

rcw\_home

**From:** Woollam, Richard C  
**Sent:** Thursday, June 03, 1999 4:31 PM  
**To:** Felix, Rick D; PBU, CIC NS TL Felix/Phillips  
**Subject:** RE: Draft - Budget Review 1 Pager

Rick/John,

Sounds like a plan, 9:00 am ASCG Monday morning - 7th June, OK?

Richard.

-----  
**From:** PBU, CIC NS TL Felix/Phillips  
**Sent:** Thursday, June 03, 1999 11:40 AM  
**To:** Felix, Rick D  
**Cc:** Woollam, Richard C.  
**Subject:** RE: Draft - Budget Review 1 Pager

RDF/RCW,  
I'll plan to be in Sunday night, back to Fairbanks Monday PM.  
JP

-----  
**From:** Felix, Rick D  
**Sent:** Thursday, June 03, 1999 7:56 AM  
**To:** PBU, CIC NS TL Felix/Phillips; Woollam, Richard C.  
**Subject:** RE: Draft - Budget Review 1 Pager  
**Importance:** High

Let's do it on 6/7 - better to get this phase of work off of our plate. I'm assuming that FMT & Dave are "comfortable" with the associated risks.

John - can you make it in Sun. night?  
Thx,

*Rick*

-----  
**From:** Woollam, Richard C.  
**Sent:** Wednesday, June 02, 1999 8:05 PM  
**To:** PBU, CIC NS TL Felix/Phillips; Felix, Rick D  
**Subject:** RE: Draft - Budget Review 1 Pager

John/Rick,

My impression from the FMT meeting is that we will not be getting any relief on the budget. They all think that PW inhibition is the right thing to do, but, no one is prepared to let loose the purse strings. However, I think we might be able to make a better case in 2000, if we go into the budget process with PW as additional line item.

So we would move forward assuming this to be the case and plan on taking out the PW and x% on the Corrosion Inhibition and y% on the inspection program - ugly I'm afraid.

When would be a good opportunity in the near future to get together and plan the way-forward? Monday 7th or the 14th June?

rcw\_home

**From:** Woollam, Richard C  
**Sent:** Friday, June 04, 1999 6:09 PM  
**To:** PBU, CIC NS TL Felix/Phillips  
**Subject:** RE: PW Inhibitor at GC2 and GC3

John,

Excellent! Good note - when we've decided what we wish to trim from the budget on Monday, we should write something similar to Dave Calvin et al, explaining and making sure that they do realise what they are asking us to do.

Richard.

-----  
**From:** PBU, CIC NS TL Felix/Phillips  
**Sent:** Friday, June 04, 1999 2:53 PM  
**To:** PBU, Operations Manager  
**Cc:** Woollam, Richard C.; PBU, Field OTL; PBU, GC1 OpsTmLdr; PBU, GC2 OpsTmLdr; PBU, GC3 OpsTmLdr  
**Subject:** FW: PW Inhibitor at GC2 and GC3

Frank,

FYI - We have conducted the field "trial" of the PW inhibition chemical and found it to be very successful at cleaning up the PW system and arresting corrosion activity. Unfortunately, we did not budget for a full year's chemical expense as the program was highly experimental at the time of the budget planning process. We are now at a point where the original monies for this program are used up, so we will be shutting it down till year's end, with the intent of raising it as a line item for next year's budget.

In the meantime, the PW system may be subject to increased corrosion activity and fouling. This may have some impact on corrosion repair activity and also possibly BS&W quality during pigging operations. We will be putting the remainder of our EC1081A inventory into the S pad PW line for the rest of the year, as this is our highest risk cross country PW line at this time.

I presume you may be getting some feedback on this so wanted to assure you're informed. (You may have been at the session with Richard Woollam the other day where this was discussed).

Regards,  
John

-----  
**From:** PBU, CIC Prod Chem Todd/Spano  
**Sent:** Friday, June 04, 1999 11:42 AM  
**To:** PBU, GC2 OpsTmLdr; PBU, GC2 Lead Techs; PBU, GC3 OpsTmLdr; PBU, GC3 Lead Techs  
**Cc:** PBU, Matl Coord - FOC; PBU, CIC NS TL Felix/Phillips; Crawford, Gary R; Paisley, Dominic M.; Woollam, Richard C.; 'RA Brown'; Sprague, Kip P  
**Subject:** PW Inhibitor at GC2 and GC3

All,

Due to budgetary constraints, the decision has been made to discontinue the PW inhibitor (EC1081A) currently being injected at GC2 and GC3. The GC2 bulk tank should run out within the next two days and it will not be refilled. Please shut the pump down and flush the equipment with water once the tank is empty. The GC3 tank was recently filled and is

estimated to last about 13 more days (around June 17th). Again, when the tank is empty, please shut the pump down and flush the equipment with water.

