

**SACRAMENTO**  
Department of Utilities

October 1, 2013  
130225:BLS:EC

Alexander MacDonald  
Central Valley Regional Water Quality Control Board  
11020 Sun Center Drive, #200  
Rancho Cordova, CA 95670-6114  
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**SUBJECT:** Comments on Tentative Revised NPDES Permit for Aerojet Rocketdyne, Inc., Groundwater Extraction and Treatment Systems Waste Discharge Requirements, Order No. R5-2013-XXXX, (NPDES No. CA0083861)

Dear Mr. MacDonald,

The City of Sacramento (City) appreciates the opportunity to provide comments on the Tentative Revised National Pollution Discharge Elimination System (NPDES) permit for Aerojet Rocketdyne, Inc. (Aerojet) Groundwater Extraction and Treatment (GET) Systems Waste Discharge Requirements (Order). The City provides water to more than 135,000 customer accounts serving approximately 473,509 residents. The City treats surface water at two facilities, the E.A. Fairbairn Water Treatment Plant on the American River, and the Sacramento River Water Treatment Plant just downstream of the confluence of the American and Sacramento Rivers. We are actively involved in protection of the quality of our drinking water source water, and value the high-quality American River as an important resource for the entire region.

We have reviewed the Order, as well as its Attachments, and have several general comments for you to consider as well as numerous specific comments. We believe that

our comments will necessitate the Central Valley Regional Water Quality Control Board (Board) to provide new information related to this permit that we would like the opportunity to review and therefore, we request that this information be posted and a second public comment period opened prior to the public hearing. The following are the general comments on the Tentative Revised Order:

1. Request to Re-Include the Notification of Discharge Exceedence to Downstream Water Utilities

① The City acknowledges the helpfulness and information provided by Aerojet staff in providing notification of NPDES permit exceedences under the existing Order (R5-2011-0088). We request that this Order be revised to include the same direct notification to the water utilities that was provided in the previous Order, as Section X.A.5 to Attachment E – Monitoring and Reporting Program.

"Within 24-hours after the Discharger has received information that its discharge exceeds effluent limitations, or if operational monitoring of the treatment facilities indicates that there is a potential for effluent limitations to be exceeded, the Discharger shall notify the Board, City of Sacramento Department of Utilities, the Freeport Regional Water Authority and Carmichael Water District. Arden-Cordova Water Service and the Bureau of Reclamation shall be notified if the discharge that is in violation is to Alder Creek, tributary to Lake Natoma."

② As noted in Attachment F – Fact Sheet, the new permitted flow from the GET facilities is 49.33 million gallons per day (mgd). This is a 26 percent increase over the flow from less than two years ago in the previous Order (R5-2011-0088). All new flows are discharged to the Lower American River. We have great concern about this significant volume of treated groundwater, and associated contaminant loads, coming to the American River and potential for increased risk in case of treatment problems or cumulative contribution of contaminants. Is there a summary available where the Board considered all the impacts of these discharges to the Lower American River?

2. Request to Clarify Historic Permitting and Performance for GET AB

③ It is our understanding that the historic permitting mechanism for the discharges from GET AB to land was under the USEPA's Partial Consent Decree in 1989, and that there is no previous permit from the Board. No information on the historic design, operation, and performance of the facility was readily available to compare with the currently proposed permit. We request that the Board provide a summary of the GET AB historic operations and performance, specific to historic influent and effluent water quality.

3. Adequacy of Treatment Facilities for New Discharges from GET AB and White Rock GET

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The currently proposed treatment facilities for GET AB and White Rock GET have not been supported by a presentation of influent water quality. These new treatment and discharge facilities have been in operation, with disposal to land. The existing NPDES permit for White Rock GET (R5-2011-0025) indicates source concentrations of volatile organic compounds (VOCs) and perchlorate, in addition to detectable amounts of N-nitrosodimethylamine (NDMA). Treatment is only provided for VOC and perchlorate removal. We request that the Board provide a summary of influent water quality for both proposed new discharge facilities (GET AB and White Rock GET), which supports the selection and implementation of treatment processes and monitoring programs, for public review.

