

Responses to the City of Sacramento's comments on the Aerojet Rocketdyne Inc., Groundwater Extraction and Treatment Systems, ARGET, GET E/F, GET HA, GET J, GET KA, GET LA, GET LB, GET AB, White Rock GET, Sailor Bar Park Well, Chettenham Well, Golden State Water Wells and Low Threat Discharges, Sacramento County Tentative Permit. The numbers refer to those depicted in the City's letter.

1. This will be added as it was inadvertently left out from the previous version of the permit.
2. Each discharge meets drinking water standards and protection of aquatic life values without accounting for any dilution in the American River. Chemicals from the discharges have not been detected in the American River even during the few times that there have been exceedances of the effluent limitations. In addition, in the future the discharge from GET AB and the White Rock GET will almost always be reused by Aerojet and/or Teichert as an industrial water supply.

The 49.33 mgd figure assumes an on-going discharge from the treatment systems of three water supply wells. The flows from those facilities are short in duration 1-5 minutes and occur only during startup and shutdown. Those combined flows are 6.8 mgd for the three water supply wells. Discharges from GET HA and Sailor Bar are not to the American River. There will likely not be a resumed discharge from the Chettenham Well facility and GETs AB and White Rock discharges are slated for reuse long-term maximum flows would be around 31 mgd. Actual real increase is 2.88 mgd.

3. The GET AB facility is a combination of the old GET A and GET B facilities and is essentially a brand new facility when completed in April 2014. The facility is designed to meet the effluent limits found in the permit which are more stringent than those found in the Partial Consent Decree. Past operational data is not valid if one is looking at the new facility.
4. For the GET AB facility, the influent contains volatile organics consistently primarily of TCE, chloroform and Freon, perchlorate and NDMA. Concentrations in influent to the facility are up to 24 µg/L TCE, 55 µg/L 1,1-DCE, 4.7 µg/L NDMA, 64 µg/L perchlorate and 190 µg/l Freon 113. For the White Rock GET the two extraction wells currently have VOCs – primarily TCE and cis-1,2-DCE, and perchlorate. NDMA is found in monitoring wells upgradient and non-detect (<0.39 ng/L) in the White Rock GET extraction wells. Aerojet is developing a plan to provide containment prior to the extraction wells. The permit requires sampling and effluent limits for NDMA in the event that capture is not provided in time. Recent data shows concentrations of TCE at 67 µg/L, 5.8 µg/L cis-1,2-DCE and 25 µg/L perchlorate in the extraction wells for the White Rock GET. This information has been included in the permit.
5. The effluent from the White Rock GET has not shown concentrations of THMs. Those constituents are part of the VOC list of pollutants and effluent limits for those THMs are

the same as the other VOCs. THMs are removed by the air stripper that is used for VOC treatment.

6. The permit does not state that GET AB and White Rock GET were not considered when evaluating the need for WQBELs. Data from those two facilities was used in the evaluation, along with that from the other GET facilities. The treatment systems were designed after assessing the need to meet potential effluent limitations. The groundwater data from extraction and monitor wells for the area captured by the extraction system for the GETs was used to determine what constituents required treatment.
7. The list of what needs to be submitted in the Annual Operations Report is listed in Section X.D.1. a-e. There is no requirement to submit an annual summary report of the data, unless requested by the Board. All reports submitted by Aerojet are public documents and available for reviewing by request to the Regional Water Board staff, or for self-monitoring reports on the CWIQS database.
8. Information that would have been found in Attachment H has been placed in Section IV.C of Attachment F and Table F-7, commencing on page F-17.
9. Based on the new boiler-plate provided by the State Board, the more detailed specific facility information is to be provided in Attachment F. Previous boiler-plates had somewhat duplicative information in the first section of the permit and in Attachment F. That duplication has been eliminated with this newer version.
10. The previous version of the permit continued to contain effluent limitations for copper for the ARGET and GET E/F facilities. A copper limit had been included in previous versions of the permit due to detected concentrations of copper in the effluent and the results of a Reasonable Potential Analysis. The copper concentrations were questionable due to the fact that copper was not being found in the groundwater at significant concentrations. In 2008 Aerojet replaced the sample taps that were made of brass (containing copper) with stainless steel. Since that time the copper concentrations have ranged from below detection (1.5 µg/L) to a high of 4.2 µg/L with most concentrations falling below detection. The Reasonable Potential Analysis does not demonstrate a need to retain the effluent limitation for copper.
11. The limit in the table is incorrect and the daily maximum is should be 0.01 µg/L. It should be noted that the Aerojet discharge cannot exceed the monthly average which essentially is the daily maximum since sampling is conducted once per month.
12. The effluent limitation for acrylamide is based on a 1×10^{-6} incremental excess cancer risk. There are no drinking water standards for acrylamide. The acrylamide is found in the polymer being used to help dewater the solids generated at the GET E/F facility. This same polymer is used in drinking water systems throughout the country. As EPA

was not able to measure acrylamide at the lower risk levels, it regulates the use of acrylamide polymers by the drinking water rule. The limit on the water supply process is a dosage rate of no greater than 1 ppm and a percentage of acrylamide in the polymer of 0.05%, which works out to a concentration of 0.5 µg/L acrylamide in the finished water. Calculating Aerojet's dosage of the acrylamide polymer, the worst case concentration of acrylamide in Aerojet's GET E/F effluent would be 0.02 µg/L.

