

KANSAS WATER POLLUTION CONTROL PERMIT AND
AUTHORIZATION TO DISCHARGE UNDER
THE NATIONAL POLLUTANT DISCHARGE
ELIMINATION SYSTEM

Pursuant to the provisions of Kansas Statutes Annotated 65-164 and 65-165, the Federal Water Pollution Control Act as amended, (33 U.S.C. 1251 et seq; the "Act"),

Owner: Kansas Gas and Electric Company

Owner's Address: 201 North Market
P.O. Box 208
Wichita, Kansas 67201

Facility Name: Wolf Creek Generating Station

Facility Location: Rural Route 2
Box 309
Burlington, Kansas 66839

Receiving Stream & Basin: Neosho River via Wolf Creek via Wolf Creek Cooling
Impoundment
Neosho River Basin

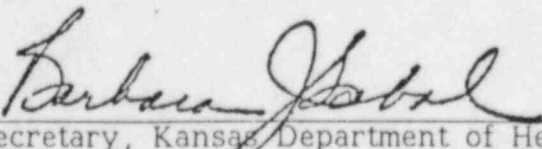
is authorized to discharge from the waste treatment facility described herein, in accordance with effluent limitations and monitoring requirements as set forth herein.

This permit shall become effective April 24, 1985, will supersede all previous permits and/or agreements in effect between the Kansas Department of Health and Environment and the permittee, and will expire January 17, 1989.

FACILITY DESCRIPTION:

The station consists of a pressurized nuclear reactor steam supply system and a turbine - generator used for generation, transmission and distribution of electrical power. The nuclear steam supply system is comprised of a reactor vessel and four primary coolant loops, each with a reactor coolant pump and steam generator. The net turbine generator output is a nominal 1150 MWe. Wastewater discharges consist of a domestic sewage treatment plant, an oil water separator, circulating water, radwaste system, lime sludge pond and a cooling impoundment discharge.

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Secretary, Kansas Department of Health and Environment

April 12, 1985
Date

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

The permittee is authorized to discharge from outfall(s) with serial number(s) as specified in the application for this permit. The effluent limitations shall become effective on the dates specified herein. Such discharges shall be controlled, limited, and monitored by the permittee as specified. Monitoring reports shall be submitted monthly. There shall be no discharge of floating solids or visible foam in other than trace amounts.

Effective Date Outfall Number and Effluent Parameter(s)	<u>EFFLUENT LIMITATIONS</u>	<u>MONITORING REQUIREMENTS</u>	
	Final Limitations Upon Issuance	Measurement Frequency	Sample Type
<u>001 - Domestic Waste Treatment Plant into Wolf Creek Cooling Impoundment</u>			
Flow - MGD	N/A	Weekly	Lift Pumps
Biochemical Oxygen Demand (5-Day)		Weekly	grab
Daily Average-mg/l	30		
Daily Maximum-mg/l	45		
Total Suspended Solids		Weekly	grab
Daily Average-mg/l	30		
Daily Maximum-mg/l	45		
Fecal Coliforms		Weekly	grab
Daily Average - (colonies/100ml)	200*		
Daily Maximum - (colonies/100ml)	400		
Total Residual Chlorine		Weekly	grab
Daily Maximum-mg/l	2.0*		
pH - Standard Units	6.0-9.0	Weekly	grab

*Monitoring for Fecal Coliforms and Total Residual Chlorine will not be required until the cooling impoundment is opened to the public. Monthly monitoring reports are to specify if chlorination is occurring or not.

