UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, DC 20460

OFFICE OF CHEMICAL SAFETY
AND POLLUTION PREVENTION

February 20, 2019

Abigail T. D. Wacek
Regulatory Consultant
TSG
1150 18th Street, NW Suite 1000
Washington, DC 20036

Subject: Label Amendment – Updating Master Label
Product Name: BluOX 17
EPA Registration Number: 92013-4
Application Date: 12/13/2017
Decision Number: 537716

Dear Ms. Wacek:

The amended label referred to above, submitted in connection with registration under the Federal Insecticide, Fungicide and Rodenticide Act, as amended, is acceptable. This approval does not affect any conditions that were previously imposed on this registration. You continue to be subject to existing conditions on your registration and any deadlines connected with them.

A stamped copy of your labeling is enclosed for your records. This labeling supersedes all previously accepted labeling. You must submit one copy of the final printed labeling before you release the product for shipment with the new labeling. In accordance with 40 CFR 152.130(c), you may distribute or sell this product under the previously approved labeling for 18 months from the date of this letter. After 18 months, you may only distribute or sell this product if it bears this new revised labeling or subsequently approved labeling. "To distribute or sell" is defined under FIFRA section 2(gg) and its implementing regulation at 40 CFR 152.3.

Should you wish to add/retain a reference to the company's website on your label, then please be aware that the website becomes labeling under the Federal Insecticide Fungicide and Rodenticide Act and is subject to review by the Agency. If the website is false or misleading, the product would be misbranded and unlawful to sell or distribute under FIFRA section 12(a)(1)(E). 40 CFR 156.10(a)(5) list examples of statements EPA may consider false or misleading. In addition, regardless of whether a website is referenced on your product's label, claims made on the website may not substantially differ from those claims approved through the registration process. Therefore, should the Agency find or if it is brought to our attention that a website contains false or misleading statements or claims substantially differing from the EPA approved registration, the website will be referred to the EPA's Office of Enforcement and Compliance.

Your release for shipment of the product constitutes acceptance of these conditions. If these conditions are not complied with, the registration will be subject to cancellation in accordance with FIFRA section 6. If you have any questions, please contact Terria Northern by phone at 703-347-0265, or via email at northern.terria@epa.gov.

Sincerely,

Zeno Bain, Product Manager 33
Regulatory Management Branch I
Antimicrobials Division (7510P)
Office of Pesticide Programs

Enclosure: Approved label

{Note to reviewer: Language in [brackets] is optional.}

ACCEPTED
Feb 20, 2019
Under the Federal Insecticide, Fungicide and Rodenticide Act as amended, for the pesticide registered under EPA Reg. No. 92013-4

Clean Chemistry
BluOx 17

This precursor chemical solution is for the use in the BluOx™ Generator.

FOR INDUSTRIAL USE ONLY

KEEP OUT OF REACH OF CHILDREN

DANGER

EPA Registration Number: 92013-4
EPA Establishment Number: XXXXX-XX-XX
Net Contents:

Active Ingredient:
Hydrogen Peroxide:..... 17.5%
OTHER INGREDIENTS: 82.5%
TOTAL:.....100.0%

FIRST AID	
If in EYES:	• Hold eye open and flush with a directed stream of water for 15-20 minutes. • Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eyes. • Call a poison control center or doctor for treatment advice.
If on SKIN or CLOTHING:	• Take off contaminated clothing. • Rinse skin immediately with plenty of water for 15-20 minutes. • Call a poison control center or doctor for treatment advice.
If INHALED:	• Move person to fresh air. • If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth, if possible. • Call a poison control center or doctor for treatment advice.
If SWALLOWED:	• Call a poison control center or doctor immediately for treatment advice. • Have person sip a glass of water if able to swallow. • Do not induce vomiting unless told to do so by a poison control center or doctor. • Do not give anything by mouth to an unconscious person.
Have the product container or label with you when calling a poison control center or doctor, or going for treatment.	
NOTE TO PHYSICIAN: Probable mucosal damage may contraindicate the use of gastric lavage.	

