria
0 Fungi

Throughout
Entire Depth
Of Cooling Coil

Indoor VOC's < OA VOC's!



GPS-iMod

Modular Ionization System

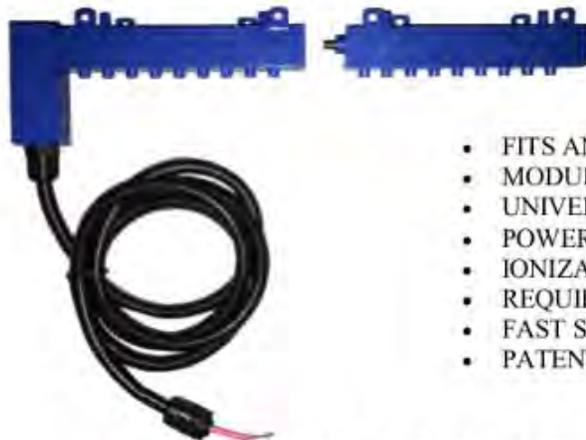


c  US

- 24VAC, 110VAC or 208-240VAC INPUT
- ONLY 15 WATTS REQUIRED FOR ANY LENGTH BAR
- UP TO 6 BARS PER POWER SUPPLY

GPS-iMod

GPS-iMOD[®] — MODULAR IONIZATION SYSTEM



- FITS ANY SIZE HVAC SYSTEM
- MODULAR IN 6" SECTIONS
- UNIVERSAL VOLTAGE INPUT -24/120/240
- POWER ON INDICATION
- IONIZATION OUTPUT INDICATION
- REQUIRES ONLY 1" FOR MOUNTING
- FAST SHIPPING
- PATENT-PENDING DESIGN



GPS-iMOD PASSES UL 2998 TO PROVE ZERO OZONE OUTPUT

GPS-iMod Installation



GPS-300



Nominal Capacity \approx 300 CFM

Ceiling Mounted – ABS Plastic Cover
and Galvanized Steel Interior

Prefilter, carbon, UVC, Ionization,
99.97% HEPA & Fan

Voltage –115VAC 60Hz

24"W x 24"L x 18"D



GPS-iDetect-P

Plenum Mounted Ion Detector



Patent-Pending



GPS-IMEASURE

Space Mounted Ion Meter



Patent Pending

- Measures Ion Levels 24/7/365
- Provides 2-10VDC Output
- Reads 0-20k, 0-200k or 0-2M ions/cc field selectable
- Auto-Calibration and Auto Zero Functions

1 OA TVOCs 0025502C Analog Input Outside air TVOCs at Roanoke, VA Office	
1925.52TVOCs Sensor [No alert set]	
2nd FL Office TVOCs 0025503C Analog Input	
449.33TVOCs Sensor [No alert set]	
LAB R/A TVOCs 00255038 Analog Input	
474.97TVOCs Sensor [No alert set]	
Lab SA Ion Levels 00255034 Analog Input	
480000ions/cc Sensor [No alert set]	
Lab T/H 001690A8 Room Temp. & Humidity	
69.73°F Temperature Min: -148°F Max: 482°F	54.29% Humidity Min: 0% Max: 100%
OA T/H 001690AC Room Temp. & Humidity	
59.62°F	66.74%