002 - Oil Water Separator Discharge into Wolf Creek Cooling Impoundment

Flow - MGD	N/A	Weekly	Weir
Total Suspended Solids		Weekly	grab
Daily Average-mg/l	30		
Daily Maximum-mg/l	100		
Oil and Grease		Weekly	grab
Daily Average-mg/l	10		
Daily Maximum-mg/l	15		

Effective Date Outfall Number and Effluent Parameter(s)	<u>EFFLUENT LIMITATIONS</u>	<u>MONITORING REQUIREMENTS</u>	
	Final Limitations Upon Issuance	Measurement Frequency	Sample Type
Chemical Oxygen Demand			
Daily Average-mg/l	---	Weekly	grab
Daily Maximum-mg/l	---		
pH - Standard Units	6.0-9.0	Weekly	grab
<u>003 - Circulating Water System Discharge into Wolf Creek Cooling Impoundment</u>			
Flow - MGD	N/A	Daily	Estimated
Total Residual Chlorine			
Daily Maximum-mg/l	.2**	Daily	grab
Sulfates			
Daily Maximum-mg/l	---	Twice Weekly	grab
pH - Standard Units	6.0-9.0	Twice Weekly	grab

**Total Residual Chlorine (TRC) shall be monitored in the Service Water System (SWS) when the Circulating Water System (CWS) is not in service. During this operational mode the sampling location for TRC shall be moved upstream of the Radwaste System discharge confluence. Once sufficient TRC information is generated a numerical value may be established for the SWS discharge. Supplemental Conditions 4(a), 4(b)(1) and 5 are applicable to the CWS discharge alone and only to the CWS when combined with the SWS. Supplemental Conditions 4(a) and 4(b)(1) do not apply to the SWS discharge regardless of the operating mode of the cooling systems; however, Supplemental Condition 5 is still applicable. All requested information is to be reported in the discharge monitoring reports (DMR).

003(a) - Radwaste System Discharge into Circulating Water System Discharge

Flow - MGD	N/A	Twice Weekly	Estimated
Total Suspended Solids			
Daily Average-mg/l	30	Twice Weekly	grab
Daily Maximum-mg/l	100		
Oil and Grease			
Daily Average-mg/l	10	Twice Weekly	grab
Daily Maximum-mg/l	15		
Surfactants (MBAS)			
Daily Maximum-mg/l	1.0	Twice Weekly	grab

Effective Date Outfall Number and Effluent Parameter(s)	EFFLUENT LIMITATIONS	MONITORING REQUIREMENTS	
	Final Limitations Upon Issuance	Measurement Frequency	Sample Type
Note 1 - All radioactive components of this discharge are regulated solely by the U.S. Nuclear Regulatory Commission (NRC) under the requirements of the Atomic Energy Act and not by either the Environmental Protection Agency (EPA) under the Clean Water Act or the Kansas Department of Health and Environment under Kansas water pollution control regulations and statutes.			
<u>004 - Cooling Impoundment Discharge to Wolf Creek</u>			
Flow - MGD	N/A	The first day of each discharge and each week thereafter.	Estimated
Total Dissolved Solids Daily Maximum-mg/l	---	The first day of each discharge and each week thereafter	grab
Sulfates Daily Maximum-mg/l	---	The first day of each discharge and each week thereafter.	grab
Chlorides Daily Maximum-mg/l	---	The first day of each discharge and each week thereafter.	grab
Temperature Daily Maximum - °F	---	The first day of each discharge and each week thereafter.	grab
pH - Standard Units	6.0-9.0	The first day of each discharge and each week thereafter.	grab

Note 1 - Also applies to this outfall.

Note 2 - Release rate shall be regulated according to Supplemental Condition No. 13.

005 - Lime Sludge Pond Discharge to Wolf Creek Cooling Impoundment

Flow - MGD	N/A	Twice Weekly	Estimated
Total Suspended Solids Daily Average-mg/l	30	Twice Weekly	grab
Daily Maximum-mg/l	100		

Effective Date Outfall Number and Effluent Parameter(s)	EFFLUENT LIMITATIONS	MONITORING REQUIREMENTS	
	Final Limitations Upon Issuance	Measurement Frequency	Sample Type
Sulfates Daily Maximum-mg/l	---	Twice Weekly	grab
pH - Standard Units	6.0-9.0	Twice Weekly	grab

B. STANDARD CONDITIONS

In addition to the specified conditions stated herein, the permittee shall comply with the attached Part I Standard conditions dated May 1, 1979.

