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**Subject:** Spragg Delta Emergency Fabric Pipeline email to Phil Isenberg  
**Attachments:** Delta DWR August 29 2011 Response to Fabric pipeline preliminary proposal.htm; Delta DWR Cliff Goudey response Re Fabric pipeline preliminary proposal.htm

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**From:** Terry Spragg [mailto:spraggbag@gmail.com]  
**Sent:** Tuesday, June 12, 2012 10:21 PM  
**To:** Isenberg, Phil@DeltaCouncil  
**Cc:** Gloria Gray; Delta Council Delta Plan Comments  
**Subject:** Spragg Delta Emergency Fabric Pipeline email to Phil Isenberg

**Hi Phil,**

**I was reviewing the DSC website and noticed that the email below I sent to you and Gloria did not appear in the Delta Miscellaneous Correspondence file. Maybe I forgot to send it. I hope it is not too late for these comments to become part of the record. Gloria was kind enough to review this email before I sent it.**

**All the best,**

**Terry Spragg**

Phil Isenberg  
Chairman  
Delta Stewardship Council

Dear Phil,

The last time we spoke (which was at the DSC hearing in Pasadena) I requested that our ideas for an emergency fabric pipeline proposal for the Delta be referred to in the next Delta Plan. You told me that our proposal was not an issue that the DSC was authorized to discuss or comment on.

I would like to quote some statements from you and DSC documents to ask whether you may have misinterpreted what we are trying to accomplish and why the inclusion of the subject of an emergency fabric pipeline should part of, and referred to in the final draft of the DSC report.

You were recently quoted when discussing the Delta Plan Covered Actions that they must,

***"Demonstrate how they will continue to operate if there is a possible interruption of Delta water supplies for a minimum of 18 to 36 months."***

In the 5th Draft of the Delta Plan dated August 2, 2011, Chapter 7, pages 179-180, in the **Emergency Preparedness and Response** section this document states,

***"Despite the risks of levee failure, no published emergency action plan exists...in the event of catastrophic levee failure in the Delta,"*** and,

*"Despite the vital importance of adequate preparation, no Delta-wide emergency response plan exists" and,*

*"The Delta Stewardship Council should convene a working group to develop and evaluate recommendations to the DWR to address appropriate response actions to both routine and catastrophic levee failures."*

It would seem in reading the above statements that an analysis of, or at least a reference to our proposed emergency fabric pipeline is appropriate to be included in the next draft of the Delta Plan.

As our mutual friend, Ray Seed, has stated, when (not "if") a major earthquake occurs in the Delta it will create a catastrophic Armageddon that will cause more than ten times the destruction that occurred in the Katrina disaster in New Orleans. As you know, the Katrina disaster is an event with which Ray is very familiar, having been appointed by the Federal Government to oversee the levee repair work being done by the U.S. Army Corps of Engineers. Ray has submitted his written support to the DSC for a test of our emergency fabric pipeline in the Delta.

It seems illogical that a test of a technology that might help to bring reasonable supplies of fresh water through the Delta in an inexpensive manner and in a relatively short period of time following a catastrophic levee collapse in the Delta, is not taken seriously enough to warrant further investigation by the DSC, especially in light of your comments and the comments above from the 5th Delta Plan draft.

According to statements in the Delta Plan, the DSC has no alternative emergency plans on the table. I am assuming by these statements that the current process of stockpiling rocks on various Delta islands is not included as an adequate or a final solution to delivering fresh water through the Delta. As you know, tens of millions of dollars have already been spent on delivering stockpiles of rocks to various Delta island locations. If we built a one mile fabric pipeline for this test, rather than the two mile fabric pipeline that DWR asked us to include in our proposal for a test of our technology, we could deliver this pipeline, and I think we could install it, for less than \$1 million. This would depend on the suggested route for the test of this emergency pipeline.