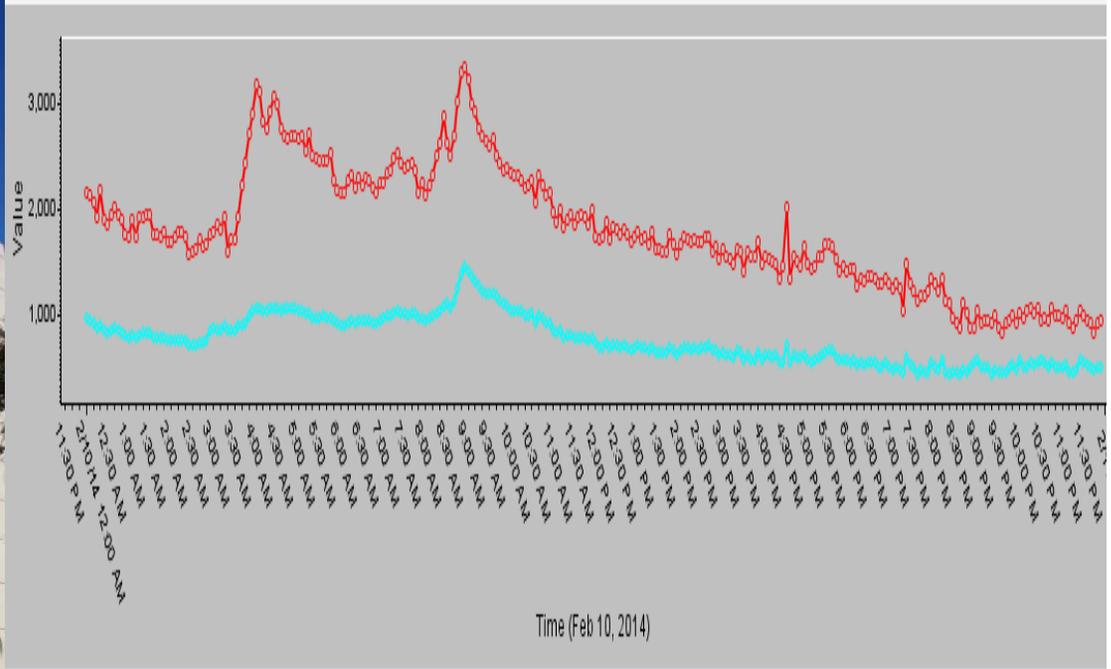
GPS-iMeasure



Houston Methodist Hospital

Field Study Results

Needlepoint Bi-Polar Air Ionization for VOC Remediation



Sh...	Marker	Name	Reference
<input checked="" type="checkbox"/>		OA-VOC.Trend - Present Value	HHIAPP.JHSNP01:NAEF5-02/FC-1.AHU B580.OA-VOC.Trend2
<input type="checkbox"/>		OA-VOC.AHU B580.OA-VOC	HHIAPP.JHSNP01:NAEF5-02/FC-1.AHU B580.OA-VOC.Trend3
<input checked="" type="checkbox"/>		VOC-1.Trend - Present Value	HHIAPP.JHSNP01:NAEF5-02/FC-1.AHU B580.VOC-1.Trend1
<input type="checkbox"/>		VOC-1.Trend - Present Value	HHIAPP.JHSNP01:NAEF5-02/FC-1.AHU B580.VOC-1.Trend2

GPS Installed in Gulfstream G550





Mold Test



Day 1



Day 12

GPS-KOG-50

Kitchen Odor & Grease Control



Engineering Air For A Better World



G

Global

P

Plasma

S

Solutions

Thank You For Attending!
Questions?

A WHITE PAPER

GPS Reports on Pathogen Testing



Charlie Waddell

Chief Technology Officer & Founder

Member ASHRAE, SSPC 62.1, TRG4-IAQP, TC 2.3 and ICC

Global Plasma Solutions, Inc.

March 1, 2020

Pathogen Testing

GPS has invested substantial resources for independent testing to confirm kill rates of various pathogens using needlepoint bipolar ionization technology. Tests were conducted to measure the kill rates of

1. **Mycobacterium terrae (Tuberculosis surrogate)** - M. terrae is commonly used as a surrogate test for Mycobacterium tuberculosis as it demonstrates similar physical characteristics and is slightly more resistant but is far less dangerous.
2. **Clostridium difficile (C. diff)** – also known as Clostridioides difficile and often referred to as C. difficile or C. diff, is a bacterium that can cause symptoms ranging from diarrhea to life-threatening inflammation of the colon.
3. **Feline calicivirus (human Norovirus surrogate)** – Feline calicivirus (FCV) and human noroviruses belong to the same viral family, Caliciviridae.
4. **Methicillin Resistant Staphylococcus Aureus (MRSA)** - Methicillin-resistant Staphylococcus aureus infection is caused by a type of staph bacteria that's become resistant to many of the antibiotics used to treat ordinary staph infections.
5. **Escherichia coli (E.coli)** - E. coli are a large and diverse group of bacteria.
6. **Legionella pneumophila** - The bacterium Legionella pneumophila is the principal etiologic agent of Legionnaires' disease.
7. **Mold** - The most common indoor molds are Cladosporium, Penicillium, and Aspergillus.