C. SCHEDULE OF COMPLIANCE

None

D. SUPPLEMENTAL CONDITIONS

1. There shall be no discharge of polychlorinated biphenyl compounds.
2. All samples and flow measurements required for permit monitoring shall be taken on the same day except for miscellaneous discharges related to stormwater runoff, oil storage area runoff, etc.
3. Miscellaneous discharges related to runoff are regulated by Water Quality Criteria. Runoff contained in the oil storage dike area(s) shall be visually inspected to determine if removal of oil and grease is necessary prior to discharge.
4. (a) Neither free available chlorine nor total residual chlorine may be discharged from any unit for more than two hours in any one day and not more than one unit in any plant may discharge free available or total residual chlorine at any one time unless the utility can demonstrate to the State that the units in a particular location cannot operate at or below this level of chlorination.

 (b)(1) Any plant with a total rated electric generation capacity of 25 or more megawatts is subject to the following stipulation. Total residual chlorine may not be discharged from any single generating unit for more than two hours per day unless the discharger demonstrates to the State that discharge for more than two hours is required for macroinvertebrate control. Simultaneous multi-unit chlorination is permitted. Multi-unit chlorination must be designated in the monitoring reports.

 (b)(2) Any plant with a total rated electric generation capacity of less than 25 megawatts is subject to the following stipulation. Neither free available chlorine nor total residual chlorine may be discharged from any unit for more than two hours in any one day and not more than one unit in any plant may discharge free available or total residual chlorine at any one time unless the utility can demonstrate to the State that the units in a particular location cannot operate at or below this level of chlorination.

D. SUPPLEMENTAL CONDITIONS (Cont.)

5. The permittee shall submit, as a part of the discharge monitoring report (DMR), a chlorination schedule indicating the time and duration of applications for each unit. The amount of chlorine applied shall also be reported in the DMR's.
6. This permit shall be modified, or alternatively, revoked and reissued, to comply with any applicable effluent standard or limitation issued or approved under Sections 301 (b)(2), (C), and (D), 304 (b)(2), and 307 (a)(2) of the Clean Water Act, if the effluent standard or limitation so issued or approved:

- a. Contains different conditions or is otherwise more stringent than any effluent limitation in the permit, or
- b. Controls any pollutant not limited in the permit.

The permit as modified or reissued under this paragraph shall also contain any other requirements of the Act then applicable.

7. In the event the Environmental Protection Agency amends or promulgates the BPT, BAT and/or BCT effluent guideline limitations for a specific Point Source Category or any of the subcategories covering your industry, this permit will be revoked and reissued to incorporate the new limitation(s).
8. There shall be no discharge from the Wolf Creek Education Center waste stabilization pond.
9. The Department is to be notified at least 90 days prior to the cooling impoundment being opened for public access.
10. A report addressing the disposal of metal cleaning wastes is to be submitted to the Bureau of Water Protection for approval at least 10 days or as soon as reasonably practicable before implementing each chemical cleaning activity. Approval from the Department is required before chemical cleaning can be initiated. Metal cleaning wastes are defined to be wastes derived from chemical cleaning of any metal process equipment, including boiler fireside cleaning and air preheater cleaning.

11. Changes in Discharges of Toxic Substances

The permittee shall notify the Department as soon as it knows or has reason to believe

- a. That any activity has occurred or will occur which would result in the discharge on a routine or frequent basis, of any toxic pollutant which is not limited in the permit, if that discharge will exceed the highest of the following "notification levels":

(1) One hundred micrograms per liter (100 µg/l);

(2) Two hundred micrograms per liter (200 µg/l) for acrolein and acrylonitrile; five hundred micrograms per liter (500 µg/l) for 2,4-dinitrophenol and for 2-methyl-4,6-dinitrophenol; and one milligram per liter (1 mg/l) for antimony;