13. 1,4-Dioxane has never been found in the influent or effluent to the treatment facility. Nor is it found in the groundwater within the area captured by the extraction wells providing water for treatment at the facility. We were unable to find the statement that there were no changes made to the monitoring program. On the contrary, there were several changes to the monitoring program.
14. The requested addition has been made.
15. The requested correction has been made.
16. 1,4-Dioxane is not found in the groundwater within the area providing water for treatment at GET AB. The previous GET A and GET B facilities had been operational for over 20 years. The maximum daily limit for NDMA is the current Notification Level established by the California Department of Public Health. As noted above, the monthly average limitation must be met and with sampling once per month it is essentially the daily maximum limit that Aerojet will meet. The monthly average limit is 0.002 µg/L.
17. The same response above for number 16 applies to this comment. With exception that the White Rock GET has only been operational for less than a decade.
18. The suggested addition was made.
19. The correction to VI.A.2.ii has been made.
20. The requested addition has been made.
21. RL is reporting limit and this has been added to the definition in question.
22. The definition is correct.
23. The definition is correct.
24. The Practical Quantitation Limit and Reporting Limit are one in the same. The PQL is the lowest concentration level that can be reliably achieved within the specified limits of precision and accuracy during routine laboratory operating conditions.
25. The definition has been modified to include the tributary rule and be consistent with the State Water Board Resolution 88-16.

26. The schematics are now presented in the same order as discussed in the permit.
27. The WRND schematic has been labeled White Rock GET.
28. Changing the schematics would entail considerable effort and the description of the discharge receiving water is found in the text.
29. The "etc." was a carryover from the boilerplate and has been eliminated.
30. The requested change has been made.
31. The correction has been made.
32. The actual PQL for SVOCs is 5 µg/L and the previous value was incorrect.
33. The correction has been made.
34. Semi-volatile organics have not been detected in the influent, or in the effluent for the systems that are no longer required to sample for SVOCs. SVOCs have also not been found in the groundwater supplying those facilities.
35. During the course of monitoring for acetaldehyde under the previous permit, laboratories were proven not to be capable of achieving a PQL of 1 µg/L on a reliable basis. A PQL of 5 µg/L appears to be consistently achievable and will still supply appropriate data to show compliance with the effluent limit.
36. Since the initial draft of the permit, a laboratory with an improved PQL and MDL was found. The PQL is 0.1 µg/L and the MDL is 0.021 µg/L. The effluent limitation is 0.05 µg/L. Thus, the detection limit is lower than the effluent limitation.
37. SVOCs are not found in the groundwater being captured by the GET HA extraction field.
38. See response 37.
39. The requested change has been made.
40. The requested correction has been made.
41. The correction has been made.
42. Language from the previous version of the permit has been retained.
43. The text is correct and no changes have been made.
44. The added reference has been included.

45. These definitions are supplied in the boilerplate for NPDES permits and need to be applicable to a range of facility types and discharges. If there are no average annual limits than the Discharger can ignore that requirement as not applicable to them.
46. The June SMR would contain the calculated values for annual averages of pollutants during the period July 1 to June 30. Table E-6 informs the discharger to report data that is collected on an annual basis in the December SMR.
47. They appropriate changes have been made.
48. The corrections have been made.
49. 1,4-dioxane is still below the detection level of 3 µg/L. Historically, detection levels have ranged up to 10 µg/L and the sentence reflects that.
50. The detection level for NDMA has varied historically during the various versions of this permit and the statement reflects that fact. NDMA in the effluent from GET E/F is below the current PQL of 2 µg/L.
51. "Discharge 015" has been added to the sentence.
52. The asterisk has been removed.
53. As there have been no violations of effluent limitations at the other facilities it does not seem necessary to add eight more tables to an already complex permit. A sentence has been added to state that there were no violations at the other facilities. GET E/F is the most complex facility with the greatest number of effluent limitations. All of the other facilities had concentrations at or below those in the effluent of GET E/F, or were not required to monitor specific parameters.
54. The text has been modified to identify GET E/F as the facility with the violations.
55. The addition has been made.
56. It is stated in the referenced section that the Discharger has demonstrated that treating to 0.007 µg/L NDMA was both technically achievable and cost-effective for GET J and future GETs using the low-watt UV system. GET KA, GET L-B and GET L-A utilize that technology and therefore have the same limits. The new system at GET AB has an effluent limit of 0.002 µg/L as does White Rock GET in the event that NDMA treatment is needed at that facility. If contributions from GET AB and White Rock GET are considered, then the potential NDMA concentration in Buffalo Creek will decrease due to the added dilution from those discharges.
57. See response 56. Table F-5 was corrected to remove Discharges 016 and 017 from the list of GETs with a different effluent limitation for NDMA.
58. Some additional text has been added to clarify that discharges from GET AB and White Rock GET will provide periodic flows to Buffalo Creek. The gist of the two paragraphs in question does not change.