Clean Chemistry
5541 Central Avenue, Ste 110
Boulder, Colorado 80301 USA
Telephone Number: 303-440-8329 x110 (M-F 8:00 am-5:00 pm Mountain)
Within USA and Canada: 1-800-424-9300 CCN794490 or +1 703-527-3887 (collect calls accepted)

{Note to reviewer: Language in [brackets] is optional.}

PRECAUTIONARY STATEMENTS:
HAZARDS TO HUMANS AND DOMESTIC ANIMALS
DANGER. CORROSIVE. STRONG OXIDIZING AGENT. Causes irreversible eye damage and skin burns. May be fatal if inhaled or absorbed through skin. Harmful if swallowed. Do not breathe vapors or spray mist. Do not get in eyes, on skin, or on clothing. Wear goggles or face shield, coveralls worn over long-sleeved shirt and long pants, socks, chemical-resistant footwear, and chemical-resistant gloves. When mixing and loading wear a chemical-resistant apron. Wear a NIOSH-approved respirator with an organic vapor (OV) cartridge with a combination N, R, or P filter with NIOSH approval number prefix TC-84A; or NIOSH approved gas mask with an organic vapor canister with NIOSH approval number prefix TC-14G; or a NIOSH approved powered air purifying respirator with organic vapor (OV) cartridge and combination HE filter with NIOSH approval number prefix TC-23C. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco or using the toilet. Remove contaminated clothing and wash before reuse. Do not enter an enclosed area without proper respiratory protection or when uncoupling product transfer hoses.

PHYSICAL AND CHEMICAL HAZARDS:
Strong oxidizing agent. Corrosive. Contact with combustibles may cause fire. Contamination may cause rapid decomposition, generation of large quantities of oxygen and heat.

ENVIRONMENTAL HAZARDS:
This pesticide is toxic to fish and aquatic invertebrates. Do not discharge effluent containing this product into lakes, streams, ponds, estuaries, oceans or public waters unless in accordance with the requirements of a National Pollutant Discharge Elimination System (NPDES) permit, and the permitting authority has been notified in writing prior to discharge. Do not discharge effluent containing this product to sewer systems without previously notifying the local sewage treatment plant authority. For guidance contact your State Water Board or Regional Office of the EPA.

STORAGE AND DISPOSAL:
DO NOT CONTAMINATE WATER, FOOD, OR FEED BY STORAGE OR DISPOSAL
Pesticide Storage: Product should be stored in original container. Product should be kept cool and vented to avoid any explosion hazard. Avoid all contaminants, especially dirt, caustic, reducing agents and metals. Contamination and impurities will reduce shelf life and can induce decomposition.
Pesticide Disposal: Pesticide wastes are acutely hazardous. Improper disposal of excess pesticide spray mixture or rinsate is a violation of Federal Law. If these wastes cannot be disposed of by use according to the label instructions, contact your State Pesticide or Environmental Control Agency or the Hazardous Waste Representative of nearest EPA Regional Office for guidance.
Container Disposal: Nonrefillable container. Do not reuse or refill this container. Triple Rinse as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container ¼ full with water. Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip it back and forth several times. Turn the container over onto its other end and tip it back and forth several times. Empty the rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Repeat this procedure two more times. Offer for recycling, if available, or reconditioning, or puncture and dispose of in sanitary landfill or by other procedures approved by state and local authorities.

{Note to reviewer: Language in [brackets] is optional.}

DIRECTIONS FOR USE:

It is a violation of Federal law to use this product in a manner inconsistent with its labeling.

General instructions for using BluOx 17 with the BluOx™ Generator to produce PeroxyMax™ IBS.

Refer to BluOx Generator for General Operating Instructions. To produce 1 part solution, feed 0.12 parts by volume **BluOx 17** (17.5% wt/wt hydrogen peroxide) into the BluOx™ Generator. The PeroxyMax™ IBS solution is drawn from the BluOx™ generator and delivered to the point of use by a metering pump controlled to deliver PeroxyMax™ IBS at the recommended use rate.

PeroxyMax™ IBS
PeroxyMax™ IBS is used for control of slime forming bacteria, anaerobic sulfate reducing bacteria, aerobic acid producing bacteria, fungi and algae which cause reduced performance of drilling muds and hydraulic fracturing fluids, cause reservoir souring, decrease well productivity, promote metal corrosion, produce sulfide deposits, reduce heat exchanger efficiency, reduce pulp and paper quality, foul and clog filters, clog pipes and generate odors.

