

Re: Enpower Load two

- *To:* Sally Beck <sally.beck@cw-test.com>
 - *Subject:* Re: Enpower Load two
 - *From:* Stacey White <stacey.white@cw-test.com>
 - *Date:* Mon, 06 Apr 2009 08:57:15 +0000
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I have not personally talked to James about these issues in Enpower. His concerns regarding swaptions and asian options are accurate. IT is currently working on new volatility curves for swaptions to use. IT is also working on correlations in order for asian options to be valued properly. London trades many more swaptions and asian options than the US; therefore, the impact of not having swaption volatility curves and correlations is greater to them. The majority of options in the U.S. are European monthly and daily exercises and the current volatility curves adequately take care of these deals. The idea of swaption volatility curves has floated around in the US, but other more material items always got in the way and we continue to use the deal specific volatilities for the swaptions we do have. Once the technology is in place to use swaption volatilities we will also adopt. The system was originally built to handle the physical power world that existed in the US and as new markets and new ideas (such as the US becoming more and more of a financial market) we will need to enhance Enpower to follow suit. Swaption vols and asian options are two of these enhancements.

Also, it is difficult to get option data out of Enpower. We have in stage an option sensitivity matrix that, once implemented into production. I will be sure that James knows about. It probably will not solve all his problems, but it will give him a starting place.

Stacey

Enron North America Corp.

From: Sally Beck 12/11/2000 11:00 AM

To: Stacey W White/HOU/ECT@ECT

cc:

Subject: Enpower Load two

In cleaning up e:mails, I ran across this one that I had not yet read. Has James called and talke with you about Enpower? Are his concerns in the memo accurate? Let me know. --Sally

----- Forwarded by Sally Beck/HOU/ECT on 12/11/2000 11:03 AM

Fernley Dyson

11/29/2000 02:54 AM

To: Richard Causey/Corp/Enron@ENRON, Sally Beck/HOU/ECT@ECT

cc:

Subject: Enpower Load twoStatus update on the issues surrounding Continental Power volatilities and correlations

As you know for some time we have been trying to get the Continental Power

traders to increase the volatilities they use for valuing their option portfolio and for use in calculating their VAR as it has been obvious that the market has become more volatile but this was not being reflected in their mark.

In looking at the impacts of this, various other issues came to light.

Firstly it raised issues over the correlation matrix used in the VAR model as this was way out of date. We have worked with Jitendra and have now put in a matrix that both the traders, risk and RAC are happy with. Secondly, as you may be aware, in Portcalc swaptions currently use the volatility input on the deal ticket and not off any volatility curve.

The current portfolio is 90% swaptions and so this represents a serious issue for us in that it is not practical to manually change all the volatilities at the deal ticket level every time the implied volatilities change. We cannot use the option functionality as this only values hourly or daily exercise options and not fixed expiry swaptions or options. We also have not found any way in Portcalc of valuing Asian options so we are having to 'force' in the few we have. We have had the Houston based Portcalc IT team work on a 'new' piece of swaption valuation code but currently it contains a number of worrying bugs. These are primarily that the proposed code does not take the correct underlying forward price and uses the volatility of (approximating) the last day of the underlying rather than the implied volatility of the underlying.

They are currently being hampered in that they do not have any IT personnel who have sufficient option knowledge (I understand that the two most experienced coders resigned to go to another Houston based energy company).

This is extremely worrying and I find it hard to believe that the whole of Enron's power business is having to use the methodology of inputting the volatility at the deal ticket level. This will almost certainly mean that different volatilities are being used in the VAR as are being used to value the swaption portfolio globally. As well as these issues we have concerns over the use and accuracy of the smile adjustment in Portcalc (worryingly it does not seem that you can 'switch' this off). Briefly it seems that Portcalc calculates the delta used to adjust the volatility by comparing the strike price to the forward price of the last day of the underlying rather than the forward price of the underlying itself.

We have engaged London based IT and are looking at the code we have used in Power 99 to see if there is a way we can get something done quickly to start to value all option products off a curve and to be able to book Asian options.

Once we get the above resolved we still have no way of extracting the vega or gamma risk from Portcalc in its current state as the information is just not there (so we are told by IT). The system 'seems' (we cannot be 100% sure given all the other errors) to produce a vega and gamma P&L number but what the risk is remains a mystery. Again this is very worrying in that we have Power option traders all over the world who can't get their underlying vega or gamma risk position from the global valuation system. We are trying to work on something manual to draw a line in the sand but I would really like to know how the American based traders cope as they have this problem

(knowingly or not) for years. What sign offs were gained for the implementation of Enpower because it seems to us that using the current system it is not possible to comply with the Global Risk policy. How do we validate the inputs to the valuation if we do not know the risk ?

Despite the above we have now persuaded the traders to save out newer higher volatilities a week ago and you should have seen a large move up in their VAR. However, as it stands at the moment they are notable to save out a daily remark as Jitendra is saying that he is not happy with their 'model' / vol curve generator (I have today asked for a full explanation, details of any testing etc etc and time lines so we can move to getting over this hurdle). The swaptions have also not yet had the ticket volatility changed but the impacts are expected to be positive as we are long volatility.

I would appreciate your comments on the above as it seems that we are pushing the boundaries here on areas which we really expect to have already been covered in Houston some time ago and could do with some help. We are having to use a system which seems to us to have numerous bugs and short comings and are having to spend an enormous amount of IT time overcoming the inadequacies of Enpower which I do not think most people are aware of. Consequently we have not been able to deliver all the improvements we were required to do in gaining the increased limits so 3 months ago but I would hope you agree that it is not for a lack of trying.

Sorry it's so long but if there are any questions or any perceived inaccuracies in any of the above then please let me know.

James