The current plan is to inject the remaining inventory of EC1081A into the high risk S-69 line that runs from M to S pads. At a 40 ppm rate, we will have enough product to treat this 40,000 BWD for about 250 days.

Best Regards,

John Todd

**cw home**

**From:** Paisley, Dominic M  
**Sent:** Tuesday, June 08, 1999 4:06 PM  
**To:** PBU, CIC Prod Chem Todd/Spano  
**Cc:** Woollam, Richard C.  
**Subject:** RE: MOC for Discontinuation of EC1081A

Andy,

Here are a couple of paragraphs to summarise the technical aspects of shutting off the PW treatment.

The corrosion mechanism in the PW system is microbially induced corrosion. Bacteria thrive in dirty systems and treatment requires injection of a chemical with strong surfactant and biocidal properties to clean the lines and reduce bacteria numbers. Various chemicals have been tried at GC-2 over the past year with the aim of finding a suitable, low cost chemical. The program has been successful and the data shows that the PW systems at GC-2 and GC-3 have been cleaned and bacterial numbers have been reduced. The corrosion monitoring and inspection data have also improved significantly.

The net effect of these improvements is to significantly increase the projected life of the PW system. Much of the system is in poor condition and, without injection of supplemental chemical, well line replacements are predicted from 2001 onwards, with flow lines from 2003 onwards. Supplemental injection is estimated to delay these near-term line replacements by approximately 7 years and many of the replacements would be delayed indefinitely. For example, the retirement of S-69 is predicted to be delayed from 2003 to 2016.

Suspending the supplemental injection in to the PW system is therefore unlikely to cause loss of containment or equipment retiral in the short term (1 to 2 years). However, it will shorten the life of the system, resulting in either abandonment or expensive repair/replacement in the medium to long term (3 years+). The longer the corrosion continues at the uncontrolled rate, the harder it will be to arrest it and achieve satisfactory life of the equipment.

Feel free to cut and paste so it fits in with the rest of the MoC document and the data from the QPR that Richard sent.

Dominic

**From:** Woollam, Richard C.  
**Sent:** Saturday, June 05, 1999 10:43 AM  
**To:** PBU, CIC Prod Chem Todd/Spano  
**Cc:** Crawford, Gary R; PBU, CIC NS TL Felix/Phillips; Paisley, Dominic M.; Felix, Rick D  
**Subject:** RE: MOC for Discontinuation of EC1081A

John/Andy,

I would suggest that you use as the basis of the risk assessment, not only technical but financial, the following material which we was lifted staright out of the QPR.

<<File: PW CI Injection FMT II.ppt>>

As far as the requirement to complete the MOC is concerned, surely any action which increases the risk of significant HSE/financial impact to the business or the environment should be thoroughly reviewed and documented by senior management prior to implementation. This is the point, isn't it, of the MOC process to ensure that any

process/system changes should be thoroughly reviewed and documented in order to identify risks associated with that actions - exactly what is happening here!

In the mean time, please move ahead with the stopping the program and implementing the S pad injection as quick as possible as noted in your E-mail yesterday.

Thanks.

Richard.

---

**From:** PBU, CIC Prod Chem Todd/Spano  
**Sent:** Saturday, June 05, 1999 10:58 AM  
**To:** Paisley, Dominic M.  
**Cc:** Crawford, Gary R; PBU, CIC NS TL Felix/Phillips; Woollam, Richard C.  
**Subject:** MOC for Discontinuation of EC1081A

<<File: CIHAZA~1.DOC>>

Dominic,

I have been asked by Richard and John P. to initiate an MOC to document the discontinuation of the EC1081A CI injection at GC2 and GC3. This is a somewhat unique MOC, as far as I am concerned, and it is probably not legally required. However, the idea is to make management formally sign off on the change and to briefly outline the risks. I will discuss the process impacts (BS&W and possibly water quality), but I need you (or Gary) to outline the corrosion risks to the PW system. It doesn't need to be terribly detailed or something that takes a lot of your time. Andy and I use the enclosed Hazard Review document most of the time for chemical changes, and it is nothing more than a one or two paragraph statement. However, you may have other documentation that you want to add. Your input will constitute part of the Technical Review (Stage 3 of the MOC) and I will then present all the data to Operations for signatures at Stage 4 and 5. Thanks for your help.

