

STATE OF CALIFORNIA  
STATE WATER RESOURCES CONTROL BOARD

In the Matter of the Petition of  
the County of San Diego, Department  
of Sanitation and Flood Control and  
Cardiff Sanitation District for  
Review of Water Quality Staff  
Determinations

Order No. WQG 74-19

BY BOARD MEMBER MAUGHAN:

By letter dated June 18, 1974, the County of San Diego, Department of Sanitation and Flood Control and the Cardiff Sanitation District (petitioners), requested the State Water Resources Control (State Board) to review certain determinations of the staff of the Division of Water Quality (Staff).

A hearing in this matter was held by the State Board on August 2, 1974.

SUMMARY OF PROPOSED PROJECT STAFF  
DETERMINATIONS, AND CONTENTIONS OF PETITIONERS

As part of a 1972-73 fiscal year project, petitioners propose to construct an extension to the San Elijo ocean outfall. The present outfall is 30 inches in diameter and extends 4,000 feet from shore. Petitioners propose to lay some 6,200 feet of 48-inch outfall pipe. This outfall pipe would parallel 2,200 feet of existing outfall, and extend the point of discharge by

some 4,000 feet. It is the necessity for the 2,200 feet of paralleling outfall pipe which is in question.

In the initial design for the project, petitioners' consultants utilized a friction coefficient ("n") of 0.013. Use of this value in connection with the project just described produced a design flow of 33 mgd for the outfall, which was the flow indicated by the project report.

Staff evaluation of the project resulted in a conclusion that Section 2144 of the grant regulations limited grant eligibility to a project involving flows not in excess of 25.55 mgd.<sup>1/</sup> Eventually, Staff approved funding of a project for flows not to exceed 25.55 mgd based on an "n" of 0.013. In practical effect, Staff concluded that the 4,000 feet of outfall pipe which would be utilized to extend the outfall was eligible for grant funding, but that the proposed 2,200 feet of parallel pipe was not eligible.

Thereafter, petitioners' consultants requested use of an "n" of 0.015 and consideration of claimed effects of tidal action in evaluating capacity eligible for funding under Section 2144. Had the Staff agreed with these requests, the proposed 2,200 feet of parallel pipe would have been included as part of the eligible project. However, Staff, after evaluation of the request of petitioners and their consultants, refused to modify their conclusions on eligibility. This petition followed.

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<sup>1/</sup> The controlling regulation is Section 2144, Subchapter 7, Chapter 3, Title 23, California Administrative Code, adopted on February 15, 1973.

In presenting their petition, the petitioners contended that the Staff determinations related to design criteria for this project are incorrect. Specifically, petitioners contend:

1. The appropriate "n" value for this project is 0.015 rather than 0.013.

2. Tidal conditions will significantly influence the outfall and will reduce the ordinary capacity of the outfall.

In general effect, petitioners contended that failure to construct the parallel portion of the outfall would, because of greater friction and tidal effects, provide capacity of only 21.8 mgd and that the 2,200 feet of parallel outfall pipe was in fact required to bring capacity to 25.55 mgd.

#### ISSUE REMAINING

At the hearing on this matter, petitioners indicated that they wished to withdraw their objections to the Staff determinations related to tidal action. They still objected to Staff determinations on the "n" factor and contended that "n" should be 0.015 for this project. This is the only issue remaining. If this contention of petitioners is accepted, some 1,300 feet of parallel outfall pipe will be required to bring total outfall capacity to 25.55 mgd.

#### FINDINGS AND CONCLUSION

We are faced with a highly technical issue, the appropriate "n" factor for an extension to an existing ocean outfall. Considerable evidence was taken during the course of the hearing, which we will briefly summarize as follows:

1. There is no absolute "n" factor which is appropriate for an ocean outfall. Normal design utilizes an "n" factor of 0.013 to 0.017.

2. Absent unusual circumstances, the appropriate range for the "n" factor for an ocean outfall is 0.013 to 0.015.

3. The primary factors which would affect friction in this outfall are "head" and degree of treatment. Determination of the proper "n" involves some degree of engineering judgment.

4. If the consultant in this case were designing an entirely new outfall for the discharge of the waste involved, the consultant would utilize an "n" of 0.013. In this particular case, however, an extension of existing outfall is involved. Some impairment of head may be involved because of the prior use of the existing outfall, and it is the consultant's opinion that an "n" factor in the upper range is appropriate.

In short, we have a problem of appropriate design criteria involving engineering judgment, where the conclusion of both parties, though different, falls within the normal criteria range.

With respect to design criteria judgments, we believe that we should and must accept Staff judgments unless petitioners can demonstrate by clear and substantial evidence that the Staff determinations are, in all probability, incorrect. We have carefully reviewed the evidence in this matter, and we are not satisfied that probable error on the part of Staff is indicated.

At the same time, however, we do feel that grant judgments should be made upon the best factual information reasonably attainable. It is at least possible that better direct data on the pipe in question may be available. If better data is made available by petitioners, such data should be evaluated by Staff.

IT IS HEREBY ORDERED as follows:

In the absence of additional direct data on the degree of friction in the present outfall, an "n" of 0.013 for this project is confirmed. Petitioners may obtain actual measurements on the degree of friction for present discharges from the San Elijo ocean outfall. Data shall be collected in a manner approved by Staff. All data collected shall be transmitted to Staff, and, upon submission of data, Staff shall reevaluate the appropriate coefficient of friction for this project. Staff determinations, after such evaluation, shall be final.

Dated: SEP 19 1974

We Concur:

**ABSENT**  
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W. Don Maughan

*W W Adams*  
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W. W. Adams, Chairman

*Ronald B. Robie*  
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Ronald B. Robie, Vice Chairman

*Roy E. Dodson*  
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Roy E. Dodson, Member

*Mrs. Carl H. Auer*  
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Mrs. Carl H. (Jean) Auer, Member