

Mr. HARSHA. Have you done this in other projects?

General NOBLE. Yes.

Mr. HARSHA. This is the normal method of handling this?

General NOBLE. Yes, sir.

Colonel HALL. On occasion, sir, there could be a channel straightening to take out a bend in a river, to maintain a navigable channel. In this project, in the channel stabilization, there are items such as dikes and revetment, cutoffs, to achieve this navigable channel, so this is included in this initial construction concept to achieve this navigation channel.

Mr. HARSHA. All right.

Now, am I correct in my information that this particular stretch of the river cost a little over \$7,000 per mile for maintenance in this report?

Colonel HALL. Annual O. & M. is about \$400,000, sir—\$7,000 a mile. This is correct; it is paragraph 25 of the district's report; yes, sir.

Mr. HARSHA. The costs now on the same river are an average for maintenance of 10,875, are they not?

Colonel HALL. Were you speaking in the same reach of the river in which the project is proposed or that below Sioux City?

Mr. HARSHA. In the same region.

Colonel HALL. I do not know, sir.

Mr. HARSHA. How about below Sioux City?

Colonel HALL. Below Sioux City is shown with \$11,500 per mile.

Mr. HARSHA. Why would your cost here be about only 75 percent of that?

Colonel HALL. The flows are less in its upper reaches. It has apparently a tributary coming into it that increases the flows down below Sioux City.

Mr. HARSHA. What tributary is there?

Colonel HALL. That is the Big Sioux.

Mr. HARSHA. That increases the flow?

Colonel HALL. Yes, sir.

Mr. HARSHA. By about how much, do you know?

Colonel HALL. Let Mr. Feil answer that, sir.

#### STATEMENT OF GEORGE FEIL, OFFICE, CHIEF OF ENGINEERS—

##### Resumed

Mr. FEIL. The navigation in this part of the river is around 20,000 to 35,000 cubic feet per second. The flow at Kansas City, for instance, which is in the other part of the reach, is around 38,000 to 40,000 c.f.s., maintaining the foot navigation channel, and that flow will increase further than that. I cannot quote you a figure, but I do have those figures in mind.

It is not twice as fast, but, say, almost twice as much flow required at Kansas City to maintain the 9-foot channel as there is in this reach up here [indicating], and the increased flows would give us the maintenance cost in tearing up the dikes, the training dikes that are put in; knock the end off one, and have to go back in and replace it, and that kind of thing.

Mr. HARSHA. You are figuring the interest rate on this project at  $3\frac{1}{8}$  percent again.