FILED

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Terri A. Lorenzon, Director
Environmental Quality Council

BEFORE THE

WYOMING ENVIRONMENTAL QUALITY COUNCIL

IN THE MATTER OF THE APPEAL AND	)	CONSOLIDATED:
REVIEW OF THE ISSUANCE OF WYOMING	)	
POLLUTANT DISCHARGE ELIMINATION	)	Docket No. 06-3815
SYSTEM (WYPDES) GENERAL PERMITS:	)	Docket No. 06-3816
WILLOW CREEK AND PUMPKIN CREEK	)	Docket No. 06-3817

WYOMING OUTDOOR COUNCIL'S PROPOSED FINDINGS OF FACT, CONCLUSIONS OF LAW AND ORDER

Comes now the Petitioner, Wyoming Outdoor Council, and pursuant to the direction of the Environmental Quality Council hereby presents its Proposed Findings of Fact, Conclusions of Law and Order, as follows:

THIS MATTER came before the Environmental Quality Council (EQC) for a contested case hearing on April 28, 2008, in Cheyenne, Wyoming. The Petitioners, Marathon Oil Company, Yates Petroleum Corporation, and Citation Oil and Gas Corporation (collectively referred to as "YMC") and Petitioner Wyoming Outdoor Council, as well as the Respondent, the Wyoming Department of Environmental Quality, Water Quality Division (DEQ) were all present and over the course of four days presented their evidence and witnesses in this matter. Opening statements and closing arguments were presented by all parties.

Findings of Fact

1. This matter involves the appeal of two Watershed General Permits issued by the Wyoming Department of Environmental Quality ("DEQ") on September 11, 2006. They were appealed by Petitioner Wyoming Outdoor Council ("WOC"), who filed two petitions, one for each general permit, and by Petitioners Marathon Oil Company, Yates Petroleum Corporation, and Citation Oil and Gas Corporation (collectively "YMC"), who filed one petition, all on November 9, 2006.

2. The YMC Petition, Docket No. 06-3815, also included an appeal of DEQ's "Four Mile Creek Plan." The appeal of the Four Mile Creek Plan was later withdrawn by Petitioners YMC at the final pre-hearing conference in this matter, held by teleconference on April 21, 2008. Thus, the EQC will only rule herein solely on the Willow Creek Watershed General Permit, Permit No. WYG290000 and Pumpkin Creek Watershed General Permit, Permit No. WYG280000.

3. Petitioners YMC were allowed to intervene in the cases filed by WOC on July 23, 2007.

4. These cases were later consolidated upon a joint motion of the parties, by an order of the Environmental Quality Council ("EQC") dated Oct. 4, 2007.

5. Petitioner WOC filed a Motion for Summary Judgment on July 13, 2007, and the EQC denied that motion in an order dated Nov. 30, 2007. However, based upon the facts presented at the hearing, as set forth below, the EQC will re-evaluate one of those issues raised by WOC in its Motion for Summary Judgment.

6. The Pumpkin Creek Watershed General Permit, Permit No. WYG280000 was introduced into evidence as YMC Exhibit 10. (Tr. p. 63)

7. The Willow Creek Watershed General Permit, Permit No. WYG290000 was introduced into evidence as YMC Exhibit 29. (Tr. p. 63)

8. Both the Pumpkin Creek Watershed General Permit and the Willow Creek Watershed General Permit contained provisions that were contested by the parties. Those provisions centered around the following issues:

(1) Are the effluent limits in the permits appropriate?

(a) Are the effluent limits applicable to Category IC discharges located above irrigation for EC and SAR appropriate?

(b) Do all the effluent limits in the general permits meet the requirements of Wyoming Water Quality Rules and Regulations Chapter 1, Section 20, by protecting all existing and potential agricultural uses?

(2) What is the appropriate point of compliance for effluent limits?

(3) Is the 50-year, 24-hour storm event containment requirement justifiable, if a permittee selects the Category II discharge option?

(4) Does the incorporation of the *Wyoming Powder River Assimilative Capacity Allocation and Control Process* in the permits provide fair notice concerning what requirements will be imposed on permittees?

(5) Are the on-channel reservoirs authorized by the general permits "treatment works" as defined by Wyo. Stat. Ann. § 35-11-103(c)(iv) and, if so, are separate permits to construct required for those reservoirs, as required by Wyo. Stat. Ann. § 35-11-301(a)(iii)?

(6) Are the erosion control protections set forth in the general permits adequate to protect the drainages from damage caused by erosion?

(7) Are the requirements in the *Head Cut Monitoring and Mitigation* provision of the general permits appropriate?

9. The two effluent limits that the parties were primarily concerned with are electrical conductivity (EC), also known as specific conductance, which is a salinity measurement, and sodium adsorption ratio (SAR), which is a sodicity measurement, specifically the measurement of the ratio of sodium compared to magnesium and chloride in the water.

