

Powder River Assimilative Capacity Approach

Response to Comments

	Commenter	Affiliation	Written Comments	Verbal Comments
1.	Bud Stewart	Wyoming Game and Fish Department		X
2.	Jill Morrison Bernadette Barlow	Powder River Basin Resource Council	X	X
3.	Deb Thomas	Clarks Fork Resource Council	X	X
4.	Dave Haire	Dave Haire		X
5.	Eric Heiser	Yates Petroleum	X	X
6.	Keith Burron	Petro Canada		X
7.	Steve Jones	Wyoming Outdoor Council	X	X
8.	John Robitaille	Petroleum Association of Wyoming	X	
9.	Bill Wichers	Wyoming Game and Fish Department	X	
10.	Eric Kern, Ph.D. Michael Keller, P.G.	Golder Associates Yates Petroleum	X	

Verbal Comments

1. Comment: Concerned with potential impacts due to temperature changes and additional flow from CBNG into the Powder River. (1)

Response: The purpose of the assimilative capacity allocation policy is to provide a permitting tool to ensure loading of total dissolved solids (TDS) and sodium (Na) does not exceed the capacity of the Powder River and ensures protection of TDS and SAR limits at the state line. Protection of Wyoming water quality standards for TDS, SAR and all other parameters will be done through the development of appropriate limits in each permit.

The WDEQ will continue to coordinate with the Game and Fish Department regarding acceptable CBNG flows into the Powder River, within the existing regulatory framework.

2. Comment: Request clarification on how credits relate to the volume of CBNG flow. (1)

Response: Credits are based on the mass load. The mass load is derived from the flow volume and concentration. The higher the flow volume the lower the

concentration must be to meet the mass load limitation. The lower the flow volume the higher the concentration can be. However, the discharge would still be subject to limitations on concentration based on levels necessary to be protective of designated uses and water quality standards. Flow volume will be limited only to the extent to ensure protection of water quality criteria.

3. Comment: Concerned that this policy does not address impacts to current and existing uses in Wyoming. (2)

Response: See response to #1 above.

4. Comment: Concerned that the policy does not address constituents other than SAR and Ec and concerned about how this policy impacts fisheries, wildlife and livestock. (2)

Response: As stated in the policy, all constituents of concern were evaluated in consideration of available assimilative capacity and only TDS and Sodium were determined to have sufficient potential to cause an exceedance at the state border. The policy does not give anyone the right to discharge but rather provides a tool for the permitting staff to use in determining appropriate discharge limits. The discharge permits will continue to be the mechanism used to ensure protection of water quality standards and the designated uses.

5. Comment: Concerned about how Montana will react and that Wyoming could be walking into a lawsuit from Montana. (2)

Response: Montana DEQ has been provided a copy of the policy for review and comment. We did not receive any written comments or objections from Montana DEQ to the proposed policy. Montana DEQ will still have the opportunity to comment on permits issued with the incorporation of this policy.

6. Comment: Would like to see the input from Montana. (2)

Response: No written comments were received by Montana DEQ.

7. Comment: Would like clarification on where the 10 pounds per credit came from. (2)

Response: The 10 pounds per credit is used to reduce the number of credits that would need to be managed by an order of magnitude.

8. Comment: Concerned that there are already a lot of salts in the drainage and would like to see how that will be considered in this policy. (2)

Response: The policy addresses how many credits the discharger will be contributing to the system. The Statement of Policy states that enhanced

monitoring by the operators will ensure the assimilative capacity will not be exceeded. The last part of the policy “Individual and Watershed Permit Interaction with Credits and General Permit” will be modified to include clarification that the tributary confluence will be monitored and reported by the operators monthly and evaluated against what has been allocated on the tributary and throughout the Powder River Basin.

9. Comment: Question how this policy will consider assimilative capacity in the ephemeral drainages. (2)

Response: By definition there is no assimilative capacity in ephemeral drainages.

10. Comment: Can the credits be sold? Do the landowners have a right to the credits? (2)

Response: Yes, the credits can be sold or traded. If the landowner is the mineral lease holder where there is of operator of record, then the landowner can apply to the DEQ for the applicable credits.

11. Comment: This policy appears to create an enormous bureaucracy that is difficult to manage. (2)

Response: The DEQ disagrees with the commenter. This policy will provide a clear and consistent means of regulating the TDS and sodium load from CBNG discharges into the Powder River mainstem. This approach will actually streamline the process for the permitting staff and can be implemented with existing DEQ staff resources.