59. 1,2-DCA should have been acetaldehyde and this has been corrected. 1,2-DCA has a technology-based effluent limitation, as is the case with all of the VOCs, that is lower than its associated water quality objective. In addition, as 1,2-DCA is not found in the effluent or in the receiving water, a reasonable potential analysis is not required.

60. The three footnotes have been added.

61. The discussion is for both GET E/F and GET J. Section d. also discusses the NDMA at the other GET facilities. I have included some additional text for GET AB and White Rock GET and to add some clarification. The average concentration for GET J effluent is 0.0015 µg/L (one detect over 3 µg/L) over the last 5 years, below the WQO. It is apparent that GET J can meet the WQO in stream without needing dilution.

White Rock GET does not have NDMA in the influent to the treatment facility. There is NDMA upgradient of the extraction wells supplying water to that GET facility and Aerojet is developing actions to contain the NDMA prior to reaching those wells. An effluent limitation is established at this time due to the fact that there is a potential for NDMA to enter the extraction wells in the future and therefore, Aerojet is obligated to provide treatment if needed to keep NDMA below the effluent limitation. In addition, the effluent from those facilities is below the WQO for NDMA and would only enhance the dilution available for the GET J discharge. It also would appear that improvements to the GET J treatment system for NDMA are keeping the concentration below the WQO of 0.003 µg/L.

62. The only discharge that potentially has acetaldehyde is GET E/F and therefore all other discharges on Buffalo Creek would supply dilution water. White Rock GET and GET AB are not considered dilution water as they will not be discharged to Buffalo Creek on a consistent basis. In fact, in the future those two discharges will rarely be discharged to Buffalo Creek. As far as the PQL is for acetaldehyde is concerned, the 1.0 µg/L was not being met by the laboratory, nor could another laboratory be found that would state that it could be achieved. The 5 µg/L value found in the tentative permit is one that has been shown to be achievable and is at the WQO. Aerojet is also required to report all found concentrations that fall between the MDL and PQL. The last requested edit in your comment was applied to the text.

63. The only GET facility with a detection of perchlorate in the effluent greater than the effluent limitation is GET E/F. All other facilities use ion exchange for removal of perchlorate and have been demonstrated to consistently achieve an effluent value of less than 4 µg/L (WQO of 6 µg/L). Therefore a reasonable potential analysis is not needed for those facilities. The new GET facilities will also use ion exchange for removal of perchlorate.

64. Corrected miss-numbering. A definition for TSD has been added to the text..

65. Corrected miss-numbering. The pH for those discharges has always been within the effluent limitations of 6.5-8.5. All of the GET facilities have the pH between 6.8 and 8.4 on a consistent basis.

66. 1,2-DCA is not required to have a WQBEL as it is not detected in the effluent or receiving water. However, to be conservative a WQBEL was established at EPA's excess incremental 1×10^{-6} cancer risk level. 1,2-DCA has been found in the influent at several GET facilities and in the groundwater within the capture area of some GETs.
67. See Response 10, above.
68. Flow was included in the technology based limits. Acetaldehyde was included in the WQBELs and 1,2-DCA was added. They were all already found in Table F-10a.
69. From the recommended edits for Table F-10a, we made the one that were appropriate. Some were already in the table or had already been corrected since the public review of the permit began.
70. Sampling has shown that the Aerojet discharges are not a source of mercury, diazinon, or chlorpyrifos and so those two reopeners are not applicable to the discharge. They are found in the Standard Provisions section of the Order and are not specific tailored for a specific discharge. The monitoring plan can be reopened at any time and need not be specified here.
71. It is not needed in the referenced section as it would be just a repeat of the language found in the Order.
72. Comment noted. See responses above to specific changes to the MRP from the previous version of the permit. Section VII.A.1 is not for noting the changes that were made. We have added a clarifying statement.
73. Comment noted. See previous responses. We have added some clarifying text.
74. Comment noted. See previous responses. We have added some clarifying text.
75. The points are now referred to M-001, M-002 and R-001.
76. EFF-001 and EFF-002 are the previous identifiers for discharges M-001 and M-002. The correction has been made. These two discharges were chosen as they are the most complex treatment facilities with the highest influent concentrations and greatest number of constituents of concern. The requirement is to use the closest receiving water location upstream of the discharge point from these two discharges. R-001 is that being used to test the quality of water upstream of the discharge.
77. We will add the requirement to use the requirements for monitoring found in Attachment E. This was not included in the boilerplate. All reports submitted by Aerojet for this permit are public documents.
78. Practical Quantitation Level has replaced Maximum Reporting Level.