4. Evaluation of Disinfection By-Products in the White Rock GET Effluent

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The Order describes the current extraction wells that supply the White Rock GET as having biofouling problems. These are treated with high doses of sodium hypochlorite (50 mg/L of 12.5 percent solution). The Order includes an effluent limit for chlorine residual. We recognize the potential for disinfection by-products to have been created during this superchlorination process and would like to know if the Board has evaluated total trihalomethanes (TTHMs) and haloacetic acids (HAA5) in the White Rock GET effluent. We understand that these are volatile compounds and are not expected to be present at high doses, but we believe it is the discharger's responsibility to verify their presence. If data supports the lack of detection we have no further concerns, but if insufficient, or no, data exists then we would support a limited data collection to verify potential levels of discharge to Buffalo Creek.

5. Clarification of Effluent Limits

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The Board has included both Technology-Based Effluent Limitations and Water Quality-Based Effluent Limitations (WQBELs) as part of this permit. They are presented in Attachment F – Fact Sheet, Sections IV. B. and C. The results of these evaluations are then applied to the various GET effluent discharge locations as effluent limitations. We have identified several conflicting effluent limitations which we request that the Board review and clarify. Also, it does not appear that the new discharges from GET AB and White Rock GET were taken into account when developing the WQBELs, so we request review and clarification. The details are in our specific comments below.

6. Attachment E – Monitoring and Reporting Plan Report Submittals

Section X. A. 2. requires the discharger to submit a summary monitoring report only if requested by the Board. Section X. D. includes a requirement for submittal of an Annual Operations Report. It is unclear to the City what information the discharger is required to summarize, evaluate, and submit at this time. We request clarification on the reporting requirements (other than Self-Monitoring Reports) that will be submitted by the Discharger. Also, we would like to note that we request that these reports be readily available to the public.

7. Attachment H – Calculation of WQBELS

Attachment H is listed in the Table of Contents for the Order, but it was not provided in the document. Attachment F – Fact Sheet, Section IV. C. appears to provide this discussion but this should be clarified. Please clarify if this is an incorrect reference or a missing document. Any additional materials that were omitted from the initial posting of the Tentative Revised Order should be posted for public review and comment prior to finalization of the Revised Order.

Provided below are specific comments:

Order -

1. Section I – There is a reference to a summary of the facility in Table 1. Table 1 is a summary of discharger information. We suggest that a brief paragraph be added to this section that describes the general nature of the discharge.
2. Section II.M. – This describes the removal of the copper effluent limit and refers to a discussion in Attachment F – Fact Sheet. There is no data provided to support the finding that the copper was from sampling taps. We request the Board to provide a summary of the study or data which supports the removal of the effluent limitations.
3. Section IV.A.1.a. – The table for ARGET, discharge point 001, includes a maximum daily effluent limitation of 0.010 ug/L for N-nitrosodimethylamine (NDMA). As per the Fact Sheet, Table F-5 it seems that this limit should be set at 0.005 ug/L. We request the Board to review and clarify.
4. Section IV.A.2.a. – The table for GET E/F, discharge point 002, includes effluent limitations for acrylamide but no basis for those numbers can be found in the Order or its Attachments. We request the Board to review and clarify or provide supporting information.
5. Section IV.A.5.a. – The table for GET J, discharge point 005, has had its effluent limitation for 1,4-dioxane removed. This is contrary to the statement that no changes were made to the monitoring program. We request the Board clarify its