D. SUPPLEMENTAL CONDITIONS (Cont.)

- (3) Five (5) times the maximum concentration value reported for that pollutant in the permit application.
- b. That any activity has occurred or will occur which result in any discharge, on a non-routine or infrequent basis, of a toxic pollutant which is not limited in the permit, if that discharge will exceed the highest of the following "notification levels":
- (1) Five hundred micrograms per liter (500 µg/l);
 - (2) One milligram per liter (1 mg/l) for antimony;
 - (3) Ten (10) times the maximum concentration value reported for that pollutant in the permit application.
12. Each outfall will need to be tested in accordance with the EPA Consolidated Permits Program Application Form 2C to either confirm or supplement the information in the addendum submitted prior to the facility becoming operational. The outfalls are to be sampled during the first year of operation when the wastestreams are representative of the operational mode. The results are to be submitted to the Bureau of Water Protection as soon as they are available.
13. Kansas Surface Water Quality Standards will be enforced in the Neosho River, below the confluence with Wolf Creek and a reasonable mixing zone. Discharges to waters of the State shall be guided by both the primary and secondary drinking water regulations promulgated pursuant to P.L. 93-523 and by criteria for water quality published by the U.S. Environmental Protection Agency pursuant to Section 304a of P.L. 92-500. The release rate from Wolf Creek Cooling Impoundment (WCCI) will be regulated so as to comply with the State Water Quality Standards of 500 mg/l for total dissolved solids (TDS), 250 mg/l for sulfates (SO_4), 250 mg/l for chlorides (Cl) and a maximum 5°F temperature rise above natural conditions not to exceed 90°F in the Neosho River after the mixing zone. WCCI release rate shall be calculated from the following equation:

$$(1) \quad Q_w C_w + Q_r C_r = (Q_w + Q_r) C_c$$

where;

- Q_w = WCCI release rate (cfs)
- C_w = WCCI parameter concentration (mg/l) or °F
- Q_r = 1/4 (John Redmond Release rate minus pump rate to WCCI), (cfs)
- C_r = County bridge parameter concentration (mg/l) or (°F)
- C_c = Water Quality Standard (mg/l) or (°F)

Solving equation (1) for Q_w yields:

$$(2) \quad Q_w = \frac{Q_r (C_c - C_r)}{(C_w - C_c)}$$

D. SUPPLEMENTAL CONDITIONS (Cont.)

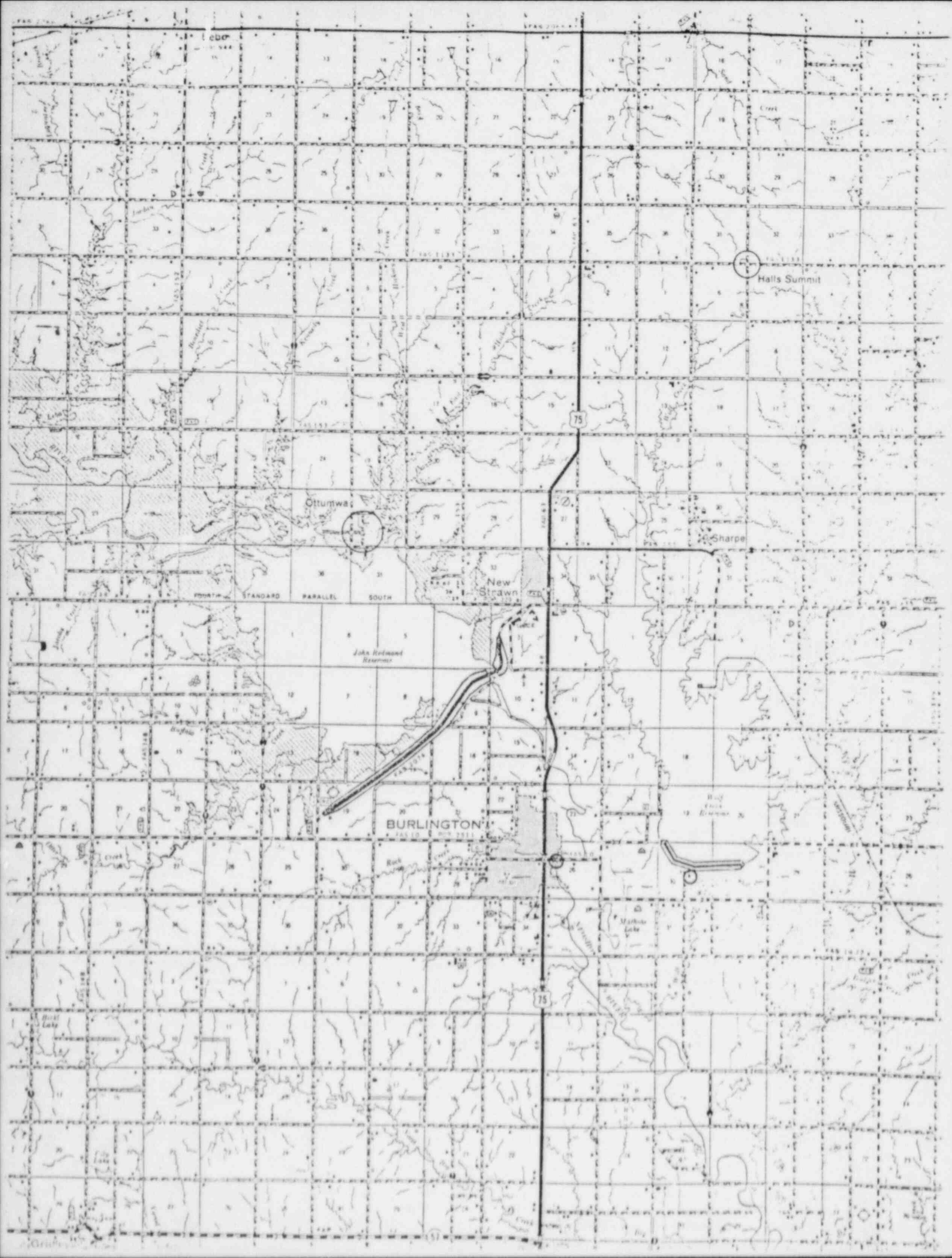
where; C_c is equal to 500 mg/l for total dissolved solids (TDS), 250 mg/l for sulfates (SO_4), 250 mg/l for chlorides (Cl) and 5°F for temperature. For ambient temperatures below 85°F $C_c = C_a + 5°F$ and above 85°F $C_c = 90°$. A Q_w value shall be calculated for each parameter. The minimum Q_w value shall constitute the authorized release rate.

C_c values for parameters TDS, SO_4 , Cl and temperature are to be obtained from sampling the Neosho River at the county road bridge, 1/4 mile East of U.S. 75 in Burlington, Kansas. The legal description of this sampling point is SE 1/4, NW 1/4 of Section 21, Township 21S, Range 15E Coffey County. C_w values for parameters TDS, SO_4 , Cl and temperature are to be representative of the water quality in the WCCI discharge.

When Q_w is negative then Q_w will be restricted accordingly depending on the following conditions:

1. If John Redmond concentrations (C_r) for the parameters exceed the water quality standards (C_c), then Q_w is not restricted so long as C_w does not exceed C_r ; otherwise there shall be no discharge.
2. If Wolf Creek cooling impoundment concentrations (C_w) for the parameters are less than the water quality standards (C_c), then Q_w is not restricted.

Information used to determine the WCCI release rate (Q_w) is to be reported in the monitoring reports each time a discharge occurs. See monitoring requirements under Outfall 004. The sampling point locations are noted on the attached schematic of the Burlington area.



STANDARD CONDITIONS FOR
KANSAS WATER POLLUTION CONTROL AND
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM
PERMITS

PART I - GENERAL CONDITIONS

1. Representative Sampling

- A. Samples and measurements taken as required herein shall be representative of the nature and volume of the monitored discharge. All samples shall be taken at the locations designated in this permit, and unless specified, at the outfall(s) before the effluent joins or is diluted by any other body of water or substance.
- B. Monitoring results shall be recorded and reported on forms acceptable to the Division and postmarked no later than the 13th day of the month following the completed reporting period. Signed copies of these, and all other reports required herein, shall be submitted to:

Kansas Department of Health & Environment
Division of Environment
Water Pollution Control Section
Topeka, Kansas 66620
(913) 862-9360

2. Schedule of Compliance: No later than 14 calendar days following each date identified in the "Schedule of Compliance", the permittee shall submit to the above address, either a report of progress or, in the case of specific actions being required by identified dates, a written notice of compliance or noncompliance. In the latter case, the notice shall include the cause of noncompliance, any remedial actions taken, and the probability of meeting the next schedule requirements; or, if there are no more schedule requirements, when such noncompliance will be corrected.