12. Comment: There are better ways to manage CBNG water. (2)

Response: If there are better ways to manage CBNG water within the existing regulatory structure the DEQ is always open to considering these alternatives. No alternative means or better ways to manage CBNG water were provided in the comment.

13. Comment: Would like to know if there is any place where this type of credit system has been used. (2)

Response: The DEQ is not aware of any other use of this approach for water quality.

14. Comment: Has the DEQ looked at the resources needed to implement the process? (3)

Response: Yes. See response to #11 above.

15. Comment: What additional resources will be needed. (3)

Response: No additional resources will be needed by the DEQ. One temporary full time employee, funded by the DEQ, will be needed by the WYGS.

16. Comment: Who is in control of the process? (3)

Response: The DEQ is in control of the process.

17. Comment: Will this be compiled in the Sheridan office? (3)

Response: Paper documentation related to the assimilative capacity allocation will be maintained in Cheyenne. As stated in the policy, the DEQ will develop periodic summary reports of registration activity and will publish an annual report of registration and allocation activity.

18. Comment: Has WDEQ discussed the use of the conversion factors from TDS to Ec with MDEQ? (4)

Response: Yes. The conversion factors used by WDEQ and MDEQ are the same.

19. Comment: Will DEQ continue to monitor for Ec at the border?(4)

Response: Yes. The monitoring will continue at the Moorhead Montana USGS gauging station.

20. Comment: Is the Wyoming DEQ talking with Montana DEQ about this proposed policy?(4)

Response: Yes. The policy has been shared with Montana DEQ.

21. Comment: Is Game and Fish concerned about both high and low temperature changes? (4)

Response: That is DEQ's understanding.

22. Comment: Initial base allocation does not use mean flow but rather lower flows when determining in stream concentrations. Therefore available assimilative capacity is actually higher than what would be calculated in this proposal. (5)

Response: The preliminary calculated values for the spreadsheet model were based on the mean of the actual flow measured when samples were collected. The preliminary calculated values for the BSNMOD model were based on mean monthly flows. Final calculated values will be developed after considering mean and low flows.

23. Comment: Agree with substituting operators in preference to the lease holder when establishing credits. (5)

Response: Comment noted.

24. Comment: Requested clarification on when an operator could utilize transferred credits. (5)

Response: Transferred credits may be used after a notice of transfer signed by both parties is received by the DEQ (Section V. E.) and the DEQ has recorded the credits, a general permit authorization for the credits has been issued to the new credit holder and the credits have been incorporated into WYPDES discharge permit issued by the DEQ. (Section II. B. e.)

25. Comment: In section III. A. 5, suggested modifying the last sentence as follows. “Authorization of the actual discharge and *specification of the mechanism for determining the number of credits required for that discharge* will be issued under a separate permitting mechanism.” (5)

Response: The DEQ disagrees with the proposed change. The intent is that the permit will have credits (if available) assigned to the discharge regardless if the outfall(s) are actually consuming the number of allowable credits.

26. Comment: In Section III. A. 6, recommended revising the eDMR requirements to make them easier to use and increase the flexibility in the use of credits. Recommended changes are listed on page 4 of the written comments submitted to the Board. (5)

Response: See responses to #85 below.

27. Comment: In Section III. B. 1, suggested modifying as follows. “...when credits are applied to a *discharge authorized by and in the amount specified by an individual, general or watershed based effluent discharge permit.*” (5)

Response: The credits are considered used when applied to a permit (rather than a discharge) regardless of how many credits are actually being consumed.

28. Comment: In Section III. B. 2. b. and c, recommended revision as follows:

- b. tributaries, with allowance for conveyance loss; and
- c. on-channel reservoirs, if lacking capacity to contain the permitted discharge.(5)

Response: Section III. B. 2. has been modified and captures the essence of the commenter’s suggestion.

29. Comment: Upset that he was not provided an opportunity to comment on the draft policy earlier in the process. (4)

Response: This was the first draft of the policy and the explicit purpose of the request for public comment was to provide an opportunity to comment on the policy.

30. Comment: Can you treat and therefore not use any credits?(6)

Response: Yes. If the discharge is treated to historic background conditions or better, no credits would be used because the discharge would actually create more assimilative capacity. Reference to this concept has been added to Section III. B. of the policy.

