STATE OF ILLINOIS
ENVIRONMENTAL PROTECTION AGENCY

IEPA EXHIBIT
No. 31

Permit Number: IL0000108
Reviewed By: Shu-Mei Tsai Date: Tuesday, October 6, 2015

30-Day Notice Review Notes:

The Agency received the comments from Dynegy dated September 30, 2015:

1. pH should be 6.0-9.0

   Response: The facility discharges to a stream segment with a 7Q10 flow of 0 cfs. The Standards determined that nothing in the regulations prohibits mixing in a lake but that mixing should not be granted for a toxic that can be easily controlled. See Jan 30, 2013 email from Brian Koch and Sept 25, 2014 email from Bob Mosher. Since the Agency must impose the more stringent of the WQS or effluent standard and the effluent standard for pH is 6.0 – 9.0 per 304.125 and the WQS for pH is 6.5 to 9.0 per 302.204, the 6.5 to 9.0 standard applies. This statement has been confirmed with Bob Mosher in email dated December 4, 2015.

2. Add the water intake structure (cribhouse) sumps as an intermittent, contributory flow to Outfall 001.

   Response:
   This contributory stream is not listed in the current permit. However, IPGC commented that the water intake structure (cribhouse) sumps have always been a part of the contributory flows in the plant. Therefore, added as requested.

3. Outfall 002 Contributory Flows
   - The flow rate of contributory flow #3, Coal Crusher House Sump Pit, was incorrectly depicted in Outfall 002. The flow is intermittent since the coal crusher house sumps do not discharge on a continuous basis, they only discharge as needed.

     Response: Changed as requested.

   - Contributory flow #10: the name has been changed from Fuel Unloading oil/water separator to Coal Unloading Sumps.

     Response: Changed as requested.

   - Contributory flow #13: the name has been changed from Warehouse/Maintenance Shop Oil/Water Separator to FGD Maintenance Building Floor Drains

     Response: Changed as requested.

4. Total Suspended Solids permitted limit for Outfall 002 has been a monthly average of 35.0 ppm and a daily maximum of 50.0 ppm based on 40 CFR 423.12(b)(3) for facilities that are designed, constructed, and operated to treat the volume of coal pile runoff.

   Response:
   Outfall 002 discharges consist of: Stormwater runoff from the coal yard and southwest plant yard area, Raw water treatment plant wastes, Coal crusher house sump pit discharge, Ash dewatering bin overflows, Tractor shed oil/water separator, Coal recovery pond effluent, Recycled pond level control, Ultrasonic resin cleaner backwash, Coal unloading septic system, Coal Unloading Sumps, Tripper room floor drains, Limestone runoff pond emergency overflow, and FGD Maintenance Building Floor Drains. It was 35.0/50.0 ppm in the current permit based on 40 CFR 423. However, these wastes meet the definition of low volume waste per 40 CFR 423.11(b) and are subject to the 30/100 TSS standards of 40 CFR 423.12(b)(3). The State standard for TSS is 15/30 per 304.124. Since the discharge must meet the more stringent of the State or Federal standards the TSS limits of 15/30 are correct and will remain. The Agency can't allow a compliance schedule since it is a technology based effluent limits for Total Suspended Solids.

5. Add non-chemical metal cleaning wastewater as an intermittent contributory flow (new #18) to Outfall 001. Alternatively add non-chemical metal cleaning as a contributory to the individual streams, #7 Raw water treatment and demineralizer regenerant waste, #9 Maintenance shop oil/water separator discharge, # 13 Unit 1 floor and equipment drains, and #14 Unit 2 floor and equipment drains.

   Response:
   This contributory stream is not listed in the current permit. However, IPGC commented that non-chemical metal cleaning waste waters have always been a part of the contributory flows in the plant. See the email from Jacquelyn Bush dated May 23, 2016. Therefore, added as requested.

6. Add non-chemical metal cleaning wastewater as an intermittent contributory flow to Outfall 002. Alternatively add non-chemical metal cleaning as a contributory to the individual streams, # 3 coal crusher house sump pit discharge, #10 Coal unloader sumps (renamed from Fuel unloading oil/water separator), #12 Tripper room floor drains, and #13 FGD maintenance building floor drains (renamed from Wastehouse/maintenance shop oil/water separator)

   Response:
   See the response to Comment #5

7. Add non-chemical metal cleaning wastewater as an intermittent contributory flow to Outfall C01 and E01. Alternatively add non-chemical metal cleaning as a contributory to the individual streams, #1 Unit 1 floor drains and sumps, and #2 Unit 2 floor drains and sumps.

   Response:
   See the response to Comment #5

8. Coffeen Power Station believes it has shown over the past 50 years assurance of the protection and propagation of the waterbody's balanced, indigenous population of shellfish fish and wildlife. There is no reason to believe fishery conditions would be expected to change as no changes in thermal limits are being requested.