Best Regards,

John T.

rew\_home

**From:** PBU, Operations Manager  
**Sent:** Wednesday, June 09, 1999 2:08 AM  
**To:** PBU, CIC NS TL Felix/Phillips  
**Cc:** Woollam, Richard C.; PBU, Field OTL  
**Subject:** RE: PW Inhibitor at GC2 and GC3

John/Rick,

Thanks for the warning. Is this the right thing to do?

-does this place the line integrity in jeopardy in the short term and give us a risk of a spill near term? I assume not or you wouldn't be recommending this?

-does this jeopardise or significantly shorten the life of these lines? If so does the discounted cost of accelerated repair exceed the cost of the inhibitor for this year?

-are we putting our expenditure on chemicals in the critical areas? I thought that the PW lines were the ones least in control and therefore the ones we are most worried about. Could we discontinue chemical injection on some other lower risk systems to provide the financial space to continue this treatment?

How much money are we talking about if we continue the chemical injection at the optimal rate?

Frank

---

**From:** PBU, CIC NS TL Felix/Phillips  
**Sent:** Friday, June 04, 1999 2:53 PM  
**To:** PBU, Operations Manager  
**Cc:** Woollam, Richard C.; PBU, Field OTL; PBU, GC1 OpsTmLdr; PBU, GC2 OpsTmLdr; PBU, GC3 OpsTmLdr  
**Subject:** FW: PW Inhibitor at GC2 and GC3

Frank,

FYI - We have conducted the field "trial" of the PW inhibition chemical and found it to be very successful at cleaning up the PW system and arresting corrosion activity. Unfortunately, we did not budget for a full year's chemical expense as the program was highly experimental at the time of the budget planning process. We are now at a point where the original monies for this program are used up, so we will be shutting it down till year's end, with the intent of raising it as a line item for next year's budget.

In the meantime, the PW system may be subject to increased corrosion activity and fouling. This may have some impact on corrosion repair activity and also possibly BS&W quality during pigging operations. We will be putting the remainder of our EC1081A inventory into the S pad PW line for the rest of the year, as this is our highest risk cross country PW line at this time.

I presume you may be getting some feedback on this so wanted to assure you're informed. (You may have been at the session with Richard Woollam the other day where this was discussed).

Regards,  
John

**From:** [REDACTED]  
**Sent:** Friday, June 04, 1999 6:48 PM  
**To:** [REDACTED]  
**Subject:** FW: PW Inhibitor at GC2 and GC3

Here's one for our HSE files. We'll see if this is a "safe" way to do business

**From:** PBU, CIG Prod Chem Todd/Spano  
**Sent:** Friday, June 04, 1999 11:42 AM  
**To:** PBU, GC2 OpsTmLdr; PBU, GC2 Lead Techs; PBU, GC3 OpsTmLdr; PBU, GC3 Lead Techs  
**Cc:** PBU, Matl Coord - POC; PBU, CIG NS TL Feltz/Phillips; Crawford, Gary R; Paisley, Dominic M.; Woolam, Richard C.; 'RA Brown'; Sprague, Kip P  
**Subject:** PW Inhibitor at GC2 and GC3

All,

Due to budgetary constraints, the decision has been made to discontinue the PW inhibitor (EC1081A) currently being injected at GC2 and GC3. The GC2 bulk tank should run out within the next two days and it will not be refilled. Please shut the pump down and flush the equipment with water once the tank is empty. The GC3 tank was recently filled and is estimated to last about 13 more days (around June 17th). Again, when the tank is empty, please shut the pump down and flush the equipment with water. The current plan is to inject the remaining inventory of EC1081A into the high risk 6-69 line that runs from M to S pads. At a 40 ppm rate, we will have enough product to treat this 40,000 BWD for about 250 days.

Best Regards,

John Todd