Summary Results of GPS' Needlepoint Ion Technology

Testing at several testing agencies produced following results:

Pathogen	Test Time	Kill Rate	Test Agency
Tuberculosis	60 minutes	69.09%	EMSL
Clostridium difficile	30 minutes	86.87%	EMSL
Norovirus	30 minutes	93.50%	ATS Labs
MRSA	30 minutes	96.24%	EMSL
E.coli	15 minutes	99.68%	EMSL
Legionella	30 minutes	99.71%	EMSL
Mold Spores	24 hours	99.50%	GCA

Industry Wide Testing

Tests have been conducted by numerous parties throughout the world to measure the efficacy of bipolar ionization to kill harmful pathogens. Sharp Corporation conducted a series tests and produced a detailed compilation of lab results of bipolar ionization effects on various pathogens.

Pathogen	Tests/Results	Organization	Overview	Date
H1N1 human Influenza Virus	1m ³ box Time: 25 minutes 99.7% reduction	Kitasato Institute Medical Center Hospital, Japan	Influenza that infects humans	2004
H5N1 Avian Influenza Virus	1m ³ box Time: 10 minutes 99% reduction	Retroscreen Virology Ltd., UK Prof. John Oxford	Influenza that infects birds	2008
Feline Coronavirus	1m ³ box Time: 35 minutes 99.7% reduction	Kitasato Institute Medical Center Hospital, Japan	Feline infectious peritonitis virus	2004
Coxsackie Virus	One-pass test Time: 3.3 seconds 98.9% reduction	Kitasato Research Center of Enviro. Sciences, Japan	Virus causing summer illness	2002
Polio Virus	One-pass test Time: 3.3 seconds 98.9% reduction	Kitasato Research Center of Enviro. Sciences, Japan	Virus causing infant paralysis	2002
SARS Virus	One-pass test Time: 3.3 seconds 73.4% reduction	Retroscreen Virology Ltd., UK Prof. John Oxford	Virus of SARS	2005

Source: https://global.sharp/pci/en/certified/pdf/petodor_01.pdf

Engineering Air for a Cleaner World™

Who We Are

Our proven technology delivers clean indoor air that is safe and healthy – producing neither ozone nor other harmful by-products. All our Needlepoint Bipolar Ionization (NPBI) products are UL and CE approved. Through NPBI, our products purify the air by eliminating airborne particulates, odors and pathogens. All this while lowering your facility's carbon footprint and saving 30% by reducing outdoor air intake by up to 75% thus reducing energy consumption. Delivering **P.O.P.E.** to the user:



Our NPBI Process

GPS' NPBI technology works to safely clean the air inside commercial and residential buildings. The patented technology uses an electronic charge to create a plasma field filled with a high concentration of + and - ions. As these ions travel with the air stream they attach to particles, pathogens and gases. The ions help to agglomerate fine sub-micron particles, making them filterable. The ions kill pathogens by robbing them of life-sustaining hydrogen. The ions breakdown harmful VOCs with an Electron Volt Potential under twelve (eV<12) into harmless compounds like O₂, CO₂, N₂, and H₂O. The ions produced travel within the air stream into the occupied spaces, cleaning the air everywhere the ions travel, even in spaces unseen.

NOTABLE CLIENTS:

The White House
UAE Presidential Palace
Google
Amelia Arena

Clemson University
Harvard University

Charlotte Airport
WeWork

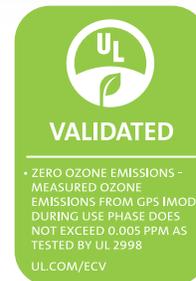
Boston Children's Hospital
Mayo Clinic
Houston Memorial Hospital
Baylor UMC

80% of the top 100
performing K-12 schools in
Georgia, including the top 10

54

PATENTS
27 GRANTED
27 PENDING

150K+ SATISFIED CUSTOMERS



INDEPENDENT 3RD PARTY TESTING



Engineering Air for a Cleaner World™

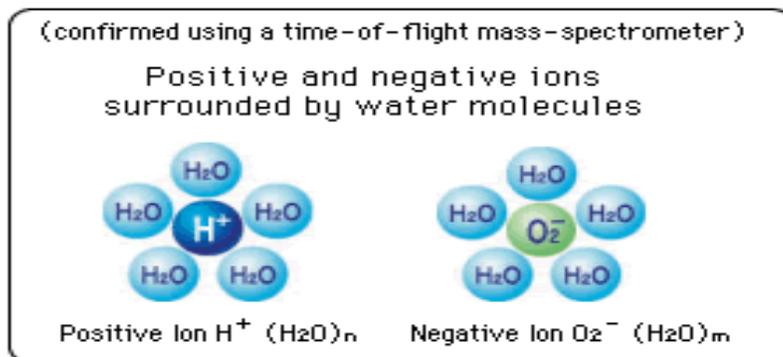
Global Plasma Solutions
www.GlobalPlasmaSolutions.com

Global Plasma Solutions

What does Plasma Kill?