   Response:
   While it is evident that a healthy sportfish assemblage has existed in Coffeen Lake for over the last 50 years, continued and expanded 316(a) Demonstration requirements are necessary in order for the Applicant to demonstrate that the recent increase in thermal loadings (approved by IPCB in 2010) are not adversely impacting the aquatic community of Coffeen Lake, as required by 35 Ill. Adm. Code 106.1180. Since receiving IPCB approval in 2010, an assessment of the post-2010 sportfish assemblage has only been conducted over two subsequent years. Other than fish kills or other acute, clearly observable impacts due to increased thermal loads, adverse effects from the increased thermal limits are not expected to become evident in such a short period of time. Population level changes resulting from increased thermal loadings, such as a shift to thermally tolerant organisms, altered recruitment of sportfish or forage fish, or changes in age/growth and body condition, would take several years to manifest themselves. Thus, continued monitoring of the fishery using the methods and study designs from the 2010-2012 studies is required on an annual basis in order to verify that population level changes in age/growth, condition, density, and mortality of RIS species are not occurring. Should the results of the annual studies suggest that the increased thermal loadings are not adversely affecting the aquatic community, the frequency of monitoring may be reduced in the next permit cycle.

   In regards to the inclusion of additional RIS species, it should be noted that the white crappie has historically been a RIS and it is merely recommended that this species be categorized as a thermally sensitive RIS, rather than a recreationally important RIS, and studied accordingly. Gizzard shad were in fact <u>not</u> studied in the 2010-2012 Eastern Illinois University Studies. The purported health of the gizzard shad population was drawn from loosely based conclusions regarding the health of upper trophic levels, as summarized in the June 20, 2014 ASA Analysis and Communication, Inc. document entitled "Lower Trophic Level Impacts of a Modified May and October Thermal Standard for Coffeen Lake". Inclusion of gizzard shad as a RIS is necessary given its status as a base trophic level and its integral role in the health of sportfish populations in Coffeen Lake.

Given that the Agency is requiring increased biological monitoring and an additional RIS, lengthening of the submission deadline to 6 months is warranted and should therefore be changed in Special Condition 4.

See email from Brian Koch dated October 9, 2015

9. Semi-Annual Monitoring
   - Outfalls 008 – 014 are representative of each other since they are all run along the same rail line. Only one outfall should be required to be sampled. Outfall 009 is safer and more accessible, and some of the other locations are located in wilderness areas with limited access.

     Response: While 008 – 014, 016, and 018 are along the same rail the sampling results may be different based on housekeeping and drainage areas thus sampling is necessary at each outfall to ensure compliance with effluent and the water quality standards.

   - Mercury data was generated for 008 and 002 with a max of 10.4 ng/l and 4.9 ng/l respectively. Storm events do not always occur at daylight hours therefore industries use auto samplers but they cannot be used for mercury monitoring. For these reasons mercury monitoring should be removed from 008 – 018.

     Response:
     The Standards Unit recommends reducing monitoring to annually but not removing the monitoring. See October 30, 2012 WQBEL from Bob Mosher.

   - The mercury data of Outfall 018 shows the results were well within effluent limits so further testing should not be required.

     Response:
     The Standards Unit recommends reducing monitoring to annually but not removing the monitoring. See October 30, 2012 WQBEL from Bob Mosher.

Action: Re-issue NPDES Permit

IEPA EXHIBIT
No. 32

Tsai, Shu-Mei

From: Koch, Brian
Sent: Friday, October 09, 2015 11:29 AM
To: Tsai, Shu-Mei
Cc: Twait, Scott; Mosher, Bob
Subject: RE: IL0000108 - Coffeen Station
Attachments: IL0000108 Coffeen Comment #8.pdf

Shu-Mei, my response to Comment #8 is provided below.

While it is evident that a healthy sportfish assemblage has existed in Coffeen Lake for over the last 50 years, continued and expanded 316(a) Demonstration requirements are necessary in order for the Applicant to demonstrate that the recent increase in thermal loadings (approved by IPCB in 2010) are not adversely impacting the aquatic community of Coffeen Lake, as required by 35 Ill. Adm. Code 106.1180. Since receiving IPCB approval in 2010, an assessment of the post-2010 sportfish assemblage has only been conducted over two subsequent years. Other than fish kills or other acute, clearly observable impacts due to increased thermal loads, adverse effects from the increased thermal limits are not expected to become evident in such a short period of time. Population level changes resulting from increased thermal loadings, such as a shift to thermally tolerant organisms, altered recruitment of sportfish or forage fish, or changes in age/growth and body condition, would take several years to manifest themselves. Thus, continued monitoring of the fishery using the methods and study designs from the 2010-2012 studies is required on an annual basis in order to verify that population level changes in age/growth, condition, density, and mortality of RIS species are not occurring. Should the results of the annual studies suggest that the increased thermal loadings are not adversely affecting the aquatic community, the frequency of monitoring may be reduced in the next permit cycle.