10. For the Pumpkin Creek Watershed General Permit, the EC and SAR limits for the various categories of discharges set forth in the permit were as follows:

	EC (in mg/l)	SAR
Cat IA	7500	no limit
Cat IB	7500	no limit
Cat IC (above irrigation points of withdrawal)	2200	13
Cat ID (for treated discharge water)	TBD	TBD
Cat II (for 50 year reservoirs)	7500	no limit
Cat III	7500	no limit

11. For the Willow Creek Watershed General Permit, the EC and SAR limits for the various categories of discharges set forth in the permit were as follows:

	EC (in mg/l)	SAR
Cat IA	7500	no limit
Cat IB	7500	no limit
Cat IC (above irrigation points		

	of withdrawal)	1330	7
Cat ID	(for treated discharge water)	TBD	TBD
Cat II	(for 50 year reservoirs)	7500	no limit
Cat III		7500	no limit

12. Regarding EC and SAR effluent limits, with the exception of Category IC discharge requirements, the only agricultural use protection for which Category I, II, and III discharges were set by DEQ was for the purpose of livestock watering. (Tr. p. 135, l 7 - 9)

13. Neither watershed general permit set effluent limits with respect to EC and SAR that provided any protection, in terms of the agricultural use, for bottomlands containing native grasses that were only irrigated naturally without the use of diversions or man-made structures.

14. In the case of the Willow Creek Watershed General Permit, the effluent limits set with respect to EC and SAR was due to the fact that alfalfa was being grown in that drainage and the effluent limits were set to protect the salinity and sodicity of the irrigation water so that the crop yield of alfalfa would not be negatively affected by the water quality of the discharge water. (See YMC Exhibit 28, at p. 20)

15. In the case of the Pumpkin Creek Watershed General Permit, the effluent limits set with respect to EC and SAR was due to the fact that meadow grasses (such as western wheatgrass, slender wheatgrass, and yellow sweetclover) were being grown in that drainage and the effluent limits were set to protect the salinity and sodicity of the irrigation water so that the crop yield of meadow grass would not be negatively affected by the water quality of the discharge water. (See YMC Exhibit 9, at p. 20)

16. Category II discharges are allowed in both general watershed permits, even above irrigation points of withdrawal, so long as such discharges are made to reservoirs that are built to hold a 50 year / 24 hour precipitation event, without over-topping.

17. The testimony of Dr. Larry C. Munn, a soil scientist and professor from the University of Wyoming, documented the fact that below irrigation points on both Pumpkin Creek and Willow Creek, the aerial photography maps (YMC Exhibit 2, attached maps, Map No. 4 and Map No. 8) showed the presence of vegetation indicating naturally irrigated lands in substantial amounts below points of irrigation withdrawal. (Tr

p. 595, l 14 - 25, p. 596, l 1 - 8) Dr. Munn testified that he has knowledge and experience in interpreting aerial photography, particularly with regard to recognizing vegetation. (Tr p. 589, l 18 - 20)

18. The testimony of Dr. Munn revealed that higher salinity in soils would cause native vegetation to be replaced by more salt tolerant vegetation, which is less palatable to livestock. Thus, the agricultural use of those naturally irrigated lands would be negatively affected. (Tr. p. 599, l 11 - 25, p. 600, l 1 - 9)

19. The DEQ, through its witness Mr. Jason Thomas, indicated a willingness to revise the watershed general permits to protect naturally irrigated lands to the same extent as are currently being protected in its Agricultural Use Protection Policy. (Tr. p. 705, l 12 - 16) (See also WOC Exhibit 20, p. 56)

20. The DEQ, through its witness Mr. Bill DiRienzo, indicated a willingness to place a maximum cap of 10 for SAR for all irrigated lands, both naturally irrigated and artificially irrigated lands, as is the DEQ's current policy as set forth in its Agricultural Use Protection Policy. (Tr. p. 117, l 13 - 17) (See also WOC Exhibit 20, p. 56).

21. Testimony of Mr. Bill DiRienzo for the DEQ established that the purpose of the reservoirs that are built pursuant to the provisions of Category II discharges, requiring that they be built to hold a 50 year / 24 hour precipitation event, was to hold the coal bed methane effluent, i. e. the waste product, and prevent it from going further downstream (Tr. p. 113, p. 9 - 25, p. 114, l 1 - 18).

22. The evidence presented established that substantial erosion would occur if the maximum anticipated flow for Pumpkin Creek were to occur -- at 17 CFS (TR. p. 198, l 4 - 10) -- Pumpkin Creek would be converted from an ephemeral drainage to a perennial drainage and this would cause erosion over time due to bare soils being exposed where native plants are unable to grow due to the newly salinated soils. (Tr. p. 603, l 1 - 6)

23. The only witness presented by YMC on the issue of appropriate effluent limits to be set under the general permits was Dr. Eric Kern. The evidence presented by Dr. Kern involved an analysis of samples taken of the ambient water quality of Pumpkin Creek at the location known as the Iberlin Station, which was a point at which Pumpkin Creek water was withdrawn for irrigation purposes.