31. Comment: Suggest building in means to make adjustments to the models as new information becomes available.(6)

Response: The DEQ agrees and believes this is adequately addressed in Section I, Page 5 of the policy.

32. Comment: What impacts will the proposed rule making being considered by the Montana Board of Environmental Review have on the policy? (6)

Response: Any decision made by the Montana Board of Environmental Review on the proposed rule making will need to be evaluated at that time to determine if there are any impacts on this policy.

33. Comment: The proposed process is stunning, bold and innovative. Suggest conferring with the Attorney General office to be sure that this policy shouldn't be a regulation or law. (7)

Response: The DEQ conferred with the Attorney General office and it has been concluded that the assimilative capacity approach is appropriately administered as a policy.

34. Comment: Should also be concerned about assimilative capacity of other constituents. (7)

Response: The DEQ has evaluated other constituents of concern and determined that TDS and sodium are the only constituents of concern that have a reasonable potential to impact water quality at the border. Other constituents will be addressed through the standard permitting process.

35. Comment: Is there enough assimilative capacity to make this worth while? (7)

Response: Yes, even though there are at least two months where the assimilative capacity is at or near zero there are many months where there is a sufficient assimilative capacity to justify the process.

36. Comment: This process should use individual permits. (7)

Response: Use of a general permit system would be the most appropriate means for administering this process. There is no justification for an individual permitting process for the allocation of credits and the process would be less efficient with individual permits.

37. Comment: On-channel reservoirs are unlined and leak, therefore, they should count as a discharge to the tributary and be charged credits accordingly. (7)

Response: The DEQ recognizes that some on-channel reservoirs may leak. However, it is difficult to develop a standard load allocation that would apply to all situations. The provisions of Part III. B. address this issue by giving the DEQ the flexibility to look at site specific characteristics of on-channel reservoirs when making decisions regarding the application of credits.

38. Comment: The margin of safety of 5% is too narrow. (7)

Response: The DEQ disagrees with the commenter. The margin of safety of 5% is appropriate.

Written Comments

39. Comment: The proposal for the Power River Assimilative capacity allocation system is stunning, bold and innovative. But does it really make sense to go forward with the proposal at this time? Remember that this whole scheme is at the mercy of Montana, since the state of Montana could change its standards at any time, or add new constituents, and that could literally upset the whole system that DEQ/WQD has established for "market-based distribution" of the assimilative capacity. (7)

Response: It is not reasonable for Wyoming to wait for Montana to make decisions on their water quality standards. The WDEQ will continue to maintain open communications with Montana DEQ to ensure both water quality standards are protected. If the Montana water quality standards change, the WDEQ will address the changes as appropriate.

40. Comment: Why are you creating this rather grand bureaucratic scheme to allocate assimilative capacity when it appears that there is very little assimilative capacity left to allocate or regulate? If Montana is reporting that 58% of the time, there are exceedences in their standards, doesn't this tell you that there is not much assimilative

capacity left to divide up among the various CBM companies? (7)

Response: See response to #35 above.

41. Comment: Does this proposal assume that all water quality for a particular coal seam remains the same over time? What if the water quality for the coal seam in question changes as the water is withdrawn? Have you determined how often you will check to see if the actual water quality being dumped into the tributaries will be tested often, to determine if it correlates with the water quality that is used to calculate the sodium content? (7)

Response: For the purpose of this policy is the allocation of finite credits. Credits can only be used after consideration of water quality characteristics, proposed discharge rates and authorization under a WYPDES permit with effluent limits protective of water quality standards.

42. Comment: Are you sure that only counting coal seams that are more than 20 feet in thickness is appropriate? Won't this change over time as the technology improves to extract coal bed methane? (7)

Response: The DEQ has posed this question to several industry representatives and has determined that a reasonable minimum coal thickness to consider is 10 feet. Reference to the minimum coal thickness for consideration under this policy has been added to Sections IV. B. 2. and IV. C. 2.

43. Comment: Why is DEQ/WQD only protecting for the assimilative capacity of the Powder River in Montana? Why not protect for the assimilative capacity of Wyoming's waters, too? What is the assimilative capacity of Wyoming's waters in the Powder River drainage? Shouldn't DEQ/WQD try to discover this, and protect Wyoming's waters also? (7)

Response: The DEQ is protecting the water quality in Wyoming when issuing discharge permits. This policy, which addresses water quality at the border, will provide one of the many tools used by DEQ in developing discharge permits to ensure protection of both Wyoming and Montana water quality.