In regards to the inclusion of additional RIS species, it should be noted that the white crappie has historically been a RIS and it is merely recommended that this species be categorized as a thermally sensitive RIS, rather than a recreationally important RIS, and studied accordingly. Gizzard shad were in fact not studied in the 2010-2012 Eastern Illinois University Studies. The purported health of the gizzard shad population was drawn from loosely based conclusions regarding the health of upper trophic levels, as summarized in the June 20, 2014 ASA Analysis and Communication, Inc. document entitled "Lower Trophic Level Impacts of a Modified May and October Thermal Standard for Coffeen Lake". Inclusion of gizzard shad as a RIS is necessary given its status as a base trophic level and its integral role in the health of sportfish populations in Coffeen Lake.

Given that the Agency is requiring increased biological monitoring and an additional RIS, lengthening of the submission deadline to 6 months is warranted and should therefore be changed in Special Condition 4.

Brian Koch
Illinois Environmental Protection Agency
Bureau of Water, Water Quality Standards

Office: 217.785.4116
Fax: 217.782.5549

From: Tsai, Shu-Mei
Sent: Thursday, October 08, 2015 11:51 AM
To: Koch, Brian
Subject: RE: IL0000108 - Coffeen Station

Please see the attachement

From: Koch, Brian
Sent: Thursday, October 08, 2015 11:45 AM
To: Tsai, Shu-Mei
Subject: RE: IL0000108 - Coffeen Station

Please send me the draft permit and public notice.

From: Tsai, Shu-Mei
Sent: Thursday, October 08, 2015 10:48 AM
To: Koch, Brian
Subject: IL0000108 - Coffeen Station

Brain:

Please help to answer Comment #8. Thanks

Shu-Mei Tsai,
Environmental Protection Engineer, Industrial Unit
Permit Section
Division of Water Pollution Control
Illinois Environmental Protection Agency

ph: 217-782-0610
fax: 217-782-9891
Shu-Mei.Tsai@Illinois.gov

a. Non-chemical metal cleaning waste water

...

10. Coal unloader sumps (renamed from Fuel unloading oil/water separator)
    a. Non-chemical metal cleaning waste water

...

12. Tripper room floor drains
    a. Non-chemical metal cleaning waste water

...

13. FGD maintenance bldg. floor drains (renamed from Warehouse/maintenance shop oil/water separator)
    a. Non-chemical metal cleaning waste water"

(7) Public Notice/Draft Permit (page 5); Outfalls C01 and E01 Contributory flow

Non-chemical metal cleaning wastewater has always been part of the Unit 1 and Unit 2 floor drains and sumps.

Therefore, please add non-chemical metal cleaning wastewater as an intermittent contributory flow to Outfall C01 and E01. Alternatively, please add non-chemical metal cleaning as a contributory flow to the Unit 1 and Unit 2 floor drains and sumps, as follows:

"This discharge consists of:

1. Unit 1 floor drains and sumps
   a. Non-chemical metal cleaning waste water
2. Unit 2 floor drains and sumps
   a. Non-chemical metal cleaning waste water"

(8) Public Notice/Draft Permit (page 13); Special Conditions 4.E and 4.F Sportfish Population Study

- Over the 50 years that the Coffeen Lake has been in existence and the Coffeen Power Station has been in operation, numerous studies have shown that there has always been a sportfish population with lower trophic levels abundant in the lake. As stated in the Public Notice/Fact Sheet, page 7, the relevant 2014 study "concluded that recruitment of recent year classes of predatory species have indicated successful reproduction and survival, and rapid growth rates have been maintained, implying that the lower trophic levels in Coffeen Lake have continued to supply an ample food base for top predators." However, Special Condition 4.E would require continuing the annual study of Coffeen Lake and expanding the studies to include fish from additional Representative Important Species (RIS) categories, including a thermally sensitive species, such as white crappie, and a species necessary in the food chain, such as a gizzard shad. Both of these species were monitored in the 2010-2012 Eastern Illinois University studies referenced on pages 6 and 7 in the Public Notice/Fact Sheet.

  The March 18, 2010 Illinois Pollution Control Board order no. 2009-038, states, "..... the Coffeen Lake artificial cooling lake receiving the heated effluent from Coffeen Power Station will be environmentally acceptable and within the intent of the Act, including: (A) provision of conditions capable of supporting shellfish, fish and wildlife, and recreational uses consistent with good management practices; and (B) control of the thermal component of the discharger's effluent by a technologically feasible and economically reasonable method. 35 Ill. Adm. Code 106.202(b)(1), 302.211(j)(3)."

