

**COMMENT LETTER 41 - AD HOC COMMITTEE ON CLEAN WATER, ANN MAURICE
(NO DATE), RECEIVED SEPTEMBER 24, 1996**

Response to Comment 41-1

Comment Summary: The comment contends that the Human Health Risk Assessment is inadequate.

This comment offers no specific objections to the risk assessment. Responses to each specific comment are found below.

Response to Comment 41-2

Comment Summary: The comment states that the Health Risk Assessment is based on one sample from Delta Pond and four samples from the Laguna Treatment Plant.

The comment incorrectly characterizes the data set used for the Human Health Risk Assessment. The sampling program for reclaimed water quality at the Laguna Treatment Plant is described in Appendix H-2 (Reclaimed Water Quality) of the Draft EIR/EIS. Sampling for metals was conducted approximately quarterly from July 1988 through January 1995. Sampling for most organic chemicals was conducted approximately quarterly from January 1991 through January 1995, although some compounds were analyzed for a single date only. A variety of constituents such as nutrients, coliforms, turbidity and total dissolved solids are routinely measured at the treatment plant. Delta Pond was regularly monitored for ammonia and organic nitrogen from January 1991 through February 1996. Additional data collected after February 1995 were presented in Appendix H-3 (Reclaimed Water Quality Update) of the Draft EIR/EIS. Additional effluent quality data are incorporated into Master Response 8, located in Section 6.2 of this document.

The comment focuses on the number of samples collected for a specific reclaimed water study that was conducted to augment the regular analyses that had been ongoing since 1991. The specific study data plus the other reclaimed water quality data were used for the Human Health Risk Assessment.

Response to Comment 41-3

Comment Summary: The comment states that the discussion of coliform bacteria references 10-year old documents and that a new strain of coliform (E. coli 0157) was not evaluated.

The comment is unclear about which reference is being questioned. References in Appendix J-3 (Human Health Risks from Chemical and Biological Components of Reclaimed Water) of the Draft EIR/EIS include reports with dates ranging from 1973 to 1996. A ten-year old reference is not necessarily obsolete. Refer to Master Response 5, located in Section 6.2 of this document. *E. coli* 0157 is notable for its virulence.

However, no evidence is available to suggest that it is any more resistant to chlorine or ultra-violet disinfection than the many other *E. coli* strains that are found in abundance in raw sewage. As described in the City of Santa Rosa's *Initial Study and Negative Declaration for Conversion to Ultra-Violet Disinfection* (February 1997) and in Master Response 8, located in Section 6.2 of this document, complete kill of bacteria in reclaimed water is expected for all alternatives.

Response to Comment 41-4

Comment Summary: The comment states that the Utilities Department "does not appear to be testing for viruses, cyclospora, cryptosporidium, etc. at present."

Viruses and *Cyclospora* are not currently measured routinely in effluent. The current monitoring program is being conducted in compliance with the Regional Board's NPDES permit requirements. In addition, weekly testing of plant effluent for *Cryptosporidium* and *Giardia* is being conducted. *Cyclospora* is a bacterium and, as such, is readily disinfected by UV or chlorination, as described in Master Response 8, located in Section 6.2 of this document. There is no need to monitor separately for this bacterium.

Response to Comment 41-5

Comment Summary: The comment states that "there does not appear to be testing of the effluent in storage ponds."

The current monitoring program is being conducted in compliance with the Regional Board's NPDES permit requirements, which includes testing of reclaimed water in storage ponds. Microbiological contaminants in stored reclaimed water are not monitored routinely. Refer to Master Response 8, located in Section 6.2 of this document, for a further discussion of pathogens in storage ponds.

Response to Comment 41-6

Comment Summary: The comment expresses concern about endocrine effects of organo-chlorine compounds.

Refer to Master Response 9, located in Section 6.2 of this document.

Response to Comment 41-7

Comment Summary: This comment states that a Delta Pond coliform sample had over 100 times the maximum allowed by the Department of Health Services for spray irrigation.