44. Comment: Is DEQ/WQD taking into account all CBM leases? Including state, federal and private? If so, DEQ/WQD should be aware that some of these leases are in dispute, as to their legitimacy. The BLM failed to perform appropriate environmental analysis before issuing some leases, so certain CBM leases may have to be re-offered for sale. (7)

Response: Yes. State, federal and private leases are considered. The comment has been noted.

45. Comment: It is very difficult to put all of this grand scheme for allocating assimilative capacity into a general permit. WOC suggests that a general permit is not the correct way to develop this system. (7)

Response: See response to #36 above.

46. Comment: Considering the breadth and scope of this assimilative capacity proposal, WOC suggests that DEQ/WQD seek an Attorney General's opinion about this scheme. There does not appear to be any statutory authority to proceed with such an unusual approach. Nor does there appear to be any regulatory authority for this. What regulation authorizes DEQ/WQD to set up a whole system of credits, ownership and trading of "rights to discharge" up to a certain level? This is all new and may not be addressed in the regulations or the Wyoming Environmental Quality Act. Will some alleged statutory or regulatory authority that is more vague really suffice to justify such an elaborate system? (7)

Response: See response to #33 above.

47. Comment: All discharges to on-channel reservoirs should be counted just the same as regular discharges directly to tributaries of the Powder River. Here is the reality of on-channel reservoirs: All on-channel reservoirs leak. They are not lined. All on-channel reservoirs are connected to the alluvium of the stream channel, which in turn is connected to the tributary itself. Therefore all discharges to on-channel reservoirs will undoubtedly reach the tributary just as direct discharges will. (7)

Response: See response to #37 above.

48. Comment: A 5% safety margin is a very slim margin of safety. WOC suggests that a 50% safety margin for the assimilative capacity level be used, rather than 5%.(7)

Response: The 5% margin of safety is appropriate. A 50% margin of safety is not reasonable or warranted.

49. Comment: Our major concern continues to be the quantity and temperature of discharged water. We acknowledge that there is a lack of data concerning how the increased water will affect aquatic resources. That being said, it is most prudent for us to advocate that no discharged water reach the mainstem of the Powder River to protect the aquatic resources of the Powder River System. (9)

Response: The DEQ recognizes the concerns expressed regarding additional flows. The DEQ will continue to work with the Game and Fish Department

regarding acceptable flows into the Powder River, within the existing regulatory framework.

50. Comment: Request that permits contain language that allow discharges be quickly changed if monitoring shows constituent levels, including temperature, are being exceeded. (9)

Response: All permits contain standard reopener provisions for cause. Exceedences of permitted limits will be addressed through consistent application of DEQ enforcement policies.

51. Comment: What is the toxicity of sodium to fish/aquatic life? At what levels should we be concerned? (9)

Response: There is no DEQ water quality standard for sodium. The toxicity of sodium salts appears to be dependent on the anion involved.(Water Quality Criteria, McKee & Wolf, 1963) Whole effluent toxicity testing conducted on several CBM discharges has not been shown to be toxic except in the Big George Coal Seam of the Powder River Basin. The toxicity identification evaluation studies do not suggest that sodium is the source of toxicity.

52. Comment: Will a credit be tied to any measure of water volume? (9)

Response: See response to #2 above.

53. Comment: Before a whole new quagmire of inspection, regulation, and paperwork is taken on by State Agencies, we strongly suggest the current challenges be met. (3)

Response: The DEQ disagrees that this policy will create “a whole new quagmire of inspection, regulation, and paperwork”. The policy will provide the DEQ with a better means of addressing the current challenges.

54. Comment: The Wyoming DEQ should write and enact policies to address and protect Wyoming’s water, not to stay within the perimeters of Montana water law. (3)

Response: See response to #43.

55. Comment: Anyone proposing to mine Wyoming’s natural resources should be strictly monitored and held accountable to protect Wyoming’s land, water, air and citizens. (3)

Response: The purpose of the policy is to provide a reasonable mechanism to ensure that water quality standards are being protected at the border. Permits issued through the WYPDES program will ensure protection of Wyoming and

Montana water quality standards and require monitoring of the discharge to ensure compliance. Individuals discharging under a WYPDES permit are accountable for meeting the terms and conditions of the permit.