Feed rates for PeroxyMax™ IBS are determined by the operator to achieve the desired level of active oxidant in the process stream. As described below, the appropriate feed rate will depend on the severity of contamination, the degree of microbial control desired, the size of the system and residual necessary for effective control. PeroxyMax™ IBS is added to a fluid with adequate mixing to promote uniform distribution in the fluid, which includes a pipe, in-line mixing apparatus, mixed tank, blending unit, circulated sump, recirculating water system and inlet or outlet of a pump.

Drilling Muds, Fracturing System Fluids, Well Squeeze Fluids[*]
For the preservation of drilling muds, workover and completion fluids and other products susceptible to contamination, add 22 to 440 fluid ounces of PeroxyMax™ IBS per 1000 gallons of fluid as required (10 ppm to 200 ppm as sodium peracetate).

Flooding, Injection and Well Squeeze Fluids[*]
For microbial control in water flooding operations, add 22 to 220 fluid ounces of PeroxyMaxTM IBS per 1000 gallons of water (10 ppm to 100 ppm as sodium peracetate). Depending on the severity of the contamination and concentration of sulfides in flood water, the dose may be increased to 4410 fluid ounces per 1000 gallons of water (2000 ppm as sodium peracetate).
Injection wells associated with gas storage systems may be treated with a dose of up to 1100 fluid ounces of PeroxyMax™ IBS per 1000 gallons of water (500 ppm as sodium peracetate) when diluted in the formation water. Any additional top-up water should be treated as required.
For hydrostatic systems, apply a dose of 1100 to 6620 fluid ounces of PeroxyMax™ IBS per 1000 gallons of water (500 ppm to 3000 ppm as sodium peracetate) depending on the water quality, level of well contamination and duration of the shut-in.

Flowback Water and Produced Water[*]
For microbial control in flowback water from well completions, hydraulic fracturing and coil tube operations, add 44 to 350 fluid ounces of PeroxyMax™ IBS per 1000 gallons (20 ppm to 160 ppm as sodium peracetate).

For microbial control in produced water, apply a dose of 44 to 350 fluid ounces of PeroxyMaxTM

IBS per 1000 gallons (20 ppm to 160 ppm as sodium peracetate) as necessary to achieve the level of microbial control required. Depending on the severity of the contamination and concentration of sulfides, initial application may be dose may be added at up to 4410 fluid ounces of PeroxyMaxTM IBS per 1000 gallons of water (2000 ppm as sodium peracetate).

Pipeline, Tank and Hydrocarbon Separation System Maintenance[*]
For microbial and sulfide control in water-bottoms in crude, refined hydrocarbon storage tanks, piping, hydrocarbon separation systems (e.g., heater treater, gunbarrel) and transportation systems. Apply a dose of 44 to 350 fluid ounces of PeroxyMax™ IBS per 1000 gallons (20 ppm to 160 ppm as sodium peracetate) directly injected into the water-bottom, fluid-containing pipeline or added to the fluid phase (aqueous or hydrocarbon) entering a tank or separation system. Treatment may be applied daily, weekly or monthly for both storage and transportation systems as needed. Shock treatments of up to 4410 fluid ounces per 1000 gallons of fluid (2000 ppm as sodium peracetate) may be applied to treat heavily contaminated surfaces, containment and separation systems.
PeroxyMax™ IBS may be introduced into storage tanks, piping, hydrocarbon separation systems and transportation systems after dilution into a carrier fluid, which may be fresh water or salt water possessing minimal oxidant demand. The carrier fluid is prepared by adding 2210 to 4410 fluid ounces of PeroxyMax™ IBS per 1000 gallons of fresh water or salt water (1000 ppm to 2000 ppm as sodium peracetate) with mixing in a clean, compatible vessel such as polyethylene, stainless steel and poly-coated steel. Within 30 minutes of preparation the diluted solution is injected into a pipeline, separator or tank to displace existing fluids or to flood an empty pipe or tank. Hold times of greater than 30 minutes result in greater loss of assay. Treatment may be applied daily, weekly or monthly as needed.