Refer to Response to Comment 113-5 and to Master Response 8, located in Section 6.2 of this document.

Response to Comment 41-8

Comment Summary: The comment expresses concern about the number of heterotrophic bacteria in Delta Pond.

Heterotrophic bacteria include all bacteria that require an organic form of carbon for energy (as compared to bacteria that can generate their own energy through photosynthesis). Heterotrophic bacteria thus include an exceptionally wide array of bacteria, many of which are not pathogenic. For example, heterotrophic bacteria include those that are used to produce yogurts and cheeses from milk. Because this class of bacteria includes so many different organisms, and many of these organisms are not pathogenic, the Draft EIR/EIS states that "data on human health effects resulting from exposure to these organisms following ingestion or through inhalation of aerosols is lacking." Thus, the presence of heterotrophic bacteria in Delta Pond is not an indication of inadequate disinfection of reclaimed water. Refer also to Master Response 8, located in Section 6.2 of this document.

Response to Comment 41-9

Comment Summary: The comment expresses concern about the quality of reclaimed water in storage ponds.

Refer to Master Response 8, located in Section 6.2 of this document.

Response to Comment 41-10

Comment Summary: The comment states that only four reclaimed water samples were analyzed for Giardia, Cryptosporidium, Legionella, and Salmonella between 1991 and 1995.

Appendix H-2 (Reclaimed Water Quality) of the Draft EIR/EIS reports four samples that were analyzed for these constituents. Appendix H-3 (Reclaimed Water Quality Update) of the Draft EIR/EIS reports on numerous subsequent analyses for *Giardia* and *Cryptosporidium*, which clarify and amplify the earlier measurements. Also, refer to Responses to Comment Letters 10 and 14, and to Master Response 8, located in Section 6.2 of this document. *Legionella* and *Salmonella* are bacteria and, as such, are readily disinfected by UV or chlorination, as described in Master Response 8. It is not necessary to sample routinely for these bacteria.

Response to Comment 41-11

Comment Summary: This comment states that data show storage pond wastewater has a fecal coliform bacteria count 200 times the maximum allowed to be considered tertiary.

The comment appears to confuse total and fecal coliform. Total coliform is the parameter that is routinely used to verify adequate disinfection. No fecal coliform data exist for

storage ponds. Refer also to Response to Comment 113-5 and to Master Response 8, located in Section 6.2 of this document, concerning total coliform.

Response to Comment 41-12

Comment Summary: The comment states that it is no longer feasible to continue our present sewer system and that the money used to study waste disposal and disinfection should be used to remove the waste and bacteria from the water stream.

No changes in the processing of sewage at the Laguna Treatment Plant are proposed by this Project. The City of Santa Rosa, as Lead Agency, is required by state and federal law to study any changes to its disposal of tertiary treated wastewater from the Laguna Plant; and it is incumbent upon the City to pay for such studies.

Response to Comment 41-13

Comment Summary: The comment recommends composting or incinerating toilets.

Refer to Master Response 16, located in Section 6.2 of this document.

Response to Comment 41-14

Comment Summary: The comment suggests use of redwood irrigation.

Refer to Master Response 18, located in Section 6.2 of this document.

Response to Comment 41-15

Comment Summary: The comment is a copy of a newspaper article from The Press Democrat entitled, "Bacteria called growing threat to nation's water" dated July 11, 1996.

The article discusses *Cryptosporidium* and *Giardia* and is apparently submitted in support of comments regarding these pathogens. Refer to Master Response 8, located in Section 6.2 of this document.

Response to Comment 41-16

Comment Summary: The comment is a copy of a newspaper article from The New York Times entitled, "Illness Outbreak Puzzles Officials" dated June 30, 1996.

The article discusses *Cyclospora* and is apparently submitted in support of Comment 41-4. *Cyclospora* is a bacterium and, as such, is readily disinfected by UV and chlorination, as described in Master Response 8. Refer to Response to Comment 41-4.