56. Comment: Based on consideration of potential pathways from groundwater to surface water flow and Golder's field experience in the PRB related to CBNG impoundments, contributions from groundwater to surface water are relatively minimal. Golder is confident that resurfacing of CBNG produced waters attributed to impoundment infiltration generally represents a small fraction of total stream flow. In addition, due to the ephemeral nature of many tributaries in the PRB, the limited flow that may be contributed to the surface water system from groundwater would typically infiltrate prior to the confluence with the mainstem of the Powder River. Therefore, five percent safety factor included within the existing assimilative capacity model should be adequate to account for potential contributions from groundwater to surface water. (10)

Response: Comment noted.

57. Comment: We believe the proposal does not comply with the Clean Water Act which requires protection of current and existing uses of the Powder River. (2)

Response: The assimilative capacity allocation policy is intended only to provide an allocation process for the assimilative capacity of TDS and sodium in the Powder River at the state line. The allocation of credits, in of itself, does not provide any entity with the right to discharge. WYPDES discharge permits will be developed to ensure the water quality standards and designated uses (including fisheries) are protected. Also see responses to #1 and #43.

58. Comment: Please provide us with the background information and documentation used to evaluate all the "constituents of concern". How was the evaluation conducted? What consideration was given for different flow regimes at different locations on the Powder River not just Moorhead Montana. What analysis was conducted of aquatic impacts? What analysis was conducted of bicarbonate, ammonia, arsenic, barium, chlorides, sulfates, EC, SAR and other CBM discharge constituents? (2)

Response:

Comparison of Montana and Wyoming Numeric Standards for Metals				
	MT Chronic Standard, µg/l (Total)	MT Chronic Standard, µg/l (Dissolved Equivalent)*	Wyoming Chronic Standard, µg/l (Dissolved)	CBM Effluent Concentrations, µg/l (Wyoming Discharges)
Cadmium	0.8	0.7	6.2	0 - 0.1
Copper	30.5	29.3	29.3	0 - 8
Chromium III	268.2	230.7	230.7	0 - 1
Lead	18.6	14.7	10.9	0 - 7
Nickel	168.5	168.0	168	0 - 70
Zinc	387.8	382.4	382.4	0 - 150
Iron	1000	N/A	1000	0 - 1500
			Wyoming Chronic Standard, µg/l (Total)	
Barium	2000		2000	0 - 2200
Arsenic	18		7	0 - 9
Ra 226 + 228	5		5	0 - 3

Dissolved equivalent for Montana standard was calculated using EPA conversion factors ("Metals Translator: Guidance For Calculating a Total Recoverable Permit Limit From a Dissolved Criterion"*, 1996)

The above comparison indicates that for all listed metals except cadmium, the Wyoming instream standard is equal to or less than the Montana numeric standard. Therefore, for all metals except cadmium, setting effluent limits based on the Wyoming Standard will maintain compliance with the Montana standard. Cadmium is the only parameter listed above for which the Montana standard is more stringent. However, it would not warrant special consideration for Wyoming CBM discharges since cadmium concentrations in Wyoming CBM effluents are generally less than 0.1 µg/l, which is below the Montana numeric standard and below the Montana trigger value for significance in degradation.

59. Comment: What analysis and protections are considered in the assimilative capacity analysis regarding the impacts to Powder River fisheries? (2)

Response: See response to comments #1, #43 and #57.

60. Comment: Why is the Wyoming DEQ only concerned about Montana Water quality standards at Moorhead? (2)

Response: The DEQ is not only concerned about the Montana Water quality standards at Moorhead. The DEQ is protecting the water quality in Wyoming when issuing discharge permits. This policy, which addresses water quality at the border, will provide one of the many tools used by DEQ in developing discharge permits to ensure protection of both Wyoming and Montana water quality.

61. Comment: DEQ is still required to meet water quality criteria in Wyoming and not to degrade the Powder River. How will DEQ ensure this for the full length of the Powder River where discharges are proposed not just at the Montana line? (2)

Response: See response to #62 above.

62. Comment: Please provide all information related to how DEQ will assess or has assessed the assimilative capacity for the Powder River in Wyoming not just at the border. (2)

Response: This information has nothing to do with the proposed policy. The commenter may schedule an appointment to review the DEQ files anytime Monday through Friday between the hours of 8:00am and 5:00pm.