  Coffeen Power Station believes it has shown over the past fifty (50) years assurance of the protection and propagation of the waterbody's balanced, indigenous population of shellfish, fish and wildlife. There is no reason to believe fishery conditions would be expected to change as no changes in thermal limits are being requested.

Coffeen Power Station requests the expanded RIS scope discussed in Special Condition 4.E and the annual sportfish population study be removed as they are unnecessary and unreasonable.

- If the 316(a) Demonstration study requirements remain, the submission deadline is only 60 days. This is not enough time, since this is usually performed by a contract company. The list below denotes the process required before a final document is obtained:
  - a request for quote generated and sent to contractors,
  - once quote is accepted, purchase orders must be obtained,
  - time for the contract company to write the plan,
  - review of the plan between both parties.

  Please change the submission deadline for the revised 316(a) Demonstration plan to 6 months.

(9) Public Notice/Draft Permit (page 15); Special Condition 15 – Semi-Annual Monitoring

- Outfalls 008 – 014 (Storm water runoff from Rail Spur): These storm water outfalls are representative of each other since they all are discharge along the same rail line. Outfalls 010-014 are located in a remote, wooded area away from the plant. Per the USEPA Industrial Stormwater Monitoring and Sampling Guide (EPA 832-B-09-003), a permittee may sample at a single location that is representative of all "substantially identical" outfalls at the facility, provided the permittee documents :
  - The locations of the outfalls;
  - Estimated size of the drainage area (in square feet) for each outfall;
  - General industrial activities conducted in the drainage area of each outfall;
  - Control measures being implemented in the drainage area of each outfall;
  - Why the outfalls are expected to discharge similar stormwater; and
  - An estimate of the runoff coefficient of the drainage areas (0.0 no runoff potential to 1.0 all precipitation runs off).

  Please see Attachment 2 for documentation of this information.

  Given the substantially identical nature of these rail spur runoff outfalls and the remote location of these outfalls (which significantly increases sampling issues and burdens), we request that only one of the storm water outfalls 008-014 (specifically, Outfall 009) be sampled and tested semi-annually for the parameters listed in Special Condition 15. Outfall 009 is a safer and more accessible sampling location (some of these sample locations are located in heavily wooded areas with limited access requiring major undertaking to collect a sample during storms) than the other of these substantially identical outfalls.

- For the storm water outfalls (008-018; rail spur and landfill):

  Coffeen Power Station performed quarterly low level mercury monitoring required by Special Condition No. 20 in the expired permit from March 2008 to October 2014. There are also historical results from Outfall 008. These results are tabulated in Attachment 3.

  Mercury concentrations at Outfall 002 ranged from 1.1 ng/L to 10.4 ng/L and averaged 4.2 ng/L, Outfall 008 ranged from 0.5 ng/L to 4.9 ng/L and averaged 2.0 and Outfall 018 ranged from 0.7 ng/L to 7.7 ng/L and averaged 1.8. Based upon these results, relief was requested from this monitoring requirement and granted by the Agency.

  A storm event does not always occur during daylight hours as required for visual observations in Special Condition 16 H for outfalls 008-014, plus these storm water discharge/outfall locations are not safe to access at night since lighting is not available. If a storm does occur in the daylight hours, most likely it will not meet all the requirements for a storm event to perform visual observations or sample collection (see Attachment 1 for storm event information).

SMT

Illinois Power Generating Company
Water and Waste Permitting/Environmental Compliance
1500 Eastport Plaza Drive
Collinsville, IL 62234

IEPA EXHIBIT
No. 33

DYNEGY

November 23, 2015

Mr. Darin LeCrone, P.E.
Manager, Industrial Unit
Bureau of Water
Illinois Environmental Protection Agency
1021 North Grand Avenue, East
Springfield, IL 62794-9276

Re: Coffeen Power Plant
NPDES Permit IL0000108, Outfall B01
Request for Authorization to inject Memclean C into Water Treatment's Micro-Filtration Units

In accordance with the Agency's Water Treatment Additives Policy, the Illinois Power Generating Company (IPGC) is requesting authorization to inject Memclean C during the approved acid cleaning of the Continuous Micro-Filtration units (CMF) which are owned and operated by Equova Water Technologies to supply water for the Coffeen Power Stations boiler. The Memclean C will mitigate fouling of the CMFs by adding it to the cleaning chemical process.

Additional information regarding injection dosages, frequencies, durations, degradation, and estimated effluent concentrations of the degradation products can be found in Table 1: Injection of Memclean C during acid cleaning of CMF. Residual concentrations of the active ingredients in Memclean C may be present in the condenser cooling water flume discharge at a concentrations listed in Table 2.

A flow diagram (attachment 1) is also enclosed which diagrammatically shows the addition of the chemical to the reverse osmosis system.