3. Definitions

- A. The "daily average" discharge means either the total discharge by weight during a calendar month divided by the number of days in the month that the facility was operating, or the average concentration for the month. The daily average discharge shall be determined by the summation of all measured daily discharges by weight divided by the number of days during the calendar month when the measurements were made, or by the summation of all concentrations determined during the calendar month divided by the number of samples collected and analyzed.
- B. The "daily maximum" discharge means the total discharge by weight or average concentration during a 24 hour period.
- C. The "monthly average", other than for fecal coliform bacteria, is the arithmetic mean of the values for effluent samples collected in a period of 30 consecutive days. The monthly average for fecal coliform bacteria is the geometric mean of the value of the effluent samples collected in a period of 30 consecutive days.
- D. The "weekly average", other than for fecal coliform bacteria, is the arithmetic mean of the values for effluent samples collected in a period of seven consecutive days. The weekly average for fecal coliform bacteria is the geometric mean of the values for effluent samples collected in a period of seven consecutive days.
- E. The "grab sample" is an individual sample collected in less than 15 minutes.
- F. A "composite sample" is a combination of individual samples in which the volume of each individual sample is proportional to the discharge flow, or the sample frequency is proportioned to the flow rate over the sample period.
- G. The "Act" means the Clean Water Act, Public Law 95-217.
- H. "Division" means Division of Environment, Kansas Department of Health and Environment.
- I. "Department" means the Kansas Department of Health and Environment.

4. Test Procedures: All analyses required by this permit shall conform to the requirements of Section 304(h) of the Act, and shall be conducted in a laboratory certified by the Department. For each measurement or sample the permittee shall record the exact place, date, and time of sampling; the date of the analyses; the analytical techniques or methods used; and, the results. If the permittee monitors any pollutant at the location(s) designated herein more frequently than required by this permit, using approved procedures, the results shall be included in the Discharge Monitoring Report form required in 1.B. above. Such increased frequency shall also be indicated.
5. Records Retention: All records and information resulting from the monitoring activities required by this permit, including all records of analyses and calibration and maintenance of instrumentation and recordings from continuous monitoring instrumentation, shall be retained for a minimum of 3 years, or longer if requested by the Division.
6. Change in Discharge: All discharges authorized herein shall be consistent with the terms and conditions of this permit. The discharge of any pollutant not authorized by this permit or of any pollutant identified in this permit more frequently than or at a level in excess of that authorized shall constitute a violation of the permit. Any facility expansions, production or flow increases, or process modifications which will result in new, different, or increased discharges of pollutants shall be reported to the Division at least one hundred eighty (180) days before such changes.
7. Noncompliance Notifications: If, for any reason, the permittee does not comply with or will be unable to comply with any daily maximum or weekly average effluent limitation specified in this permit, the permittee shall provide the Department with the following information in writing within 5 days of becoming aware of such condition:

- A. a description of the discharge and cause of noncompliance, and
3. the period of noncompliance, including exact dates and times or, if not corrected, the anticipated time the noncompliance is expected to continue, and steps being taken to reduce, eliminate and prevent recurrence of the noncomplying discharge.

The above information shall be provided with the submittal of the regular Discharge Monitoring Report form for violations of monthly average or daily average effluent limitations.