24. No data was presented with respect to the existing water quality conditions within

Willow Creek by Dr. Kern.

25. The sampling results for the Iberlin station were spread over a four year period between 2002 and 2005, but consisted of only four days of sampling events, and revealed that, as to the following measurements, the quality of the stream was as follows:

	Aug. 2002	May 2003	June 2003	August 2005
SAR	2.4	6.5	1.9	1.3
EC	760	2729	510	588

These results represented the averages for all of the data collected on those days.

26. The above measurements are the averages for all samples taken on those four days. The data represents a mixture of CBM discharge water and flow from precipitation. The testimony from Dr. Kern was that the flow was predominantly natural precipitation flow on those sampling days, based upon chemical fingerprinting analysis. It is uncertain whether these measurements are reflective of the typical existing water quality of Pumpkin Creek, since they were taken during heavy precipitation events in all cases, and thus may not be representative of more normal flows in Pumpkin Creek when precipitation is not occurring. Thus, the weight to be given to this evidence is uncertain.

27. The water quality samples reveal that the DEQ did not set the effluent limits too low, given the existing quality of the water of Pumpkin Creek. The samples reveal that the quality of the water in Pumpkin Creek during those storm events was, in all but one instance, well below the effluent limits set by DEQ for those constituents (EC and SAR) of concern.

28. The available data presented by Dr. Kern does not justify a conclusion that the effluent limits set by the DEQ in the Pumpkin Creek Watershed General Permit are too strict.

29. The available data presented by Dr. Kern demonstrates that in the great majority of instances of precipitation events, the water quality of the existing Pumpkin Creek water will be of better quality than the effluent limits set by the DEQ for the Pumpkin Creek Watershed General Permit with respect to SAR and EC.

30. Testimony demonstrated that erosion in both the Willow Creek and Pumpkin Creek drainages can occur at other locations besides head cuts. (Tr. p. 198, l 21 - 24) Furthermore maximum build-out for Pumpkin Creek of 17 cubic feet per second of flow would be enough to cause significant erosion in Pumpkin Creek. (Tr. p. 198, l 21 - 24)

31. The testimony of Dr. Hugh Lowham for YMC concerned the feasibility of constructing 50 year / 24 hour reservoirs, i. e. those reservoirs that are built to hold the precipitation flow anticipated from a 50 year / 24 hour storm event. His testimony was that such reservoirs would in many cases result in a reservoir that was unacceptably large -- so large in fact that it might not get approved by the State Engineer's office. (Tr. p. 500, l 7 - 19) But discharges to such reservoirs are optional in any case, and are not required under the general permits. (Tr. 519, l 13 - 25, p. 520, l 1 - 17)

Conclusions of Law

32. The burden of proof in this matter lies on the DEQ, as the proponent of the watershed general permits, this being, in effect, a permit that is applicable to a whole class of permittees, only some of whom are represented by YMC.

33. Section 20, of Chapter 1, Wyoming Water Quality Rules and Regulations provides as follows:

> Section 20. **Agricultural Water Supply**. All Wyoming surface waters which have the natural water quality potential for use as an agricultural water supply shall be maintained at a quality which allows continued use of such waters for agricultural purposes.
>
> Degradation of such waters shall not be of such an extent to cause a measurable decrease in crop or livestock production.
>
> Unless otherwise demonstrated, all Wyoming surface waters have the natural water quality potential for use as an agricultural water supply. [emphasis added]

34. The evidence presented at the hearing demonstrates that the soil and climate conditions of both Willow Creek and Pumpkin Creek are capable of supporting alfalfa as a crop that can be grown in those drainages. (Tr. p. 566, l 14 - 23)

35. While only Willow Creek, above points of irrigation withdrawal, is currently being used to grow alfalfa, both drainages possess the agricultural potential to grow alfalfa.

36. Chapter 1, Section 20 mandates the protection of both Willow Creek and Pumpkin Creek for the agricultural production of alfalfa, since the agricultural potential for growing alfalfa in those drainages currently exists.

37. It is therefore required by Chapter 1, Section 20, that the effluent limits be set for those drainages so that alfalfa, as the most sensitive crop that can be grown in those drainages. Those limits for EC are 1330, and for SAR are 7. (See YMC Exhibit 29)

38. Chapter 2, Sec. 4(a)(iii)(C), provides that general permits may be issued only so long as the general permit in question contains the same effluent limitations or operating conditions. But these watershed general permits allow for different effluent limits, depending on various conditions, throughout each drainage. As a result these effluent limitations as set forth by DEQ violate Chapter 2 requirements for general permits.