- removal or reinstate the limit.
- 14 6. Section IV.A.11.a. – The table for Chettenham Well Facility, discharge point 011, has two footnotes indicated but the second footnote is not included. We request the Board to add the footnote.
  - 15 7. Section IV.A.13. – The introductory paragraph for AC-6, discharge point 013, shows compliance at the monitoring location M-011. It appears that the correct location would be M-013.
  - 16 8. Section IV.A.16.a. – The final effluent limitations for GET AB are new to this permit. The City requests clarification from the Board why 1,4-dioxane is not a constituent of interest in the influent, for example by providing a summary of the historic monitoring. Also, the maximum daily limitation for NDMA has not been clearly supported in the Fact Sheet. We request the Board provide additional information or clarification as to why the higher limit should apply to this facility.
  - 17 9. Section IV.A.17.a. – The final effluent limitations for White Rock GET are new to this permit. We would like clarification from the Board regarding why 1,4-dioxane is not a constituent of interest in the influent, for example by providing a summary of the historic monitoring. Also, the maximum daily limitation for NDMA has not been clearly supported in the Fact Sheet. We request the Board provide additional information or clarification as to why the higher limit should apply to this facility.
  - 18 10. Section V.A. – The first sentence of this section needs to be revised to include the American River as a receiving water body.
  - 19 11. Section VI. A. 2. j. – This section refers to Section VI.A.2.i which appears to be an incorrect reference. This should be reviewed and corrected.
  - 20 12. Section VI.C.4.a. – Operations and Maintenance Plan - We greatly appreciate the efforts of Aerojet staff to improve operations and maintenance to prevent failures of treatment. There have been instances where failures in electrical power have resulted in water quality exceedences, especially at GET E/F. We would like to request that this section be expanded to include reference to the Standard Provisions in Section VI.A.i., and require the discharger to address this issue.

#### Attachment A – Definitions

- 21 1. Detected, but Not Quantified (DNQ) – There is a reference to “RL”, but it is not defined. Also, should “chemical” be inserted between “estimated” and “concentrations”?
- 22 2. Estimated Chemical Concentration – Should the “ML” be “MDL”?
- 23 3. Not Detected – Definition does not seem to coordinate with the definition for DNQ, MDL, and Estimated Chemical Concentration.
- 24 4. There is no definition provided for Reporting Level or Practical Quantitation Limit, but these are used in Attachment E – Monitoring and Reporting Program.

- 25 5. Source of Drinking Water – This definition is not sufficiently broad enough to include the Tributary Rule or the Sources of Drinking Water Policy. This needs to be expanded to account for sources not specifically designated in the Basin Plan.

#### Attachment C – Flow Schematics

- 26 1. The first schematic is for GET AB, but it appears that this is incorrect and should be ARGET to be consistent with references throughout the Order and its Attachments.
- 27 2. The term “WRND” is used on these schematics but not defined on the schematics or in the Order. We believe this is White Rock North Dump. If so, we suggest revising the schematics to reflect the name White Rock GET, as used in the Order and its Attachments.
- 28 3. We would suggest that Attachments C-2, C-4, C-5, C-8, and C-9 clarify the ultimate point of discharge is to the American River.

#### Attachment D – Standard Provisions

- 29 1. Section VI.B. – The text of this subsection is “Etc.”. We request clarification of the content of this subsection.

#### Attachment E – Monitoring and Reporting Program

- 30 1. Section II. – The paragraph following Table E-1 includes a reference to Table 1. Should this be a reference to Table 2 of the Order?
- 31 2. Section III.A. – The title of this section should include MINFO.
- 32 3. Section III.A.1. – Table E-2a has a footnote 4, related to semi-volatile organic compounds which includes a practical quantitation level of 5 ug/L. The previous Order (R5-2011-0088) included a limit of 0.5 ug/L. Can the Board either correct or clarify why there has been a significant increase in the reporting level for these constituents? This is typical to the footnote for all tables with semi-volatile organics in required monitoring.
- 33 4. Section III.C. – The title of this section should not include MINFLO.
- 34 5. Section III.C.1. – There is no semi-volatile organics monitoring required for any of these locations, but they were required in the previous Order (R5-2011-0088). Can the Board either correct or clarify why these constituents have been removed?
- 35 6. Section IV.B.1. – Table E-3b has a footnote 10, related to acetaldehyde, which includes a practical quantitation level of 5 ug/L. The previous Order (R5-2011-0088) included a limit of 1 ug/L. Can the Board either correct or clarify why there has been a significant increase in the reporting level for these constituents?
- 36 7. Section IV.B.1. – Table E-3b has a footnote 15 that sets the practical quantitation

level of 50 ug/L for acrylamide. This is well above the effluent limitation of 0.05 ug/L specified in Section IV.A.2.a. of the Order. This needs to be reviewed and revised to ensure that the analytical method can assess compliance with the effluent limit.