As part of this request, IPGC is also submitting herein information on the Memclean C. The Evoqua request to inject Memclean C with details of the proposed treatment program is included in attachment 2, and the Memclean C MSDS can be found in attachment 3. This information is being submitted in accordance with the formatting suggested by the aforementioned Agency policy.

If you should have any questions regarding the enclosed information, please contact me at 618-343-7761.

Sincerely,
Illinois Power Generating Company

Rick Diericx
Managing Director – Environmental Compliance

Enclosures

Table 1: Injection of Memclean C during acid cleaning of Continuous Membrane Filters (CMF)

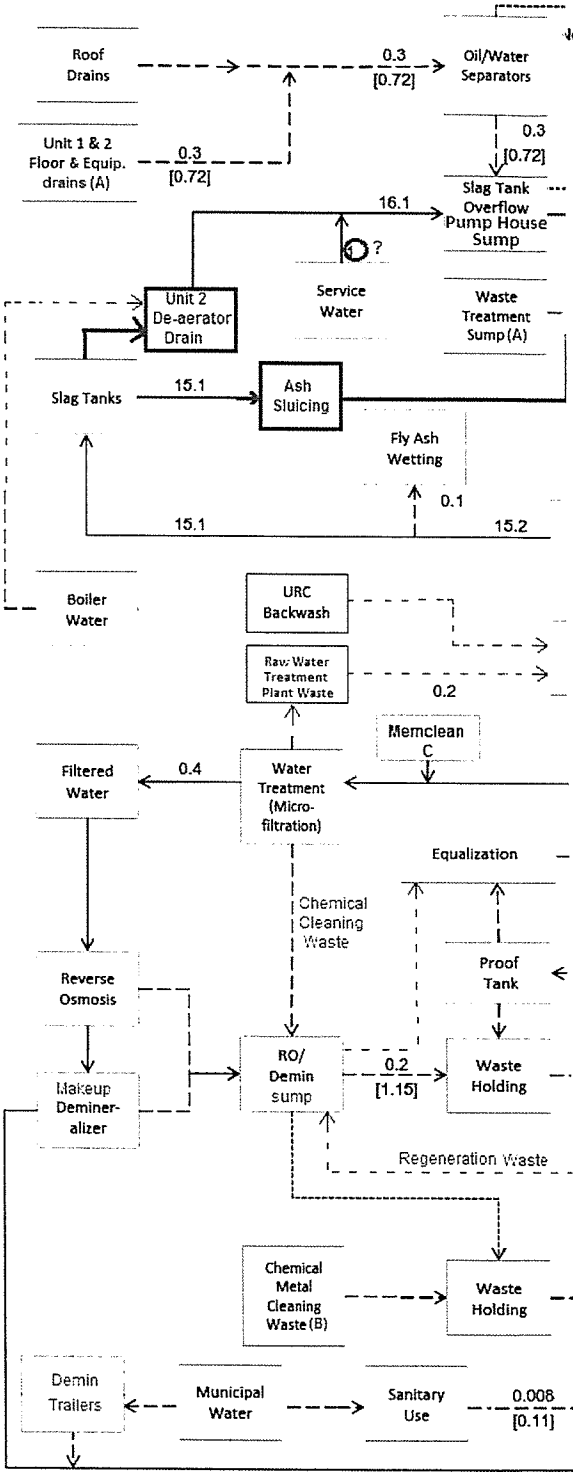
Parameters	Feed Method
Additive	Memclean C (a surfactant)
Function	Fouling control
Frequency	1 treatment cycle every six months. The treatment of 4 CMFs is a treatment cycle.
Duration	Draining each unit takes approx. 10 min, so a total of 40 mins of discharge
Dose	0.5% of total product (see table below for % of chemical constituents)
Volume Applied to	1 gallon per 190 gallons cleaning solution and displacement water in CMFs (citric acid solution previously approved)
Fate (Neutralization, Degradation, and/or Internal Dilution Prior to Outfall)	The spent cleaning solution with Memclean C goes to outfall B01 which combines with the circulating water flow for a combined daily flow of 500-600 MGD (550 used in calculations below). Some Memclean C will be consumed/broken down during the cleaning.
Outfall Discharge	B01
Estimated Effluent Concentration	See table 2 below

Table 2: Chemical Concentrations in Effluent

Chemical Name	% by Weight	Maximum effluent concentration before circulation flow*	Maximum effluent concentration after circulation flow before Lake*
Water	70-83	NA	NA
Sodium Gluconate	10-15	0.08%	3.3×10^{-7} %
Citric Acid	5-10	0.05%	2.2×10^{-7} %
Alkylpolyglucoside	1-2.5	0.01%	5.4×10^{-8} %
Modified Aliphatic Polyether	1-2.5	0.01%	5.4×10^{-8} %

assuming no breakdown of product

Illinois Power Generating Company
1500 Eastport Plaza Dr
Collinsville, IL 62234



Notes:

1 Flows shown as: Average [Maximum]

2 Flow units = Million Gallons per Day

A. Includes one or more of the following Non-Chemical Metal Cleaning Wastewaters

- Precipitator cleaning
- Boiler Fireside cleaning
- Economizer cleaning
- Air Heater cleaning
- Boiler Waterside cleaing
- Condener Tube cleaning
- Misc. Non-Chemical Metal cleaning

B. Includes one or more of the following Chemical Metal Cleaning Wastewaters

- Boiler Tube Cleaning
- Condenser Tube Cleaning
- Misc. Chemical Metal Cleaning

Acronyms

CCB	Coal Combustion Byproduct
FGD	Flue Gas Desulfurization
OWS	Oil Water Separator
URC	Ultrasonic Resin Cleaner
RO	Reverse Osmosis
GMF	Gypsum Management Facility

Owner: DYNEGY

Engineer: Sargent & Lundy

Drawing Release Record

Rev	Date	Prepared	Reviewed	Approved	
A0	4-Sep-15	M. Heermann	M. Rosen	A. Baker	Initial Issue

Dynegy

Effluent Limitation Guidelines Compliance Planning Study
Preliminary Water Balance - Coffeen

MSK-COF-WB-001

Product name: Memclean C

Recommended chemical: Evoqua Memclean C (MSDS Attached)

Frequency of treatment: One treatment with surfactant twice per year per each of four CMF units.

Concentration of surfactant
in the cleaning solution: Approximately 0.5 % by volume

Estimated chemical usage: The CMFs are cleaned by introducing a chemical solution in a batch operation. One gallon of Memclean C cleaning solution per batch of 190 gallons is needed to clean each of the 4 CMF units (0.5% concentration per volume). We expect to use four (4) gallons of the Memclean C, twice per year, for a total of 8 gallons per year.

Description of treatment: The CMF system consists of four units and each unit is cleaned individually and sequentially. Each CMF unit is typically cleaned once every 4 weeks using approved standard citric acid solution.

When organics foul the CMF modules, one gallon of the Memclean C surfactant will be added to a cleaning cycle of standard citric acid solution and the cleaning will continue as approved.

After the chemicals are added, the cleaning solution circulates and soaks for a total of 3 hours and then is drained/flushed to waste. It takes approximately 10 min for each CMF module to drain and flush. The chemical solution will be directed to the waste water treatment system via the provided drain system.

Please review and approve the request outlines above. Feel free to contact me with any questions or comments.

With kind regards,

Adam Buckner - NCGI Service Manager

EVOQUA
WATER TECHNOLOGIES

Material Safety Data Sheet

SECTION 1 – CHEMICAL PRODUCT AND COMPANY INFORMATION

****

Product Name: MEMCLEAN C
Part Number:none **Chemical Family:** detergent

Manufacturer's Name: Evoqua Water Technologies LLC.
Address: 725 Wooten Road, Colorado Springs, CO 80915
Product/Technical Information Phone Number: 719-622-5320
Medical/Handling Emergency Phone Number: 719-622-5320
Transportation Emergency Phone Number: 719-622-5320

Issue Date: October 14, 1998
Revision Date/Revision Number: January 1, 2003

SECTION 2 – COMPOSITION INFORMATION

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Chemical Name	Percent by Weight	CAS#
Water	70-83	7732-18-5
Sodium Gluconate	10-15	527-07-1
Citric Acid	5-10	77-92-9
Alkylpolyglucoside	1-2.5	92879-30-6
Modified Aliphatic Polyether	1-2.5	multiple

SECTION 3 – HAZARDS IDENTIFICATION

****

Appearance & Odor: Brown liquid with a mild detergent odor.
Emergency Overview: Eye and skin contact may cause irritation and ingestion may cause stomach upset.
Fire & Explosion Hazards: None.
Primary Route(s) of Exposure: Eye and skin contact are the primary routes of exposure.
Inhalation – Acute Effects: Not considered hazardous by inhalation.
Skin Contact – Acute Effects: Skin contact may cause mild irritation if not washed off.
Eye Contact – Acute Effects: Eye contact may cause transient pain and irritation.
Ingestion – Acute Effects: Ingestion may cause stomach upset and a sore throat.

SECTION 4 – FIRST AID MEASURES

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Inhalation First Aid: Remove affected persons from the area to fresh air.

Skin Contact First Aid: Immediately remove clothing from the affected area and wash skin with soap and water. Wash clothes before reuse.

SECTION 4 – FIRST AID MEASURES (cont.)

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Eye Contact First Aid: Immediately irrigate eyes with flowing water for fifteen minutes while holding eyes open. Contact lenses should be removed before or during flushing. See physician if irritation persists.
Ingestion First Aid: Immediately give large amounts of water or milk of magnesia. Do not induce vomiting.
Medical Conditions Aggravated: None known.
Note to Physician: None.