Disposal Well and Filter Pre-treatment[*]
For microbial control in water prior to injection into a disposal well or prior to filtration in nonpotable water filtration systems. Apply a dose of 44 to 350 fluid ounces of PeroxyMax™ IBS per 1000 gallons (20 ppm to 160 ppm as sodium peracetate) as needed to achieve the level of microbial control required.

Non-Potable Water Use, Reuse and Recycling in Oilfield and Gas Field Operations[*]
For water reuse and recycling treatment operations, add 22 to 350 fluid ounces of PeroxyMax™ IBS per 1000 gallons (10 ppm to 160 ppm as sodium peracetate) and repeat until control is achieved. Subsequent treatment of the finished water may be continued on a weekly basis or as required to maintain microbial control.

Pulp and Paper Mill Systems[*]
For control of biofouling in the manufacture of paper and paperboard intended for non-food contact. Treat water at critical areas in the system where mixing of the product will be uniform such as beaters, furnish chest, white-water tank, save-all, and broke chest. Add 22 to 350 fluid ounces of PeroxyMax™ IBS per ton (dry basis) of pulp or paper produced at a rate that maintains a residual concentration that provides adequate microbial control. Depending on the severity of biofouling higher rates may be applied intermittently until microbial control is achieved and then reducing the rate to the lowest possible for maintaining control continuously. A typical residual concentration range is 10 to 50 ppm as sodium peracetate.

Recirculating and non-recirculating cooling water systems (cooling towers, evaporative condensers) [*]
For control of slime forming bacteria in recirculating cooling water systems. Severely fouled systems should be cleaned before adding PeroxyMax™ IBS. PeroxyMax™ IBS should not be mixed with reactive additives such as azides, triazines, amines, quaternary ammonium salts, metal salts or complexes, or any other chemicals that are readily oxidized by peroxides or catalyze peroxide decomposition. Other

materials should be added separately and compatibility testing with other materials is recommended if unknown.

For intermittent feed, add 22 to 220 fluid ounces of PeroxyMax™ IBS per 1000 gallons of water in the system (10 ppm to 100 ppm as sodium peracetate). Repeat on a daily basis, semi-daily basis until control is achieved. When microbial control is evident, add 22 to 110 fluid ounces of PeroxyMax™ IBS per 1000 gallons of water in the system (10 ppm to 50 ppm as sodium peracetate) on a daily basis, or as needed, to maintain control.

For continuous feed, add 11 to 44 fluid ounces of PeroxyMax™ IBS per 1000 gallons of water in the system (5 ppm to 20 ppm as sodium peracetate) on a daily basis, or as needed, to maintain control. The dose rate may be adjusted to compensate for losses due to elevated temperature, blowdown, evaporation and drift. Add 22 to 110 fluid ounces of PeroxyMax™ IBS per 1000 gallons of make-up water (10 ppm to 50 ppm as sodium peracetate).

Treatment of Agricultural or Irrigation Water Systems (sand filters, humidification systems, storage tanks, ponds, reservoirs, canals)[*]:
PeroxyMAX™IBS can be used for the control of sulfides, odor, slime and algae in water systems. Mix PeroxyMAX™ at a rate of 44.1 – 220.7 fluid ounces with 10,000 gallons of water to produce an 2 - 10 ppm solution of sodium peracetate. Depending on seasonal conditions, repeat this dose as necessary to maintain control. For prevention of algae, some systems may require continuous low-level dosing during warm sunny periods (2-5 ppm sodium peracetate).

Post-Harvest Applications[*]
PeroxyMAX™IBS may also be used to control the growth of spoilage and decay causing bacterial and fungal diseases on fruits and vegetables in post-harvest storage. Mix PeroxyMAX™IBS with water either batch-wise or continuously at a rate of 44.1 to 176.5 fl. oz. of PeroxyMAX™IBS solution to 1,000 gallons of water. This will provide 20 to 80 ppm of sodium peracetate . For post-harvest applications, fruits and vegetables can be sprayed or submerged in the resulting solution for a minimum contact time of 45 seconds, followed by adequate draining. Note: May cause bleaching of treated surfaces, test commodity if unsure

* Not for use in California

{Note to reviewer: Language in [brackets] is optional.}

BluOX™ Generator Operating Manual

Version 2.0
May 2017

Patented and Patents Pending
For patent list see
cleanchemi.com/patent

Copyright © 2017 Clean Chemistry, Inc.
All rights reserved. No part of this publication may be reproduced, stored in a retrieval system, or transmitted, by any means, electronic, mechanical, photocopying, recording, or otherwise, without written permission from Clean Chemistry, Inc.