Global Plasma Solutions' bi-polar ionization generator creates cold plasma discharge that consists of positive ions (H^+) and negative ions (O_2^-) from water vapor in the air. These ions have the property of clustering around microparticles and gases, and thus, they surround harmful substances such as airborne mold, virus, bacteria, volatile organic compounds and allergens. At that point, a chemical reaction occurs on the cell membrane surface and they are transformed into OH radicals, a powerfully active but unstable material, which robs the harmful substance of a hydrogen atom (H). As a result, they are inactivated by severing the protein on the cell membrane, opening holes. The OH radicals instantly bond with the removed hydrogen (H), forming water vapor (H_2O), and return to the air.

- 1) The GPS generator creates bi-polar ionization (cold plasma), replicating the same positive and negative ions found abundantly nature, for example, in woods and forests. Ions are found in the highest concentrations where the ocean meets the shore and high elevation in the mountains. GPS' plasma process will artificially create the ions found in these desirable locations and supply them into the building, enhancing the indoor air quality. The ions turn into OH radicals only on the surface of harmful substances to inactivate them, so they are completely harmless to the human body and pets.
- 2) GPS plasma will effectively eliminate bacteria, virus, mold and volatile organic compounds by working directly on the air contained in the entire zone and duct.
- 3) The plasma process consumes a miniscule amount of electricity, less than a 5 watt light bulb, in most applications.



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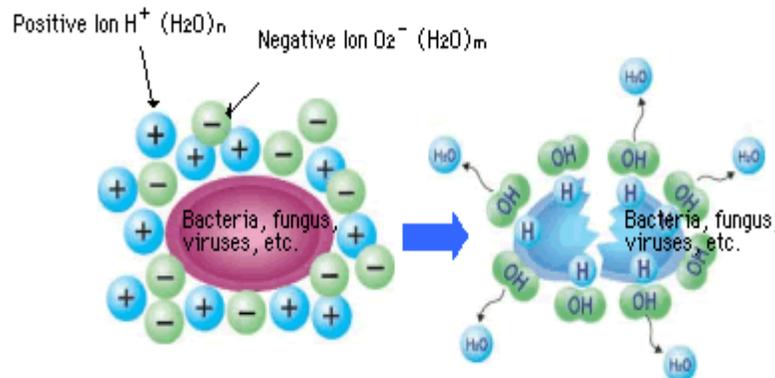
Various Pathogens that Plasma Kills

Target Substance	Species	Testing & Verification Organization	Date of Announcement
Fungi	Cladosporium (black mold, mildew)	Ishikawa Health Service Association	September 2000
		Universitätsklinikums Lübeck University Clinic (Germany) (proliferation control effect)	February 2002
		CT&T (Professor Gerhard Artmann, Aachen University of Applied Sciences)	November 2004
	Penicillium, Aspergillus	Universitätsklinikums Lübeck University Clinic (Germany) (proliferation control effect)	February 2002
		CT&T (Professor Gerhard Artmann, Aachen University of Applied Sciences)	November 2004
	Aspergillus, Penicillium (two species), Stachybotrys, Alternaria, Mucorales	CT&T (Professor Gerhard Artmann, Aachen University of Applied Sciences)	November 2004
	Bacteria	Coliform bacteria (<i>E. coli</i>)	Ishikawa Health Service Association
<i>E. coli</i> , <i>Staphylococcus aureus</i> , <i>Candida</i>		Shanghai Municipal Center for Disease Control and Prevention, China	October 2001
Bacillus subtilis		Kitasato Research Center of Environmental Sciences	September 2002
		CT&T (Professor Gerhard Artmann, Aachen University of Applied Sciences)	November 2004
MRSA (methicillin-resistant <i>Staphylococcus aureus</i>)		Kitasato Research Center of Environmental Sciences	September 2002
		Kitasato Institute Medical Center Hospital	February 2004
Pseudomonas, Enterococcus, Staphylococcus		Universitätsklinikums Lübeck University Clinic (Germany)	February 2002
Enterococcus, Staphylococcus, Sarcina, Micrococcus	CT&T (Professor Gerhard Artmann, Aachen University of Applied Sciences)	November 2004	