SECTION 5 – FIRE FIGHTING MEASURES

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Flash Point/Method: not applicable
Auto Ignition Temperature: not applicable
Upper/Lower Explosion Limits: not applicable

Extinguishing Media: Use media suitable for surrounding fire.
Fire Fighting Procedures: No special procedures necessary.
Fire & Explosion Hazards: None.
Hazardous Products of Decomposition and/or Combustion: Decomposition at high temperatures can produce carbon and nitrogen oxides.

NFPA Ratings:

HEALTH- 1 FLAMMABILITY- 0 REACTIVITY- 0 OTHER- none

SECTION 6 – ACCIDENTAL RELEASE MEASURES

****

Absorb with vermiculite or other absorbent material and transfer to a sealed container for disposal. Wash all contaminated surfaces with a soap and water solution.

DO NOT DUMP INTO ANY SEWERS, ON THE GROUND OR INTO ANY BODY OF WATER. All disposal methods must be in compliance with all Federal, State, Local and Provincial laws and regulations. Regulations may vary in different locations. Waste characterizations and compliance with applicable laws are the responsibility solely of the waste generator.

SECTION 7 – HANDLING AND STORAGE

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Handling: Wear all recommended personal protection equipment.
Storage: Store in clean, cool, dry place away from incompatible materials.
General Comments: Containers of this material may be hazardous when empty since they retain product residues; observe all warnings and precautions listed for this product.

SECTION 8 --PERSONAL PROTECTION/ EXPOSURE CONTROL

Respiratory Protection: None required when used as directed.
Skin Protection: Wear rubber gloves.
Eye Protection: Wear goggles or safety glasses.
Ventilation Protection: General ventilation is sufficient.
Other Protection: Eye wash fountains, or other means of washing the eyes with a gentle flow of cool to tepid tap water, should be readily available in all areas where this material is handled or stored. Water should be supplied through insulated and heat-traced lines to prevent freeze-ups in cold weather.

Exposure Limits: Exposure limits have not been developed for this product.

SECTION 9 – PHYSICAL AND CHEMICAL PROPERTIES

Appearance & Odor: Brown liquid with a mild detergent odor.

Vapor Pressure: <20 mm @ 75°F	**Vapor Density (Air=1):** not applicable
Boiling Point:>212°F	**Melting Point**: not applicable
Specific Gravity: 1.05 - 1.10	**Solubility in Water**: 100%
Volatile Percentage: not determined	**pH**: 2.5 - 3.5
Flash Point/method: not applicable	**Auto Ignition Temperature**: not applicable

Upper/Lower Explosion Limits: not applicable

SECTION 10 – STABILITY AND REACTIVITY

Stability: Stable.
Incompatibilities: Incompatible with oxidizing agents, bases, reducing agents and metal nitrates.
Polymerization: Will not polymerize.
Decomposition: Decomposition at high temperatures can produce carbon and nitrogen oxides.
Conditions to Avoid: Avoid damaged containers, unsanitary conditions and high heat.

SECTION 11 – TOXICOLOGICAL INFORMATION

Inhalation – Acute: Not considered hazardous by inhalation.
Inhalation – Chronic: There are no known chronic inhalation effects.
Skin Contact – Acute: Skin contact may cause mild irritation if not washed off.
Skin Contact – Chronic: There are no known chronic dermal effects.
Eye Contact – Acute: Eye contact may cause transient pain and irritation.
Ingestion – Acute: Ingestion may cause stomach upset and a sore throat. The oral LD_{50} (mouse) for citric acid is 5040 mg/kg (non-toxic).
Ingestion – Chronic: There are no known chronic ingestion effects.
Carcinogenicity/Mutagenicity: This product is not carcinogenic and not mutagenic.
Reproductive Effects: There are no known reproductive effects.
Neurotoxicity: There are no known neurotoxic effects.

SECTION 11 – TOXICOLOGICAL INFORMATION (cont.)

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Other Effects: There are no other known toxic effects.
Target Organs: Target organs include the eyes, skin and digestive tract.

SECTION 12 – ECOLOGICAL INFORMATION

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Citric acid is acidic and is also an effective chelating agent for transition and heavy metals. Therefore, spills in the environment may dissolve and mobilize certain toxic metals.

SECTION 13 – DISPOSAL CONSIDERATIONS

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Material that cannot be used or chemically reprocessed and empty containers should be disposed of in accordance with all applicable regulations. Product containers should be thoroughly emptied before disposal. Generators of waste material are required to evaluate all waste for compliance with RCRA and any local disposal procedures and regulations. NOTE: State and local regulations may be more stringent than federal regulations.