Trademarks
All products and services herein are the trademarks, service marks, registered trademarks or registered service marks of their respective owners.

Limit of Liability
Clean Chemistry has made every effort to ensure that this manual as complete and as accurate as possible, but no warranty or fitness is implied. The information provided is on an "as is" basis. Clean Chemistry Inc. shall have neither liability nor responsibility to any person or entity with respect to any loss or damages arising from the information contained in this manual.

{Note to reviewer: Language in [brackets] is optional.}

TABLE OF CONTENTS

{Note to reviewer: Language in [brackets] is optional.}

I. SPECIFICATIONS

NOTICE

The BluOX™ Generator is a pesticide device to be used as directed with BluOX 17™ (EPA registration no. 92013-4) or BluOX 35™ (EPA registration no. 92013-5)

Output:

- 5.8% wt/vol PeroxyMax™ IBS (Industrial Biocide Solution)
- Factory Pre Set Limits up to 285 GPH (1080 LPH) solution output.

Operating Temperature: 10 to 40° C (50 to 104° F) with feed water temperature less than 35° C (95° F). Feed water chiller, heat trace and tank heaters are temperature control options.

Storage Temperature, System Drained: -10 to 60 °C (14 to 140° F)

Electrical Service: 120 VAC, 15 A, single phase

Electrical controller box: NEMA 3S or greater

Pumps: NEMA 4X (IP66)

Dry Weight: 900 lbs, approximate

Noise Level: < 50 dB(A)

Ventilation: ambient air exchange; not recommended for unventilated confined space use.

Recommended hose or pipe materials for BluOX feedstocks, inputs and PeroxyMAX™ IBS solution include reinforced or rigid vinyl (PVC), polypropylene, high density polyethylene, PTFE and 304/316 stainless steel.

User Interface: Touch screen, menu driven

External SCADA Control Interface: Dry contact, F/C

Telemetry and Remote Control/Monitoring:

- Cellular wireless network data plan.
- Remote control/monitoring touch screen interface (web-based) for wireless mobile device or networked PC/MAC.
- Local area networking capable via ethernet cable.
- E-mail and text messaging notifications for system alerts and alarms.

(Note: Remote access is unavailable when main power is off)

BluOX™ Generator Feedstocks:

BluOX 17™, 17.5% hydrogen peroxide solution (EPA registration no. 92013-4) or
BluOX 35™, 35% hydrogen peroxide solution (EPA registration no. 92013-5)

{Note to reviewer: Language in [brackets] is optional.}

End User-Provided Inputs:

- Water: municipal or potable water source, 0-80 psig.
- 20-25 wt% Sodium hydroxide, diaphragm grade (provided by end user)
- Triacetin, 99% food grade or reagent grade (provided by end user)

II. SAFETY

ATTENTION

- Observe all NOTICE statements contained within the operating instructions.
- Intended use:

  The BluOX™ Generator is a pesticide device which produces PeroxyMax™ IBS and dispenses this product solution into liquid fluid systems for microbial control in accordance with the directions for use in the BluOX 17™ or BluOX 35™ pesticide label instructions.
- The system may be operated and serviced only by trained personnel.
- Use only feedstock materials specified for use with the BluOX™ Generator.
- Use only OEM replacement components approved by Clean Chemistry.

NOTICE

- Place system on a level, stable surface to prevent movement during operation.
- Protect pump control screens and touch screen from direct sunlight and protect system from prolonged temperature extremes during operation.
- Operate system in a ventilated area.
- Operating temperature range is 10 to 40°C (50 to 104°F) with feedwater below 35°C (95°F). Otherwise, a climate controlled environment is recommended (50 to 95°F).
- Prior to storage and transport the system must be drained of feedstock and product fluids. Flushing system with clean/potable water before decommissioning is recommended.
- Storage and transport temperature of the system after draining fluids: -10 to 60°C (14 to 140°F)
- Humidity max. 98% relative, non-condensing when control panel box cover is open.