Allergens	Mite allergen (dust from dead mite bodies and feces), pollen	Graduate School of Advanced Sciences of Matter, Hiroshima University	September 2003
	Airborne allergens	Asthma Society of Canada	April 2004
Viruses	H1N1 influenza virus (Swine Flu)	Kitasato Research Center of Environmental Sciences	September 2002
		Seoul University, Korea	September 2003
		Shanghai Municipal Center for Disease Control and Prevention, China	December 2003
		Kitasato Institute Medical Center Hospital	February 2004
	H5N1 avian influenza virus	Retroscreen Virology, Ltd, London, U.K.	May 2005
	Coxsackie virus (summer colds)	Kitasato Research Center of Environmental Sciences	September 2002
	Polio virus	Kitasato Research Center of Environmental Sciences	September 2002
	Corona virus	Kitasato Institute Medical Center Hospital	July 2004

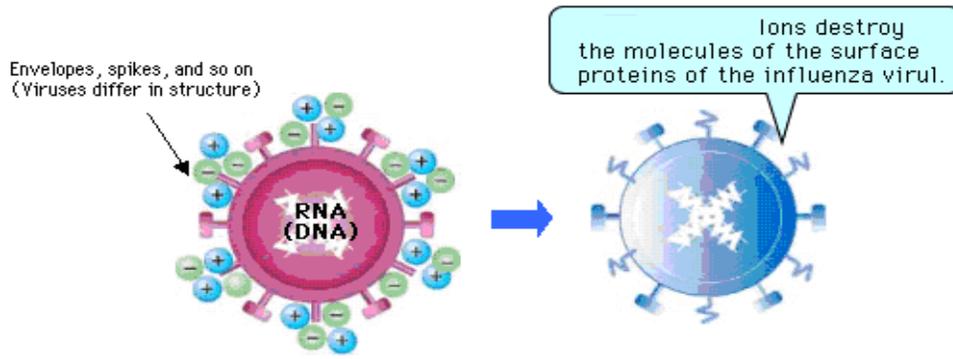
Mechanism of Plasma for Inactivating Airborne Fungi

The positive (H^+) and negative (O_2^-) ions cluster together on the surface of airborne fungi, causing a chemical reaction that results in the creation of highly reactive OH groups called hydroxyl radicals ($\bullet OH$). The hydroxyl radical will take a hydrogen molecule from the cell wall of an airborne fungi particle. This process inhibits mold infestation as well as controls musty and household odors (caused in large part by mold fungi) as they occur.



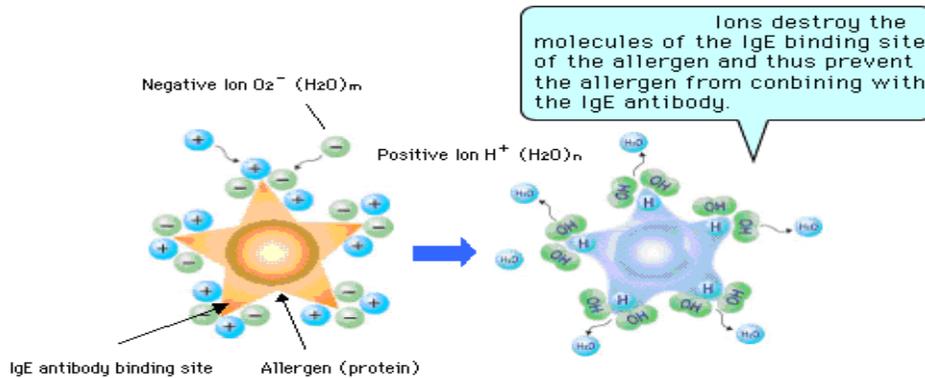
Mechanism of Plasma for Inactivating Airborne Virus

The positive (H^+) and negative (O_2^-) ions surround the hemagglutinin (surface proteins that form on organisms and trigger infections) and change into highly reactive OH groups called hydroxyl radicals ($\bullet OH$). These groups take a hydrogen molecule from the hemagglutinin and change it into water (H_2O). The ions destroy the virus surface structure, for example its envelopes and spikes, on a molecular level. As a result, the virus cannot infect even if it enters the body.