- 37 8. Section IV.C.1. – Table E-3c does not include a requirement for semi-volatile organic monitoring. We request the Board revise to include or explain why removed from the requirements.
- 38 9. Section IV.D.1. – Table E-3d does not include a requirement for semi-volatile organic monitoring. We request the Board revise to include or explain why removed from the requirements.
- 39 10. Section IV.M.1. – Table E-3m has a footnote 8 which clarifies that sampling commences once three samples of the influent are found to contain NDMA. We request the Board to clarify “contain”, with reference to the detection limits defined in Attachment A (i.e. above the Method Detection Limit or practical quantitation level).
- 40 11. Section VIII.A. – The title of this section includes R008 and R009, which are indicated as no longer in use. These should be removed and replaced with R006 and R007.
- 41 12. Section VIII.A.1. - This section includes R008 and R009, which are indicated as no longer in use. These should be removed and replaced with R006 and R007. Table E-7a has a footnote 8 that refers to R-018 and Outfall 010, neither of which exist in this Order. These should be removed.
- 42 13. Section X.A. – This section should be revised to include the water utility notification from the previous Order (R5-2011-0088) as discussed in overall Item 1.
- 43 14. Section X.B.4. – This section includes reporting protocols that do not clearly coordinate with the definitions provided in Attachment A. These should be coordinated and clarified.
- 44 15. Section X.B.6.b. - We suggest that a sentence be added which refers to the signatory and certification requirements from Attachment D – Standard Provisions for the cover letter.
- 45 16. Section X.B.7. – These definitions do not appear to match the requirements of this Order. There are references to annual averages for effluent limits, which are not specified in this Order. Can the Board please review and either clarify or correct the intent?
- 46 17. Section X.B.7.a. – There is a reference to submitting annual data in a June SMR, which directly conflicts with Table E-6 shown as December SMR.
- 47 18. Section X.B.7.g. – There are references to RSW-001 and RSW -002 which are not defined in this Order, these should be reviewed and revised.

Attachment F – Fact Sheet

- 48 1. Section I. – Table F-1 appears to be incomplete, needs to have WDID and new discharger name added. We have also noted that the Complexity of the discharge has been revised from B to a. We did not see any specific information provided in the Order or its Attachments which clarify why the change in complexity is being made and what the consequences of such change are. We request that the Board provide a statement regarding the change with supporting information for public review.
- 49 2. Section II.A.1. – The practical quantitation limit for 1,4-dioxane is stated as 3 ug/L in the Monitoring and Reporting Program. Please revise the detection level in sentence 4 and confirm that levels are still below that detection level.
- 50 3. Section II.A.2. – The practical quantitation limit for NDMA is stated as 0.002 ug/L in the Monitoring and Reporting Program. Please revise the detection level in sentence 6 and confirm that levels are still below that detection level.
- 51 4. Section II.A.15. – The first sentence should be revised to “White Rock GET (Discharge 017)”.
- 52 5. Section II.C.2. – In the table provided there is an asterisk next to Outfall 2, but there is no footnote or descriptor. Please remove or clarify.
- 53 6. Section II.D. – This section only provides a summary of SMRs for GET E/F. This is insufficient in providing a summary for all the GET discharges permitted in this Order. This section needs to be expanded to provide a summary for each facility. We request the opportunity for public review of the revised section due to its importance
- 54 7. Section II.E. – It is unclear which facilities the identified effluent violations are associated with. It also appears that this is not a complete list of all water quality effluent limit violations during the period identified. We request that the Board revise this section to clearly indicate where the violation occurred (which GET effluent) and review to ensure that all violations are represented. We request the opportunity for public review of the revised section due to its importance.
- 55 8. Section III.C.6. – This section describes in general the nature of stormwater requirements. We suggest that the Board revise this section to specifically reference the existing Aerojet NPDES permit for its stormwater system (Order R5-2008-0118 or its tentative renewal).
- 56 9. Section IV.B.2.d. – The discussion on technology-based effluent limitations for NDMA is focused on GET J. Contributions from GET AB and White Rock GET are not included in the Buffalo Creek flows. This discussion does not reference any application of this limit to any other GET facilities. We request that the Board clarify application of this limit to other GET facilities and provide the revised section for public review.
- 57 10. Section IV.B.2. – Table F-5 summarizes the technology-based effluent limitations. The NDMA limit for Discharges 005, 007, 008, 009, 016, and 017 did