I am not saying that an emergency fabric pipeline is a final or a complete response as a way to move water through the Delta following a catastrophic levee collapse in the Delta. But when the DSC has developed "**...no Delta-wide emergency response plan,**" it is one solution that has been proposed that addresses the above issues raised in the 5th Delta Plan, a document that according to the latest Delta Plan draft has "**...no published action plan...in the event of catastrophic levee failures in the Delta.**"

As I said in a recent email to Secretary John Laird, DWR's investigation of our technology was incomplete. DWR's response to our proposal was that:

*"The cost seems to be comparable to the cost of a 6-ft diameter concrete pipe...the total cost for the proposed test program will be significantly higher than just the material cost of the pipeline. The cost for the other associated activities (such as mobilization, right of way, permitting/environmental clearances, site preparation, engineering, construction/installation underwater or over land, required energy and equipment) are anticipated to be significant. Estimating the total cost is difficult but necessary for the test program. As indicated in the proposal, the test location needs to be identified in order to refine the test program. We suggest you also contact other entities...to help you select the appropriate location for your test program."*

DWR did not supply us with any figures to back up their statements. Cliff Goudey, one of our MIT engineers who spoke to DWR on several occasions, was given the impression that DWR would help us select a Delta site for this demonstration. But as you have read, in their final review DWR stated that they were not interested in cooperating in locating a site in the Delta for this test. As far as Cliff was concerned, this indicated that DWR did not want to offer any further cooperation for any investigation of our emergency pipeline proposal, as

without a recommended pipeline path using DWR's Delta experience and knowledge of the Delta, addressing the list of "*...other associated activities...*," for a test of this pipeline would be almost useless.

Many of DWR's comments are open to question. What is the cost of a two mile concrete pipeline? How much does it cost in time and expense to install a fabric pipeline that can be unrolled in long sections in a matter of minutes, depending on the path of the pipeline, compared to the installation of sections of heavy ridged six foot diameter concrete pipeline that must be welded together in place on site? Because of the temporary and emergency aspects of our test proposal I question that the State would be required to address may of the "*...other associated activities*" that are listed in DWR's letter. Depending on the location of the pipeline site the pipeline should be able to be unrolled off a spool in a matter of a day or two, which lowers the installation and test expense considerably compared to a concrete pipeline. Because of its flexible nature the fabric pipeline should be able to be removed in just a day or two after this test.

I don't have to tell you what is at stake for the State of California's water supply if (being the eternal optimist I prefer to use the word "*if*" rather than "*when*." ) a catastrophic levee collapse occurs.

My goal in writing you is to again ask if our emergency fabric pipeline technology proposal can be addressed and included in the 6th Delta Plan draft. I want to be on the record that we have again made this request. Perhaps DWR might be willing to reopen the discussion of some form of inexpensive test of our technology with an open mind. There is too much at stake for the people of California to let this issue die.

As is pointed out above, the DSC Delta Plan has stated that one of the covered actions is that the State should have a plan in place to be able to continue to operate its water delivery system "*for a minimum of 18 to 36 months*," and the latest draft of the Delta Plan states that, "*...no Delta-wide emergency response plan exists.*"

The Delta plan does say that the, "*DSC should convene a working group to develop and evaluate...appropriate response actions to...catastrophic Delta levee failures.*"

Our team would like to be part of the DSC's working group. We have a response action. We have a technology that deserves the fair and complete analysis from the DSC that your Delta Plan is calling for.

I hope we can work with the DSC and DWR "*...to address appropriate response actions to... catastrophic levee failures.*"

I look forward to your comments and to participating in further discussions with the DSC.

Best regards,

**Terry Spragg**

**From:** Clifford Goudey [cliffgoudey@gmail.com]  
**Sent:** Wednesday, August 31, 2011 6:31 PM  
**To:** Balakrishnan, Ariya  
**Cc:** Terry Spragg; Sanchez, Richard  
**Subject:** Re: Fabric pipeline preliminary proposal

Ariya,

Thanks for your response to the Spragg Associates Emergency Fabric Pipeline Proposal. You bring up some interesting perspectives and we will respond with clarifications at the appropriate time.

I was surprised at your suggestion that we seek guidance outside of DWR to identify an appropriate deployment and test location. I'd assumed your agency was the most appropriate authority for such matters. I am anxious to begin making progress but little can be done until a site is selected.

Cliff

On Mon, Aug 29, 2011 at 7:25 PM, Balakrishnan, Ariya <[abalakri@water.ca.gov](mailto:abalakri@water.ca.gov)> wrote:

Dear Terry Spragg and Cliff Goudey,

Thank you for sending the fabric pipeline test program proposal. We appreciate your effort on developing the proposal to demonstrate the fabric pipeline concept. As you indicated in the proposal, additional details are required before doing a test program. We also like the idea of looking at all the possible scenarios such as floating/submerging in water, resting on river bed, and over dry land. All these scenarios are possible in an emergency.