8. Facilities Operation: The permittee shall at all times maintain in good working order and efficiently and effectively operate all treatment, collection, and control systems or facilities used to achieve compliance with the terms and conditions of this permit. Maintenance of treatment facilities which results in degradation of effluent quality shall be scheduled during non-critical water quality periods and shall be carried out in a manner approved in advance by the Division. The permittee shall take all necessary steps to minimize any adverse impact to waters of the State resulting from noncompliance with any effluent limitations specified in this permit, including such accelerated or additional monitoring as necessary to determine the nature and impact of the noncomplying discharge.
9. Bypassing: Any diversion from or bypass of facilities necessary to maintain compliance with this permit is prohibited, except where necessary to prevent loss of human life or severe property damage; or where excessive storm drainage or runoff would damage any facilities necessary to comply with this permit. The permittee shall immediately notify the Division by telephone of each bypass and shall confirm the telephone notification with a letter explaining what caused the spill or bypass and what actions have been taken to prevent recurrence.
10. Removed Substances: Solids, sludges, filter backwash, or other pollutants removed in the course of treatment or control of wastewaters shall be disposed of in a manner acceptable to the Division.
11. Power Failures: The permittee shall provide an alternate power source sufficient to operate and wastewater control facilities or halt or otherwise control production and all discharges upon the loss of the primary source of power to the wastewater control facilities.
12. Right of Entry: The permittee shall allow authorized representatives of the Division or the Environmental Protection Agency upon the presentation of credentials, to enter upon the permittee's premises where an effluent source is located or in which any records are required to be kept by this permit, and at reasonable times to have access to and copy any records required to be kept by this permit; to inspect any monitoring equipment or monitoring method required in this permit; and to sample any discharge from the facility and any waste or materials generated or stored on the premises.
13. Transfer of Ownership: The permittee shall notify the succeeding owner, controlling person, or operator of the existence of this permit by certified letter, a copy of which shall be forwarded to the Division.
14. Availability of Reports: Except for data determined to be confidential under Section 308 of the Act, all reports prepared in accordance with the terms of this permit shall be available for public inspection at the offices of the Department. Effluent data shall not be considered confidential. Knowingly making any false statement on any such report may result in the imposition of criminal penalties as provided for in Section 309 of the Act and K.S.A. 65-170c.
15. Permit Modification: After notice and opportunity for a hearing, this permit may be modified, suspended or revoked in whole or in part during its terms for cause including, but not limited to, violations of any terms or conditions of this permit; obtaining this permit by misrepresentation or failure to disclose fully all relevant facts; or, a change in any condition that requires either a temporary or permanent reduction or elimination of the authorized discharge.
16. Toxic Pollutants: Notwithstanding Paragraph 15 above, if a toxic effluent standard or prohibition (including any schedule of compliance specified in such effluent standard or prohibition) is established under Section 307(a) of the Act for a toxic pollutant which is present in the discharge and such standard or prohibition is more stringent than any limitation for such pollutant in this permit, this permit shall be revised or modified in accordance with the toxic effluent standard or prohibition and the permittee so notified.
17. Civil and Criminal Liability: Except as authorized by statute and Paragraph 9 "Bypassing", nothing in this permit shall be construed to relieve the permittee from civil or criminal penalties for noncompliance.
18. Oil and Hazardous Substance Liability: Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties to which the permittee is or may be subject to under Section 311 of the Act, or K.S.A. 65-164 et seq. The municipal permittee shall promptly notify the Division by telephone upon discovering crude oil or other petroleum derivative in its sewer system or wastewater treatment facilities.
19. Industrial Users: The municipal permittee shall require any industrial user of the treatment works to comply with Sections 307 & 308 of the Act, and any industrial user of storm sewers to comply with Section 308 of the Act.
20. Property Rights: The issuance of this permit does not convey any property rights in either real or personal property, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of or violation of federal, state or local laws or regulations.
21. Operator Certification: The permittee shall assure that his wastewater facilities are under the supervision of an operator certified by the Department. If the permittee does not have a certified operator, or loses its certified operator, he shall take the appropriate steps to obtain a certified operator as required by K.A.R. 23-16-29.
22. Property Rights: The provisions of this permit are severable, and if any provision of this permit, or the application of any provision of this permit to any circumstance is held invalid, the application of such provision to other circumstances, and the remainder of this permit, shall not be affected thereby.
23. Removal From Service: The permittee shall inform the Division at least 3 months before a pumping station or other waste treatment facility is to be removed from service, and shall make arrangements acceptable to the Division of decommissioning that will provide adequate protection for the public health, and ground and surface waters.