not explain how those limits would be applicable in the section referenced above. We request that the Board clarify how the limit is applied to those discharge points and provide the revised section for public review. Also, footnote 1 – second sentence should be edited to 1.5 “ug/L” for TCE and cis-1,2-DCE.

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11. Sections IV.C.2.a. and c. – The discussion on receiving water and beneficial uses does not appear to adequately incorporate the new discharges from GET AB and White Rock GET. We suggest that the Board review this and consider if any revisions to the subsequent evaluations need to be made and provide the revised section for public review, if applicable.

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12. Section IV.C.3.c. – This section describes the constituents selected for reasonable potential analysis (RPA). The paragraph seems incomplete and needs to be revised to include all constituents that were assessed. Also, there is no evaluation provided for 1,2-dichloroethane in the Fact Sheet. We suggest that the last sentence be revised to “a detailed discussion of the RPA for selected constituents is provided below.”

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13. Section IV.C.3.c. – Table F-7 includes three footnotes which are not defined. Board should add these notes.

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14. Section IV.C.3.c.i. – The evaluation for NDMA seems to be focused on GET E/F. Were other facilities evaluated? If so, we suggest that it be noted in the section. The discussions regarding mixing do not appear to account for new discharges from GET AB and White Rock GET; this should be evaluated for inclusion. NDMA is treated for at both GET E/F and GET AB, and exists in some amount in the White Rock GET effluent. This needs to be considered in the assessment of the impacts to Buffalo Creek, so we request the Board provide the revised section for public review if applicable.

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15. Section IV.C.3.c.ii – The evaluation for acetaldehyde should also be evaluated for mixing impacts from the new GET AB and White Rock GET discharges to Buffalo Creek. This section indicates that the analytical detection limit for acetaldehyde is 5 ug/L, which is higher than the previous Order (R5-2011-0088, at 1 ug/L). We request the Board to clarify why this level has been increased and provide the revised section for public review. The title of subsection b. is incorrect, “RPA”, and should be corrected. The last sentence of subsection c. is incorrect and should be corrected to reflect basis on the method detection limit. The last sentence of subsection d. should be clarified to state “These changes are projected to reduce the potential...”

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16. Section IV.C.3.c.iii. – Perchlorate - The evaluation is focused on GET E/F, but other GET facilities are referenced. The text should be clarified in subsection b. The evaluation should be reviewed for the potential impacts from the new discharges to Buffalo Creek from GET AB and White Rock GET, and any revised text should be provided for public review. Also, the fourth sentence in subsection d. should be clarified to indicate that “Board staff are projecting the in-stream value would be less than the WQO”.