63. Comment: What year or years for ambient water quality data will be used? We believe the DEQ must base the ambient water quality data on pre-CBM discharges which would be pre 1990. (2)

Response: The policy has been modified to clearly state that the background water quality data used will be for the period of record 1990-2003. The DEQ disagrees with the commenters suggestion of using pre 1990 data because, although this will provide more assimilative capacity, the suggested data set would include discharges from the Salt Creek field that were discontinued in 1990.

64. Comment: How did DEQ arrive at a credit registration system? (2)

Response: The DEQ arrived at the assimilative capacity approach through much internal discussion, discussion with the Oil and Gas Conservation Commission, Wyoming Geological Survey and the regulated community, and consideration of other permitting processes.

65. Comment: Where has this been used and how successful has it been? (2)

Response: The DEQ is not aware of any other use of this approach for water quality.

66. Comment: How did DEQ arrive at credits equal to 10 pounds of TDS or sodium? (2)

Response: See response to #7 above.

67. Comment: These credits obviously have a value that industry will be able to trade or sell. Why is the state providing a pollution credit to industry at no cost? (2)

Response: As stated in the policy, the DEQ is using the assimilative capacity approach as a means of ensuring protection of the Powder River water quality while providing an equitable means of managing development of CBNG discharges.

68. Comment: How is DEQ factoring in the loss of good quality run-off water due to so many in-channel CBM reservoirs?(2)

Response: Inputs from historical runoff in the tributaries is already factored into the baseline water quality of the Powder River. The policy looks at assigning credits of TDS and sodium load to the Powder River. Protection of water quality standards will be accomplished through appropriate effluent limits in WYPDES discharge permits.

69. Comment: How is DEQ factoring in the salts that will be picked up as the CBM discharge water moves down the channel? (2)

Response: To some degree the salts in the channel are already factored into the background concentrations. The policy addresses how many credits the discharger will be contributing to the system. The Statement of Policy states that enhanced monitoring by the operators will ensure the assimilative capacity will not be exceeded. The last part of the policy "Individual and Watershed Permit Interaction with Credits and General Permit" will be modified to include clarification that the tributary confluence will be monitored and reported by the operators monthly and evaluated against what has been allocated on the tributary and throughout the Powder River Basin.

70. Comment: On what basis has DEQ determined that 5 percent is a reasonable margin of safety? (2)

Response: A margin of safety can be implicit or explicit. Considering the entire margin of safety includes unleased acreage, no recognition of conveyance loss,

fractional credits and the use of conservative flow values in the modeling, the 5% additional margin of safety is reasonable and appropriate. In addition, the tributaries to the mainstem will be monitored monthly to validate calculated loads and the monitoring at the USGS gauging station at Moorhead Montana will continue to be used to validate protection of water quality standards.

71. Comment: What consideration is given to the assimilative capacity of the tributaries to the Powder that will be carrying CBM discharge water? (2)

Response: The policy is only intended to address allocation of assimilative capacity on the Powder River mainstem. Assimilative capacity of perennial tributaries to the Powder will be evaluated on a case by case basis. By definition there is no assimilative capacity in the ephemeral drainages.

72. Comment: Is modeling going to be conducted on the tributary streams and ephemeral drainages that are now and will be carrying CBM discharge water? (2)

Response: Any modeling that would be conducted on tributary streams or ephemeral drainages to the Powder River will be done separate from this policy.

73. Comment: The credit system looks like it will require an enormous bureaucracy? How will this bureaucracy be specifically funded? What is the expense? How will it be monitored and enforced? How will the public access this data? (2)

Response: The policy will not require an enormous bureaucracy. In fact, the policy will provide a management tool for permit writers that will give a greater level of certainty to the permitting process and protection of water quality standards for TDS and sodium at the border. Implementation of the policy will require one full time employee for the WYGS that will be funded by the DEQ. It is anticipated that the cost of the WYGS position will be approximately \$35,000 to \$40,000 per year. The policy will be monitored and enforced through the existing permitting process. Information related to WYPDES permitting, including the implementation of the policy is public information and available for review in the Cheyenne office. In addition, as stated in the policy, the DEQ will develop periodic summary reports of registration activity and will publish an annual report of registration and allocation activity.

74. Comment: Strongly support the concept of making assimilative capacity in the Powder River available for use. (5)

Response: Comment noted.