The proposal also includes the material cost of approximately 1.7 million dollar for two-mile long pipeline which includes different types of pipelines to accommodate the above mentioned scenarios. This cost seems to be comparable to the cost of a 6-ft diameter concrete pipe. As you mentioned, the reason for the higher cost can be because of the uniqueness of these pipelines as they will be custom made for the test program. The cost may decrease if the pipelines are made in a production line with large quantities. The total cost for the proposed test program will be significantly higher than just the material cost of the pipeline. The cost for the other associated activities (such as mobilization, right of way, permitting/environmental clearances, site preparation, engineering, construction/installation underwater or over land, required energy and equipment) are anticipated to be significant. Estimating the total cost is difficult but necessary for the test program.

As indicated in the proposal, the test location needs to be identified in order to refine the test program. We suggest you also contact other entities including Delta stake holders: reclamation districts, and/or local water districts to help you selecting the appropriate location for your test program. Thank you for giving us the opportunity to review and provide our input to the proposal. Please keep us informed the progress of the test program.

Best regards,

Ariya

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**From:** Balakrishnan, Ariya [abalakri@water.ca.gov]  
**Sent:** Monday, August 29, 2011 4:25 PM  
**To:** Clifford Goudey; Terry Spragg  
**Cc:** Sanchez, Richard  
**Subject:** RE: Fabric pipeline preliminary proposal  
Dear Terry Spragg and Cliff Goudey,

Thank you for sending the fabric pipeline test program proposal. We appreciate your effort on developing the proposal to demonstrate the fabric pipeline concept. As you indicated in the proposal, additional details are required before doing a test program. We also like the idea of looking at all the possible scenarios such as floating/submerging in water, resting on river bed, and over dry land. All these scenarios are possible in an emergency.

The proposal also includes the material cost of approximately 1.7 million dollar for two-mile long pipeline which includes different types of pipelines to accommodate the above mentioned scenarios. This cost seems to be comparable to the cost of a 6-ft diameter concrete pipe. As you mentioned, the reason for the higher cost can be because of the uniqueness of these pipelines as they will be custom made for the test program. The cost may decrease if the pipelines are made in a production line with large quantities. The total cost for the proposed test program will be significantly higher than just the material cost of the pipeline. The cost for the other associated activities (such as mobilization, right of way, permitting/environmental clearances, site preparation, engineering, construction/installation underwater or over land, required energy and equipment) are anticipated to be significant. Estimating the total cost is difficult but necessary for the test program.

As indicated in the proposal, the test location needs to be identified in order to refine the test program. We suggest you also contact other entities including Delta stake holders: reclamation districts, and/or local water districts to help you selecting the appropriate location for your test program. Thank you for giving us the opportunity to review and provide our input to the proposal. Please keep us informed the progress of the test program.

Best regards,  
Ariya

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**From:** Clifford Goudey [<mailto:cliffgoudey@gmail.com>]  
**Sent:** Thursday, August 11, 2011 8:53 AM  
**To:** Balakrishnan, Ariya  
**Cc:** Terry Spragg  
**Subject:** Fabric pipeline preliminary proposal

Ariya,

I am pleased to transmit as an attachment to this email our preliminary proposal for a technology demonstration of the Spragg Flexible Fabric Pipeline. Since our communications in March we have gathered the information needed to prepare our cost estimates for the pipeline modules necessary to implement a meaningful evaluation in the Delta setting. As we have noted, there are many issues related to where such a demonstration would occur that will impact its total cost. A collaborative process will be needed to further refine an actual plan of action.

During the preparation of this preliminary proposal we have sought and received guidance from experts in water supply technology and California water issues. Of particular note are reviews from the following individuals that have been incorporated into this document.

Jason Weeks, Senior Engineer, Water Replenishment District of Southern California  
Marc Serna, Manager of Engineering, West Basin Municipal Water District  
Dick Rhone, Senior Engineer, GSI Consultants

I am hopeful that this preliminary proposal can serve as a basis for further discussion and a better understanding on our

part of how this potential solution fits into the contingency planning needed to preserve the water flows of the Delta.

While much of what is described in the attachment is the subject of USPTO filings, we ask that the distribution of this document be done on a need-to-know basis for its review within DWR. Please feel free to contact me or Terry Spragg <[spraggbag@gmail.com](mailto:spraggbag@gmail.com)> if you have any immediate questions. We look forward to assisting the Department of Water Resources in any way possible as you consider these matters.

Respectfully,

Cliff

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