- 64 17. Section IV.C.3.iii. – Chlorine Residual – This section did not number correctly and should be Section IV.C.3.iv. In subsection b. there is a reference to TSD and no definition could be located. Could the Board clarify?
- 65 18. Sections IV.C.3.iv. and v. – These need to be renumbered as well to v. and vi. The evaluation for pH should be reviewed for potential impacts from the new discharges to Buffalo Creek from GET AB and White Rock GET, and any revised text should be provided for public review.
- 66 19. Section IV.C.4. – Table F-8 presents a summary of the WQBELs, but did not include numbers for 1,2-dichloroethane. No discussion was presented, but they are used in the final effluent limitations of the Order. Could the Board clarify if these should be included and provide the revised section for public review?
- 67 20. Section IV.D.3. – There is reference to removal of the copper effluent limitations, but no supporting data or study is included or referred to. We request that the Board include this information.
- 68 21. Section IV.D.5. – Technology-based effluent limitations need to include flow. WQBELs need to include acetaldehyde and 1,2-dichloroethane.
- 69 22. Section IV.D. – Table F-10a provides a summary of the final effluent limitations. There are several parameters missing (Flow – discharge 016, Flow- discharge 017, NDMA for remainder of discharges from Table F-5, 1,2-dichloroethane), there is no support for 1,4-dioxane or formaldehyde, and some of the basis are not consistent with the previous evaluations. Could the Board review and finalize the information presented in this table and provide the revised section for public review, if applicable?
- 70 23. Section VI.B.1. – In order to be consistent with Section VI.C.1. of the Order, this section should include Mercury, Constituents Study, Regional Monitoring Plan, Drinking Water Policy, and Diazinon and Chlorpyrifos Basin Plan Amendment.
- 71 24. Section VI.B.2. – In order to be consistent with Section VI.C.2. of the Order, this section should include Thermal Impacts to Outfalls 008 and 009 and Evaluation of Treatment Options for AC-18 and AC-23.
- 72 25. Section VI.B.4. – In order to be consistent with Section VI.C.4 of the Order, this section should include the Operations and Maintenance Plan and Sludge/Biosolids Treatment or Discharge Specifications.
- 73 26. Section VII.A.1. – We would like to note that as currently written, the Order does not retain the frequencies from the previous Order (R5-2011-0088). There has been a removal of semi-volatile organics monitoring from MINFE, MINFG, MINGH, MINFI, and MINFL, which the Board should either clarify or correct. See previous comment.
- 74 27. Section VII.B.2. – We would like to note that as currently written, the order does not retain all the effluent monitoring frequencies from the previous Order. There has been an addition of acrylamide monitoring, changes in frequencies at several GETs for several constituents, and revisions to detection limits for semi-volatile organics and acetaldehyde. See previous comments.

28. Section VII.E.4. – The reference to the effluent monitoring sites is not valid. This needs to be reviewed and corrected. This study must be wide enough to evaluate all the types of discharges from the various GET facilities and the numerous waterbodies impacted. See comment below.

Attachment I – Effluent and Receiving Water Characterization Study

- 76 1. Section II.A. – The text incorrectly refers to sites "EFF-002 and RSW-001", which do not exist in this Order. We request that the Board review this monitoring requirement and identify selection of monitoring sites wide enough to evaluate all the types of discharges from the various GET facilities and the numerous receiving waters impacted. Since this is a characterization study, and not compliance monitoring, we are amenable to selecting representative effluent and upstream locations, if additional information is provided to clarify how the effluent locations are representative of the permitted GET discharges. We request that the Board revise and provide for public review.
- 77 2. Section II.E. – We would suggest that the Board be more specific in requesting a Study Report be prepared and submitted in accordance with the requirements of Attachment E. This report is not currently referenced in Attachment E and there could be wide room for interpretation of submittal requirements. We also request that this Study Report be readily available to the public.
- 78 3. Section II.E. – Table I-1 includes a column referring to Maximum Reporting Level which is not clearly defined in the Order. We request that you either define or use an alternate definition previously used.

We would like to thank the Board staff for their diligence on this important issue. We look forward to continuing the excellent communication provided by your staff and Aerojet staff. If you have any questions on the above or anything you'd like to discuss, please do not hesitate to contact me at 916-808-1424.

Sincerely,



Elissa Callman  
Senior Engineer

cc: Bill Busath, Engineering and Water Resources Manager  
Michael Malone, Operations and Maintenance Manager  
Jim Peifer, Supervising Engineer  
Sherill Huun, Supervising Engineer  
Pravani Vandeyar, Water Quality Superintendent  
Dave Phillips, Water Treatment Superintendent