NOTICE

- **Electrical Hazard:** 120 VAC
- **Chemical Hazard:** corrosive, oxidizer

Recommended PPE when handling chemicals:

Wear goggles, face shield, rubber gloves and protective clothing with long sleeves.

{Note to reviewer: Language in [brackets] is optional.}

SYSTEM SAFETY FEATURES

- The BluOX™ Generator has an internal operating pressure near atmospheric pressure.
- Less than 1.5 gallons of PeroxyMax™ IBS solution concentrate are contained in the Generator at any time.
- The BluOX™ Generator is equipped with automatic shutdown interlocks and alarm notifications:
    - Emergency stop button (stops system, maintains power to control panel)
    - Over-pressure shutoff
    - Input water and feedstock flow sensors, loss of flow shutoff
    - Input and output pump failure sensors, loss of flow shutoff
    - Feedstock tank level sensors (optional) low alarms
    - Spill basin high level shutoff
    - Buffer tank level switch failure shutoff
    - Buffer tank high, high (overflow) level sensor and shutoff
    - Pressure relief valves (drain into spill basin)
    - Check valves on pump outlets (backflow prevention)
    - Internal PeroxyMax™ IBS production process monitor sensors
    - External water treatment process sensor feedback notifications, if installed

III. OVERVIEW

The BluOX™ Generator is a pesticide device which produces PeroxyMax™ IBS and dispenses this product solution into liquid fluid systems for microbial control in accordance with the directions for use in the BluOX 17™ or BluOX 35™ pesticide label instructions.

OPERATING PRINCIPAL

The BluOX™ Generator includes feedstock and input pumps, PeroxyMax™ IBS solution dispensing pumps, a PeroxyMax™ IBS production system, and a user interface integrated with a programmable logic controller (PLC). The system is automated for PeroxyMax™ IBS production and dose control.

Feedstocks are combined in a chemical mixing/reactor system and the resulting PeroxyMax™ IBS solution is temporarily stored in a reservoir or buffer tank. The output rate of PeroxyMax™ IBS solution dosed into a process stream from the reservoir is set by the user to a fixed rate or controlled by an external flow meter or sensor at a rate proportional to the external flow meter or sensor signal. Recommended use rates of PeroxyMax™ IBS are provided in the BluOX 17™ and BluOX 35™ pesticide label instructions.

{Note to reviewer: Language in [brackets] is optional.}

IV. SYSTEM INSTALLATION

The BluOX™ Generator will be installed and tuned to a pre-set production rate range by trained personnel only.

The PeroxyMax™ IBS solution injection rate into the process stream being treated will be optimized on site to account for site conditions including water quality, temperature, feedstock container elevations and distance between the BluOX™ Generator and PeroxyMax™ IBS injection point.

The BluOX 17™ or BluOX 35™ feedstocks, water source, sodium hydroxide and triacetin inputs are transferred to the BluOX™ Generator using appropriately sized and rated hose or piping. Recommended materials are listed in Section I above. It is recommended that chemical feedstock transfer hoses or piping coupled to chemical containers be equipped with shutoff valves between the hose and chemical container connection.

- Connect the water source to the water input pump(s) or connect to input water pressure regulator if equipped.
- Connect the BluOX 17™ or BluOX 35™ feedstock container to the BluOX feedstock pump.
- Connect the sodium hydroxide container to the sodium hydroxide input pump.
- Connect the triacetin container to the triacetin input pump. Transfer lines will be primed during initial installation.
- Connect the PeroxyMax™ IBS solution dispensing hose or pipe to the injection point in the process in which it is being used. It is recommended that PeroxyMax™ IBS solution injection points be equipped with a check valve, a shutoff valve, be under negative pressure or have an air gap.

NOTICE: Bulk quantities of sodium hydroxide and BluOX 17™ and BluOX 35™ are incompatible. It is recommended to keep these materials segregated during storage and place containers on secondary containment during use.