75. Comment: The margin of safety is actually considerably greater than suggested by the policy because responsible operators will not use the full allotment, but will reserve some of the allotment for compliance assurance purposes. (5)

Response: Comment noted.

76. Comment: The policy should not be used to eliminate existing discharges that have been demonstrated by existing stream segment and mainstem modeling not to have had an adverse impact. (5)

Response: The intent of the policy is not to eliminate existing discharges. However, because existing discharges are not factored into the calculation for determining baseline conditions, they will be required to conform to this policy when their permits are being modified or renewed.

77. Comment: A CBNG Entity's compliance will be determined by the eDMR form and the CBNG Entity's demonstration that the total credits consumed by that entity for the month. Believe that this interpretation works well and achieves both the Department's goal of understanding the allocation of discharges across the Powder River Basin with the operators' need to empty reservoirs and manage water to minimize impacts upon the Powder River and individual landowners upon which the operators produce CBNG. (5)

Response: Comment noted.

78. Comment: Support the Department's findings that TDS and sodium (a constituent of Sodium Adsorption Ratio or SAR) are the only constituents of sufficient potential to warrant direct control under this policy. Believe that this finding is borne out of existing monitoring and modeling data.(5)

Response: Comment noted.

79. Comment: Concerned that the draft Policy's inclusion of the Montana water quality standards could be read as an endorsement of the validity of those standards. As Yates and other members of the CBNG industry have stated in the past, the Montana standards are overly conservative and without an adequate foundation in water chemistry or agronomy. (5)

Response: The Montana water quality standards have been adopted in accordance with Montana laws. This policy does not address or express an opinion about the appropriateness of the Montana water quality standards.

80. Comment: Concerned about the implementation of the term “pounds per day” found in section I.B. The mixing and BSNMODY models basically address total pounds per month flowing through the system and there is no easy way to convert the “credits” under the policy into a daily limitation without putting the credits on a daily basis, which would be overwhelmingly cumbersome. If the Department is concerned about too many credits being used in a particular day, a concern that is not well founded due to the variable of conveyance loss and delay across the Powder River basin, a limitation that no more than 5 to 10 percent of available credits could be used in any day of the month would be sufficient to address that concern without imposing an undue burden on the Department or CBNG entities. (5)

Response: The method for calculating the available capacity is actually done on a pounds per day basis. Because establishment of credits is done on a percentage basis it makes no difference if the allocation is based on pounds per day or pounds per month. How the allocations are incorporated into a discharge permit will be determined at the time of permit issuance, taking into consideration ease of implementation and necessary assurance for surface water protection.

81. Comment: In Section II.B.(a), believe the intent is to calculate standard credits “based on each CBNG Entity’s ‘Basin Allocation Percentage’ (determined in Section IV.C.5.(a) times the number of credits (determined in Section II.A).” (5)

Response: The intent of this provision is as stated in Section II.B. (a).

82. Comment: In Section II.B., recommend that “operator acreage” be used in preference to leased acreage because the operators are the parties responsible for managing the leases and obtaining any necessary permits. (5)

Response: The DEQ agrees with the commenter and changes have been made to the policy to reflect that credits will be based on each CBNG Entity’s operator of record acreage plus percent of lease hold acreage where there is no operator of record.

83. Comment: In Section II.B.(e), request that the Department clarify that by “incorporated into a general, individual or watershed based permit for surface discharge” the Department means that the credit has been transferred from one operator’s Bank account to the other operator’s Bank account under the General Permit and that this transaction has been recognized by the Department. (5)

Response: The DEQ does not agree with the commenter’s interpretation. The provision has been modified to clarify the DEQ’s intent.

84. Comment: In Section III.A.5, request that the Department revise this paragraph as follows to more closely correspond with its probable intent:

Authorization under the PRM General Permit does not in and of itself give authorization for discharge. Authorization under the PRM General Permit merely provides certification to the WQD that an applicant is permitted to discharge the specified number of credits into the Powder River mainstem. Authorization of the actual discharge and *specification of the mechanism for determining the number of credits required for that discharge* will be issued under a separate permitting mechanism.

The change in language makes it clear that the credits always remain tied to the general permit, but the mechanism for determining how the credits are required for a particular discharge will be established in the relevant individual, watershed or general permit authorizing the discharge. (5)

Response: See response to comment #25 above.