39. In order to insure compliance with Chapter 2, Section 4(a)(iii)(C), and Chapter 1, Section 20, it is necessary to require one effluent limitation for both EC and SAR throughout each drainage. Those limitations, in order to protect for alfalfa as a crop that can be potentially grown in those drainages, must be set at 1300 for EC and 7 for SAR, for both general permits.

40. The reservoirs that are described in the watershed general permits as 50 year / 24 hour reservoirs, that must be built, if at all, to prevent the contents from overtopping during anything less than a 50 year / 24 hour precipitation event, in connection with Category II discharges, constitute treatment works as that term is defined by Wyo. Stat. Ann. 35-11-103(c)(iv), and must therefore be issued a separate permit to construct as required by Wyo. Stat. Ann. 35-11-301(a)(iii).

41. Both of these watershed general permits may allow discharges to those Category II reservoirs, but any permittee who builds such reservoirs must also obtain a permit to construct for such reservoirs from the DEQ as well, and those reservoirs must be built in accordance with the requirements of Chapter 3, Wyoming Water Quality Rules and Regulations.

42. Both Willow Creek and Pumpkin Creek drainages contain areas of naturally irrigated lands that were not protected by the watershed general permits issued by the DEQ in this case. It is a duty of the DEQ to protect naturally irrigated lands (or "bottomlands"), since they represent a significant agricultural use by livestock that graze these lands as an

important source of nutrition. The DEQ is obligated to protect these lands pursuant to Chapter 1, Sec. 20, and therefore had the obligation to protect those lands, whether or not they were located above or below artificially irrigated lands.

43. Due to our finding that effluent limitations for these drainages must be set to protect the most sensitive crop that can be grown in these drainages, the effluent limitations that must be set for the entire drainage of both Willow Creek and Pumpkin Creek for alfalfa will be sufficient to protect the naturally irrigated lands of those areas as well.

44. The *Wyoming Powder River Assimilative Capacity Allocation and Control Process,* as set forth in the permits, provides fair notice to the Petitioners. The petitioners will have an ability to contest the setting of any assimilative capacity allocation, at the time DEQ actually sets those limitations, and therefore their due process rights are not violated.

45. Erosion in both the Willow Creek and Pumpkin Creek drainages can occur at other locations besides head cuts. (Tr. p. 198, l 21 - 24). This being the case, the DEQ must make additional provision in the general permit to protect the streams from the negative effects of erosion caused by CBM discharges.

ORDER

NOW, THERERFORE, based upon the foregoing Findings of Fact and Conclusions of Law, the Environmental Quality Council hereby enters the following order with regard to the Willow Creek and Pumpkin Creek Watershed General Permits:

A. In order to conform to the requirements of Chapter 2, Sec. 4(a)(iii)(C), and for the reasons set forth above, both drainages shall contain only one effluent limitation for each constituent listed in either permit. That limitation shall be the most restrictive limitation set for each constituent for any Category set forth in the permit. Specifically, for EC and SAR, the permit limitation for both permits shall be 1330 for EC and 7 for SAR.

B. Points of compliance for discharge effluent monitoring for both permits must be at the discharge location, i. e. at the end-of-pipe. The discharge location requirements of the permits are hereby upheld.

C. The requirement of a 50 year / 24 hour reservoir for Category II discharges is justifiable to protect downstream uses, and are hereby upheld. But such reservoirs

constitute treatment works and must be permitted separately as such, with a permit to construct, as required by Wyo. Stat. Ann. 35-11-301(a)(iii).

D. The inclusion of an assimilative capacity requirement in both watershed general permits, without the permittee knowing what limits will be set based upon such assimilative capacity allocation, provides fair notice to the permittees, and does not violate their due process rights, given the fact that the general permit allows the permittee to contest the assimilative capacity allocation, at a later time, when the allocation is set for the permittee. The assimilative capacity allocation provisions are hereby upheld.

E. The erosion control protections set forth in the general permits are not adequate to protect the drainages from damage caused by erosion. The *Head Cut Monitoring and Mitigation* provisions of the general permits are not adequate to protect the drainages from erosion, given the anticipated flows from CBM development in these drainages. The DEQ is therefore ordered to revise its erosion protection provisions in the general permits to protect the entire drainages from erosion and not just protection for head cut areas.

Dated this _____ day of _____, 2008.

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Dennis Boal
Chairman
Environmental Quality Council

CERTIFICATE OF SERVICE

I hereby certify that I served the foregoing Wyoming Outdoor Council's Proposed Findings of Fact, Conclusions of Law and Order, by placing a copy of the same in the U.S. mail, postage prepaid, on the 16th day of June, 2008, addressed to the following:

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