Mechanism of Plasma for Deactivating Airborne Allergens

The positive (H^+) and negative (O_2^-) ions surround the airborne allergen and change into highly reactive hydroxyl radicals ($\bullet OH$). The hydroxyls then deactivate the molecules of the IgE antibody binding site of the allergen. No allergic symptoms occur even if allergens enter the body.



GPS' plasma is a technology with many benefits. Plasma can kill many airborne pathogens, not just at the source of the plasma, but also in the zone where the heated or cooled air is being supplied. Ultraviolet light cannot kill pathogens outside of the blue light produced by the ultraviolet light tube, so the killing of ultraviolet light is limited to the effectiveness of the ventilation system to get the pathogen back to the air handler for control.

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Fax: 912-964-1844

Control of Gases and Odors with Plasma

While plasma is very effective at pathogen killing, it is also effective at controlling gases, odors and volatile organic compounds (VOC's). Just as the plasma surrounds pathogens and deactivates them, the plasma also surrounds gas molecules. As the gas molecules are attacked by the plasma, the molecular bond of the gas molecule is broken down, just as glue is broken down by contact with paint thinner, and the gas reverts back to its natural state. What the gas molecule starts out will depend on what it breaks down to. Using ammonia (NH₃) as an example, ammonia breaks down to oxygen, nitrogen and water vapor when subjected to a plasma field of sufficient strength. Ammonia is an odorous chemical produced by occupants as well as cigarette smoke and some building materials.

When installed in a central HVAC system, zone odors are controlled such as ammonia, formaldehyde, cooking odors, bathroom odors, musty & mildew odors as well as other odors produced by the occupants and building furnishings and processes. The gases produced by the building materials are broken down to harmless gases already prevalent in the earth's atmosphere such as oxygen, nitrogen, water vapor or carbon dioxide. Contact Global Plasma Solutions to learn more today!



Global Plasma Solutions
714 Mall Blvd
Savannah, GA 31406
Phone: 912-964-8541
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Email: info@globalplasma.com
www.globalplasma.com

- D. 2020-2021 School Year Updates
- E. 2020-2021 Sub Pay

8/17/20

Request to increase Substitute Pay effective 9/1/2020 to close to the highest amounts per 14 area schools surveyed for the 2019-20 school year.

Teacher Substitute \$125 per day - \$5.00 increase per day

Aide Substitute \$15 per hour - \$.50 increase per hour

- F. Construction Manager Interview Update
- G. Special Board Meeting - August 25th at 7:15 p.m.
- H. Resignations

March 2020

Beth Kirch, Cook gave her verbal resignation to Rebecca Derke (Taher Food Service Manager) effective at the end of the 2019-20 school year.

I. New Hires

**New Hire Board Approval
08/17/2020**

Name: Jeanne Devine
Position: Occupational Therapist
Percentage of employment: varies
Term of employment: Temporary position for 2020-21 School Year
Pay rate: \$38.00 per hour for services provided

**New Hire Board Approval
08/17/2020**

Name: Karen White – Elementary School
Wade Torgeson – High School

Position / Term: Long Term Sub Positions for 2020-21 School Year on days when school is physically in session.

Pay rate: \$231.58 per day (Long term sub rate)

VII. FUTURE AGENDA ITEMS

VIII. FUTURE SCHOOL BOARD AND COMMITTEE MEETINGS

A. September 14, 2020 - Discussion & Regular Board Meeting

IX. ADJOURN

PURSUANT TO APPLICABLE LAW, NOTICE IS HEREBY GIVEN THAT A QUORUM OR A MAJORITY OF THE NEW GLARUS SCHOOL DISTRICT BOARD MEMBERS MAY ATTEND THIS MEETING. INFORMATION PRESENTED AT THIS MEETING MAY HELP FORM THE RATIONALE BEHIND FUTURE ACTIONS THAT MY BE TAKEN BY THE NEW GLARUS SCHOOL DISTRICT BOARD.

UPON REQUEST TO THE DISTRICT OFFICE, SUBMITTED TWENTY-FOUR (24) HOURS IN ADVANCE, THE DISTRICT SHALL MAKE REASONABLE ACCOMODATIONS INCLUDING THE PROVISION OF INFORMATIONAL MATERIAL IN AN ALTERNATIVE FORMAT FOR A DISABLED PERSON TO BE ABLE TO ATTEND THIS MEETING.