Cliffside Refiners Limited Partnership Meeting

April 2, 2020 @ 3:00 PM

Attendees:

(Cliffside)	**Rodney C.**				
(Downtown)	**Emress B.**	**Sam B.**	**Mark W.**	**Mark M.**	**Martin M.**
(NOC)	**Emmett L.**				
(CRLP)	**Nick D.**	**Bob L.**	**Brad B.**		

Roll Call

- Noted

Short Notice Meeting with CRLP and AP to Discuss CHEU Turn Down Options

This meeting was held to address pipeline pressure increase and lack of demand due to corona virus crisis.

Emress joined the call 3 minutes after it was already in progress, these notes reflect what was discussed once she joined the call.

Nick D.-A key element is getting management buy on in this situation and once you get that then you take it to the operating team and teach then what it is, how it happens, what to expect and how to go forward. So this meeting is to get it presented to Sam and his team to see how they feel about it and then if all parties agree then we move forward.

Brad B.-What we were looking at was with the pipeline pressure where it is at and how much you are projecting based off of what we learned from the low flow study. We just put some bullet points down there the 1 through 9 there we are trying to accomplish but also to say, we don't think you need the K200, you can eventually bypass it. But at the end of the day if you wanted to keep it up and running then so be it, we just think that it possibly could be impacting it more down the road if we are successful in doing this and we think you will be. Then you would actually be recycling the K100 and you wouldn't have more problems with temperatures. That's the reason around the K200. We won't know until we get there. We won't be bringing in as much feed we will have more recycle feed, we should be able to extend the dryers to begin with. So we do have some room there. There are really just a few triggers so that is why we put the spreadsheet down below so that you can see how you would do it in the chart. It comes down to the cold box feed inlet and the residue feed cycle. You can see over to the left that is day 1-8. If you want to go slower you could take it even further. It will bring the cold box feed down to 16.75. Stepping that down twice a day, once a day if you want, so basically you would be bringing that residue back around and then start dropping your cold box percent helium, it would

drop the discharge pressure on the K100, and your field pressure would start increasing. There are two maybe three levers there that we are going to mess with. The feed into the box, the residue recycle, and (recording cut out I could not decipher what was said next) dilute fresh helium coming in down to that 10.7 and the rest is a result of what is going to happen. Once we get to a point where the plant is even then we may go further. The least amount you can bring in is 13% helium and I think that was the past, right now you are at 11% helium. We just want to give you a few more options to work with. If one of the plants trips off and you are already at 1480, then you are going to have a lot of gas coming your way. If we can get the plant stable at these lower rates then you can still keep the plant running and as the demand started to pick up we could go back through and slowly bring the rates back up to norm. I will open it up to others.

Mark M.-I think it is a great idea, I really appreciate all of the thought that went into this. It gives us a whole new paradigm of what could be possible. This proposal as a package gives us more confidence to go much further.

Brad B.-Both Ted and I think that this is doable and that you guys can do this. I am available and there really aren't a lot of levers to move and you can do it at the speed that you want to. We think the K200 may cause us problems with high recycle on the K100 which could bring us down further but it may not. If it doesn't and we only get to 11 ok so be it but I think we will see that the pipeline pressure will follow.

Mark M.-I like the table on the left I didn't understand that was days so seeing that really changes things.

Brad B.-If you have questions then just let us know. It isn't a full blown SWIM. Sam do you have any comments?

Sam B.-I am please to see there are additional things that we can try. How about you Mark Welch, anything troublesome from the pipeline pressure aspect?

Mark W.-No, it always depends on the total of what everyone is putting in.

Sam B.-I know we had discussions on reinjection of gas was there anything else Mark M. about the regulator that potentially needed to be replaced?

Mark M.-We are injecting 1.5 M into Bivens A-6 and the regulator is stuck open and it is allowing us to do what we are doing.

Bob L.-That's why we came up with this to provide some more flexibility. This would allow you to bring the pressure down.

Mark M.-Bullet number 2 the 8% helium, a week ago I brought it down to 9.8 and it became very unstable, so that is some history there. When we had the MOC and the low flow study we stopped at 15 I think we could have kept going but we stopped it. At that point there was some instability in the cold box.

Nick D.-I think there is room for a lot of options going forward and we may need every one of them. Taking all of that forward and not having to figure it out when it happens, the next step is getting it to the operators and helping with that understanding. Operators are the key element here.

Sam B.-Is there something that we will need to do immediately like an MOC?

Brad B.-There would be an MOC required for this. The key thing is increasing the residue recycle. We got to 10 fresh feed and 5 recycle.

Mark M.-Well that is fantastic news.

Brad B.-So that is key to bring residue recycle up to balance it out.

Mark M.-Rudy had a comment that this could get us in a situation where we would have too much nitrogen and would have to flare continuously.

Brad B.-We are concerned about that but mainly with the TSA. That could be an issue if we let it get too cold. We need to let it down slow. It doesn't have to be done in 8 days it can go longer.

Sam B.-Good anything else?

Nick D.-CRLP is good, we will be ready when your team is ready.

Sam B.-We will look at this and Mark get everything in place for an MOC as we start making changes to plant operations.