From: Ariane Dwyer [[redacted]]
Sent: 4/8/2015 2:53:29 PM
To: Richard Kahn [[redacted]]
CC: Jeanne Brennan [[redacted]]; Darren Indyke [[redacted]]; Paul Morris [[redacted]]; Daniel Sabba [[redacted]]; Vahe Stepanian [[redacted]]
Subject: RE: Trade Recap - 4/2/2015 - DB Commodity WTI Short Volatility II Index [C]

Classification: **Confidential**

Hi Rich,

I'm following up on the below. Can you please confirm its okay to make the payment and we will call Darren for verbal confirmation.

Best,
Ari

From: Daniel Sabba
Sent: Tuesday, April 07, 2015 5:38 PM
To: Vahe Stepanian; Richard Kahn
Cc: Jeanne Brennan; Ariane Dwyer; Darren Indyke; Paul Morris
Subject: RE: Trade Recap - 4/2/2015 - DB Commodity WTI Short Volatility II Index [C]

Classification: **Confidential**

Richard and Jeanne,

Thank you for the call. Per our conversation, the $124,704.68 bid/offer cost referenced in the previous email can be broken down as follows:

- Net vega (for the three WTI straddles the index references): $58,209
- Implied volatility (for the three listed WTI straddles the index references): ~47%
- Bid to mid: formulaically (per page 4 of attached index guide - excerpt below): 4% * vol = 4% * 47% = 1.88%

σ_t^{AC} is the after cost implied volatility of the relevant option and it is obtained from the implied volatility of the relevant exchange traded option as

$$\sigma_t^{AC} = \sigma_t - \max(4\% * \sigma_t, 0.75\%)$$

Where, σ_t is the volatility of the call option which has strike K_t and is calculated using standard Black's model.

- Bid to mid: 1.88x$58,209= $109,432.92
- Mid to offer: $15,271.76 (per our chat, this is really competitive, as it represents a mid to offer of 0.26%).
- Bid to mid + mid to offer = $109,432.92 + $15,271.76 = $124,704.68

Please let me know if you have any questions – happy to have another call to discuss.

Regards,
Daniel

From: Vahe Stepanian
Sent: Tuesday, April 07, 2015 9:47 AM
To: Richard Kahn
Cc: Jeanne Brennan; Daniel Sabba; Ariane Dwyer; Darren Indyke
Subject: RE: Trade Recap - 4/2/2015 - DB Commodity WTI Short Volatility II Index [C]