SECTION 14 – TRANSPORTATION INFORMATION

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DOT Shipping Description: This material is not regulated by DOT.

SECTION 15 – REGULATORY INFORMATION

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CERCLA SECTION 103 (40CFR302.4): no RQ: none
SARA SECTION 302 (40CFR355.30): no
SARA SECTION 304 (40CFR355.40): no
SARA SECTION 313 (40CFR372.65): no
OSHA PROCESS SAFETY (29CFR1910.119): no
CALIFORNIA PROPOSITION 65: no

SECTION 16 – OTHER INFORMATION

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Created by: Memcor

LeCrone, Darin

IEPA EXHIBIT
No. 34

From: Ackerman, Mark <ackerman.mark@epa.gov>
Sent: Tuesday, December 01, 2015 3:08 PM
To: LeCrone, Darin
Cc: Ireland, Scott
Subject: Comments Re. ILG620000108-Coffeen

Hi Darin.

Couple of things regarding Coffeen I want to raise.

1. The permit does not include the incidental take statement pursuant to 40 C.F.R. 125.98(b)(1).
2. The public notice did not include the additional public notice requirements for alternative thermal limits. See 40 C.F.R. 125.57. Since it's after the fact please update the seed file for the public notice document to include place holders for the additional public notice requirements so it will be included in future permit proceedings.

I just wanted to bring these items to your attention prior issuance of a proposed permit.

A letter documenting these items will follow shortly.

If you have any questions please give me a call.

Mark Ackerman
Environmental Engineer
U.S. EPA
77 West Jackson Boulevard (WN-16J)
Chicago, Illinois 60604-3590
312.353.4145

IEPA EXHIBIT
No. 35

Tsai, Shu-Mei

From: Mosher, Bob
Sent: Friday, December 04, 2015 2:27 PM
To: Tsai, Shu-Mei
Subject: RE: IL0000108 - Coffeen Power Station

Yes.

Bob Mosher
Manager, Water Quality Standards Section
Division of Water Pollution Control
Illinois Environmental Protection Agency
1021 North Grand Ave. East
P.O. Box 19276
Springfield, IL 62794-9276
217/558-2012

From: Tsai, Shu-Mei
Sent: Friday, December 04, 2015 1:57 PM
To: Mosher, Bob
Subject: RE: IL0000108 - Coffeen Power Station

Bob:
I would like to confirm pH for IL0000108 with you.

Coffeen discharges to a stream segment with a 7Q10 flow of 0 cfs. Since the Agency must impose the more stringent of the WQS or effluent standard and the effluent standard for pH is 6.0-9.0 per 304.125 and the WQ for pH is 6.5-9.0 per 302.204, thus 6.5-9.0 standard should be applied. Do you agree? Thanks

Shu-Mei

From: Mosher, Bob
Sent: Thursday, July 02, 2015 11:25 AM
To: Tsai, Shu-Mei
Subject: RE: IL0000108 - Coffeen Power Station

Yes the boron and manganese WQS have now officially changed. The comments I made in the 2012 memo about getting rid of boron and manganese limits in the permit are valid.

Bob Mosher
Manager, Water Quality Standards Section
Division of Water Pollution Control
Illinois Environmental Protection Agency
1021 North Grand Ave. East
P.O. Box 19276
Springfield, IL 62794-9276
217/558-2012

From: Tsai, Shu-Mei
Sent: Thursday, July 02, 2015 11:20 AM
To: Mosher, Bob
Subject: RE: IL0000108 - Coffeen Power Station

Has IPCB changed manganese and Boron standards since your October 30, 2012 WQBEL Memo?

From: Mosher, Bob
Sent: Thursday, July 02, 2015 9:06 AM
To: Tsai, Shu-Mei
Subject: RE: IL0000108 - Coffeen Power Station

1. Yes, it is an artificial lake
2. Lakes have a zero 7Q10 flow
3. Mixing zones are allowed in lakes and the dilution ratio would have to be determined by a study. For temperature, this was determined in the past, usually by the IPCB. If they want mixing for something other than thermal, we would want some kind of demonstration.

Bob Mosher
Manager, Water Quality Standards Section
Division of Water Pollution Control
Illinois Environmental Protection Agency
1021 North Grand Ave. East
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Springfield, IL 62794-9276
217/558-2012

From: Tsai, Shu-Mei
Sent: Wednesday, July 01, 2015 1:41 PM
To: Mosher, Bob
Subject: IL0000108 - Coffeen Power Station

Bob:

Please help some information. Thanks

1. Is Coffeen Lake an artificial lake?
2. What is the 7Q10 ?
3. My assume is if the 7Q10 is zero, then the lake doesn't have any dilution ratio?

Shu-Mei Tsai,
Environmental Protection Engineer, Industrial Unit
Permit Section
Division of Water Pollution Control
Illinois Environmental Protection Agency

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