V. USER INTERFACE

The BluOX™ Generator is equipped with a user interface for system operation, system settings and other features. The controller is also equipped with a password-protected manual operating mode for system servicing, commissioning and decommissioning by Clean Chemistry qualified operators.

Remote control and monitoring through wireless mobile devices or networked computers is provided through a cellular network wireless data plan. Password protected access is provided to

authorized operators when the system is commissioned. The controller may also be hard-wired to a computer or other user interface.

System alarm and event notifications can be sent automatically to email addresses or text message numbers entered in a Notifications setup menu.

Notification events include system shut down and error conditions which may include:

- loss of feed water, feedstock or input flows
- loss of dispensing pump flow
- feedstock chemical level "low" notification (optional)
- over-pressure alarm
- buffer tank level switch malfunction/failure
- secondary containment is full

VI. OPERATION

1. Confirm that liquid levels in water and feedstock containers are sufficient to operate system. Container levels must be manually monitored if optional tank level sensors are not installed.
2. Confirm that line power (120 VAC, 15 A, single phase) is connected to the power cord from the control panel box.
3. Turn on the main power switch.
4. Access the **Main Menu** in the user interface.
5. Press START in **Automatic Run Mode** for normal operation:

   Pumps will start automatically.
   a) During normal operation the feedstock and input pumps will periodically stop and restart to allow the PeroxyMAX™ IBS buffer tank to draw down.
   b) If there is an alarm/fault condition all pumps will stop and a fault condition will be displayed in the "System Status" indication box. The alarm/fault condition may be cleared by pressing the "Reset" button. After the cause of the alarm/fault has been resolved the system may be restarted.

6. **Oxidant production and dispensing can be STOPPED at any time by:**
   a) selecting "Stop" on the user interface,
   b) pushing the **emergency stop** button,
   c) disabling line power or main power to the system,
   d) closing the optional external SCADA contact on/off switch if installed and enabled.

   Note: methods b) and d) are alarm/fault conditions requiring the switch to be returned to the run position and the "Reset" button pushed before the system can be restarted.

{Note to reviewer: Language in [brackets] is optional.}

NOTICE: ANY PEROXYMAX IBS DISPENSING HOSE MUST BE DRAINED OR FLUSHED WITH WATER IF A HOSE SEGMENT IS ISOLATED BETWEEN VALVES ("DEAD LEG") WITHOUT A VENT OR PRESSURE RELIEF DEVICE OUTFITTED ON THAT DEAD LEG SECTION. The natural activity of the PeroxyMax™ IBS product releases oxygen gas which presents a pressure hazard if sealed in a hose or container.

NOTE: PeroxyMAX™ IBS Dispensing pumps are outfitted with pressure relief valves to vent the PeroxyMax™ IBS dispensing hose or pipe as necessary.

VII. BluOX™ GENERATOR SETTINGS

BluOX feedstock and input pumps are set to the specified relative feed rates to produce PeroxyMAX™ IBS using BluOX 17™ or BluOX 35™.

Nominal BluOX™ Generator pump speed settings are as follows:

BluOX 17 Input Pump Settings			
Pump	Low Range (mL/min)	Med. Range (mL/min)	Max. Range (mL/min)
Water	4200	9100	12600
NaOH	625	1350	1874
BluOX 17	700	1515	2100
Triacetin	490	1060	1470
Max Output	6015	13025	18044

BluOX 35 Input Pump Settings			
Pump	Low Range (mL/min)	Med. Range (mL/min)	Max. Range (mL/min)
Water	4540	9850	12780
NaOH	623	1353	1754
BluOX 35	350	760	985
Triacetin	490	1061	1375
Max Output	6003	13024	16894

{Note to reviewer: Language in [brackets] is optional.}

VIII. ROUTINE MAINTENANCE

Please contact Clean Chemistry for routine BluOX™ Generator maintenance instructions. Routine maintenance includes pump calibration, mixing system cleaning, and overall system configuration verification.

IX. STORAGE

If the BluOX™ Generator is expected to be idle for extended periods of time and be subjected to adverse conditions outside of the specified operating limits, draining the system of its fluids is recommended. Please contact Clean Chemistry for service or instructions and training.