85. Comment: In Section III.A.6, recommend that the Department revise the eDMR requirements to make them easier to use and increase the flexibility in the use of credits while assuring that assimilative capacity is not exceeded. The changes are as follows:

- A. In III.A.6.c, only A through C should be required to be listed for each discharge point.
- B. In III.A.6.c, requirements D and E should be eliminated.
- C. A new III.A.6.d should be created as follows: “d. Total number of credits consumed at by all CBNG discharges”
- D. A new III.A.6.e should be created, as follows: “e. Excess (Deficit) of credits held against credits consumed by all CBNG discharges”
- E. A new III.A.6.f, which would be the same as existing III.A.6.c.E.

The revised changes make it easier for DEQ to track whether total assimilative capacity allocated to the CBNG entity has been exceeded while also allowing the CBNG entity to shift credits within permitted discharges to address discharge needs. (5)

Response:

- A. The DEQ agrees that D would not be necessary if eDMR is mandatory. E is accomplished through the electronic signature and could also be removed.
- B. See response to A.
- C. The authorization under a general permit is specific to each CBNG entity. It does not seem practical to ask each operator to submit a summary of all other operators. The DEQ will evaluate the cumulative discharge and consumption of credits for each major tributary and for the Powder River.

D. This is not necessary since the limits would already be in the eDMR database and can already be easily tabulated.

E. It is unclear why the commenter is suggests inserting this provision when in A and B the commenter suggested that this provision be removed. The provision was removed as explained in A above.

86. Comment: In Section III.B.1, request that the Department revise this paragraph as follows to more closely correspond with its probable intent:

Credits authorized under the PRM General Permit will be deducted from the CBNG Entity's Credit Bank account when credits are applied to a *discharge authorized by and in the amount specified by an individual, general or watershed based effluent discharge permit.*

The requested change clarifies that credits are consumed by discharges in the amount specified by the mechanism in the individual, watershed or general permit authorizing the discharge. (5)

Response: See response to #27 above.

87. Comment: In Section III.B.2.b and c, recommend adding revising the provision as follows:

- b. tributaries, with allowance for conveyance loss; and
- c. on-channel reservoirs, if lacking capacity to contain the permitted discharge.

It is well established that the ephemeral reaches of Wyoming streams, conveyance loss can be significant (e.g., approaching 0.2 cfs/stream mile or more). Some allowances for conveyance loss is thus appropriate in establishing the credit "cost" of the discharge because some or all of the discharge may never reach the Powder River mainstem and thus may not "consume" assimilative capacity. Similarly, many discharges to reservoirs are completely contained within such reservoirs and never consume assimilative capacity or, if the reservoir overflows during storm events, the contribution is totally subsumed to the larger landscape level impact of the storm flow. (5)

Response: Changes made to Section III. B. 2. address the commenter's recommendation.

88. Comment: In Subsection IV.B., recommend that each CBNG list their "operated" acreage because that is the acreage for which they have management responsibility and would be obtaining permits. Operator standing can be determined from WOGCC and other public records. (5)

Response: The DEQ agrees with the commenter's recommendation and appropriate changes have been made to Section IV. B.

89. Comment: In Section IV.B.4.b, a conforming change to make it "mineral lease acreage *operated* including the section designations". A similar change should be made in d. (5)

Response: See response to #88 above.

90. Comment: In Section IV.C.5.b, the "CBNG Entity Allocation Percentage" is not needed if the Unleased allocation goes to the safety factor.(5)

Response: The DEQ agrees with the commenter and IV.C.5.b, the "CBNG Entity Allocation Percentage" has been deleted.

91. Comment: In Section IV.C.5, recommend that the Registrar also calculate the total coal volume by HUC-12 drainage to facilitate calculations in the future.(5)

Response: Because the total coal volume by HUC-12 drainage is not necessary for implementation of this policy no changes are made. However, if information on a HUC-12 basis is necessary or deemed useful in the future it can be obtained relatively easily from the work already being conducted by the Wyoming Geological Survey.

92. Comment: In Section V.A.1.e, recommend that this provision be revised to read: "The Bank will debit each CBNG entity's credit account in accordance with the *mechanism in the* approved CBNG effluent discharge permit." This change is necessary to establish quantum of credits that will be required for the discharge.(5)

Response: The following change was made to Section V.A.1.e:

"The Bank will debit each CBNG entity's credit account in accordance with the credits identified in the approved CBNG effluent discharge permit(s)."