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Water Resources Attachment 1

Water Resources Attachment 2

Technical Area: Water Resources
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Riverside Energy Resource Center Units 3&4
06-SPPE-1

Data Request 64, 65 & 66

BACKGROUND

Descriptions of the project stormwater drainage controls are presented in the application and by reference in the 2004 Riverside Energy Resource Center Units 1 & 2 Storm Water Pollution Prevention Plan (SWPPP). Generally, all stormwater occurring on the project site is directed to drop inlets or swales and conveyed to a subgrade retention basin.

Statements contained within both of the documents regarding parameters used in design of the stormwater collection and retention system are conflicting. The main conflicting issues are whether the design storm is a 100-year storm or a 50-year storm, and whether the system was designed for the whole volume collected from the design storm or some portion thereof.

The stormwater runoff calculations presented in the 2004 SWPPP and the information used to base the calculations described in both the application and the SWPPP are conflicting. It is not clear how the system was designed and how it will operate during construction and operation.

DATA REQUEST

64. Please clarify what design parameters the stormwater system is designed to manage and how it will operate.

65. a. Please provide the rationale for selecting the volume used in the calculations of the retention basin; and

    b. the selection of the 50-year storm event (as opposed to the 100-year event) and why only a one-hour storm duration was selected.

66. If the design of the drainage control features included using only a percentage of the entire flow expected from the design storm, please explain why that reduced volume was used and where the remainder of the volume will go.

RESPONSE

64. In the Unit 1&2 SPPE application RPU provided the following information for design basis of the pond. This information was reviewed and accepted by the CEC staff and is part of the public record:

    - Stormwater retention volume would be based upon the difference between the pre and post development volume for a 50 year, one hour storm.

65. a. CEC staff agreed that the one hour storm event was appropriate. The reasoning here was that LA County SUSMP regulations require the first ¾" of stormwater to be contained onsite. The value of the 50 year one hour storm is 1.11 inches of rain, so relative to LA County regulations (considered to be stringent) RPU was conservative in pond sizing calculations.

    b. The rationale for using the 50 year one hour storm was stated previously in the Units 1&2 application. The staff accepted the rationale that the Santa Ana Regional Water Quality Control Board did not have a regulation regarding the size of the storm event to be used in determining peak flow. Use of the 50-year storm was deemed appropriate because municipal storm water conveyance systems are rarely designed for a storm event greater than the 50-year occurrence, so designing a feeder system with greater capacity than the receiving system would not be practical.

66. Originally the storage volume considered was a percentage of the entire flow expected from the design storm. The design volume as noted above was based on the difference between pre and post development. In other words, the design was always based on allowing what was flowing onto the site, across the site and off the site to continue to do so. The volume required to be contained would be the additional volume of runoff generated from the site development. This was presented, reviewed and accepted by the CEC staff during the Unit 1&2 SPPE application. Refer also to the response to Data Request 70.

Riverside Energy Resource Center Units 3&4
06-SPPE-1

Data Request 67, 68, 69, 70 & 71

BACKGROUND

Both the application and the 2004 RERC Units 1&2 SWPPP discuss the project's need for obtaining stormwater permits following construction fir the current project. It is unclear whether the applicant will obtain a post-construction stormwater permit, or has adequately evaluated the need to obtain a permit.

The application and 2004 SWPPP indicate that overflow from the retention basin will escape the basin through a spillway, travel over the ground surface within the project boundaries, leave the project property, travel across bare soil, traverse an access road and eventually enter a stormwater catch basin on the adjoining City of Riverside Regional Water Quality Control Plant property located just west of the retention basin.

DATA REQUEST

67. As required in the 2004 SWPPP, please provide a copy of the SWPPP for Industrial Activities.

68. As required in the 2004 SWPPP, please provide a copy of the post-construction stormwater operation and management plan.

69. Please explain why an Industrial NPDES permit is not required for the expected discharge and identify what post-construction permit(s) will be obtained.

70. Please explain how the erosion potential of on-site and off-site soils has been addressed in the area where concentrated stormwater runoff discharges from the retention basin and flows across unprotected soils.

71. Please describe the alternatives considered prior to concluding that allowing uncontrolled concentrated runoff to discharge off-site was the preferred solution.

RESPONSE

67. The Municipal Separate Storm Sewer System ("MS4") NPDES Permit for the RERC facility is attached (Water Resources Attachment 1).

68. The Riverside County Drainage Area Management Plan, dated July 2005, is attached (Water Resources Attachment 2).

69. The construction and operation of RERC 3 & 4 will be subject to regulation under the "MS4" NPDES Permit currently in effect for the RERC facility.

70. Currently, RERC maintains an aggressive maintenance program associated with the pond. Maintenance and sediment removal are routine on the storm water travel ways on the property including the roadways, V-ditch and pond. The pond has riprap to help filter out sediment on entrances and exits of the pond. There is

riprap on the west side of the pond between the pond and the property line to help filter out sediment during the rare occasion that the pond overflows.

Prior to the construction of Units 1&2 and during rain events, uncontrolled runoff from properties located south of the site came into the RERC site and flowed across the property and onto the RRWQCP site. Each time it rained prior to the construction of Units 1&2, storm water would carve a deep channel across the RERC site and cause a large volume of sediment-laden storm water to end up on the RRWQCP site.

During the Unit 1&2 SPPE process, the CEC accepted the criteria discussed in items 65 and 66 above. The pond required approximately 9000 cubic feet of storage volume as indicated by the calculations submitted to and accepted by the CEC. During the construction phase, discussions between RERC and the RRWQCP resulted in an agreement to increase the size of the pond beyond what was required. The existing pond has 24,000 cubic feet of storage volume.

The pond has successfully contained 100 percent of the runoff coming onto the site from off-site sources and onsite generated runoff all but two times. As a result, the pond has overflowed twice since construction of Units 1&2. The pond was originally designed to overflow at essentially every storm event, because the containment volume was based on containing only the additional flow generated by the construction of Units 1&2. By voluntarily constructing the pond at a greater volume, RERC has significantly improved storm water management for the site and dramatically increased the benefit to the downstream property.

71. Prior to the construction of Units 1&2, uncontrolled concentrated runoff was discharging off-site. The construction of the storm water detention pond alleviated the situation. The pond contains 100 percent of the storm water flows generated both off-site and on-site in most storms, therefore it is not uncontrolled. In the rare event the pond overflowed, the overflow would occur along the western edge meaning that it is not concentrated. The surface water runoff is spread out to reduce the concentration of flows in one area, as was the situation that existed prior to the construction of the pond.