# SPY POSITION AND EXERCISE LIMIT REPORT

DATE
June 7, 2017

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# Executive Summary

Miami International Securities Exchange, LLC ("MIAX Options") and MIAX PEARL, LLC ("MIAX PEARL" and together with MIAX Options, collectively, "MIAX" or "the Exchange") have eliminated the position and exercise limits for physically-settled options on the SPDR® S&P 500® ETF Trust ("SPY") pursuant to a pilot set to end on July 12, 2017 (the "SPY Pilot Program"). In preparing a report in support of extending the SPY Pilot Program, MIAX considered the factors brought forward by the Commission in its request which include: (1) the impact, if any, on the volumes of SPY options; (2) the impact, if any on the volatility of the price in the underlying SPY contract including the impact, if any, at expiration; (3) the size and different strategies employed with respect to positions established in SPY options; (4) any observed problems in the underlying security or that otherwise arose as a result of the Pilot Program, and (5) the Exchange collected industry data on open interest in SPY options.

In addition to the data elements previously mentioned, MIAX makes available to Commission staff various data elements relating to the effectiveness of the SPY Pilot Program and used in the preparation of this report in the form of Appendix A.

# Methodology and Scope

MIAX first listed SPY in April 2013 and previously filed reports on SPY Position and Exercise Limits on January 15, 2015, July 9, 2015, and June 10, 2016. The previously filed report covered the period from June 1, 2015, to May 31, 2016. The purpose of this report is to update our previous submission to cover the dates from June 1, 2016, to May 31, 2017.

During the course of compiling this report, MIAX has collected the following data:

- Monthly MIAX Volume
- Total Monthly Industry Open Interest in SPY
- Average Daily Industry Open Interest in SPY
- Trading Days per Month
- Average Daily Volume in SPY on MIAX
- Average Monthly Volatility for SPY
- Average SPY Volatility on Monthly Expiration Day

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## Analysis and Results

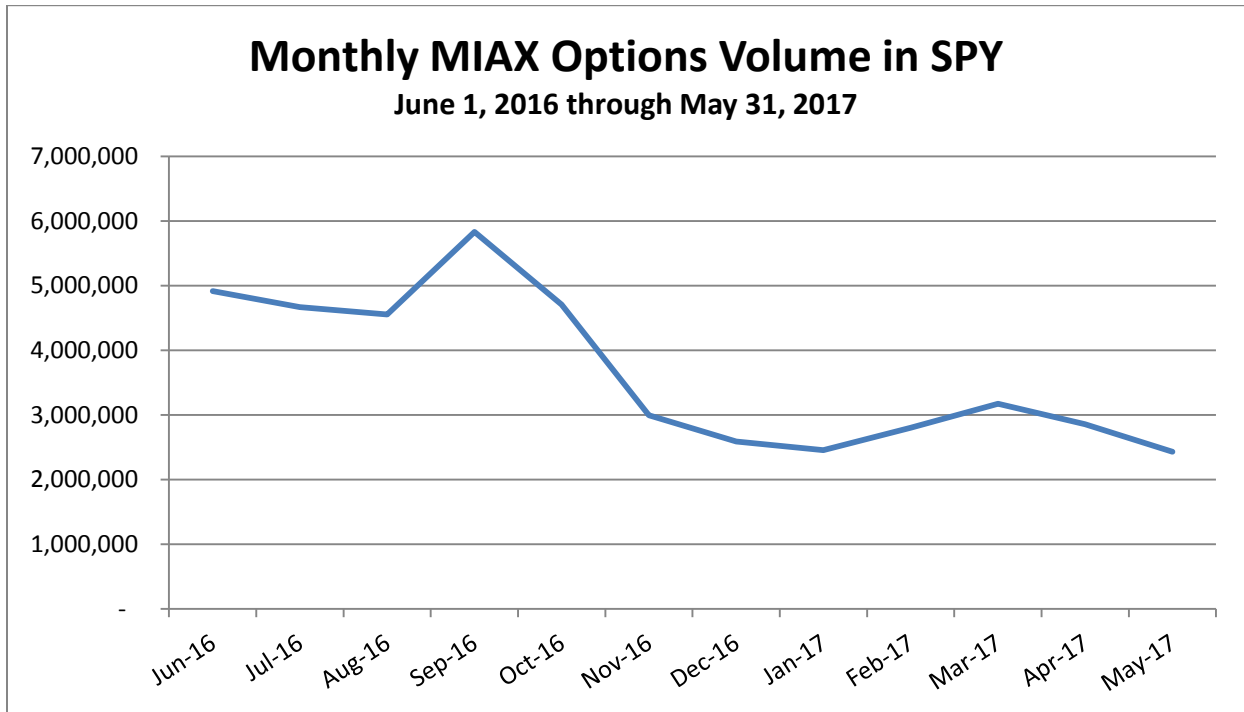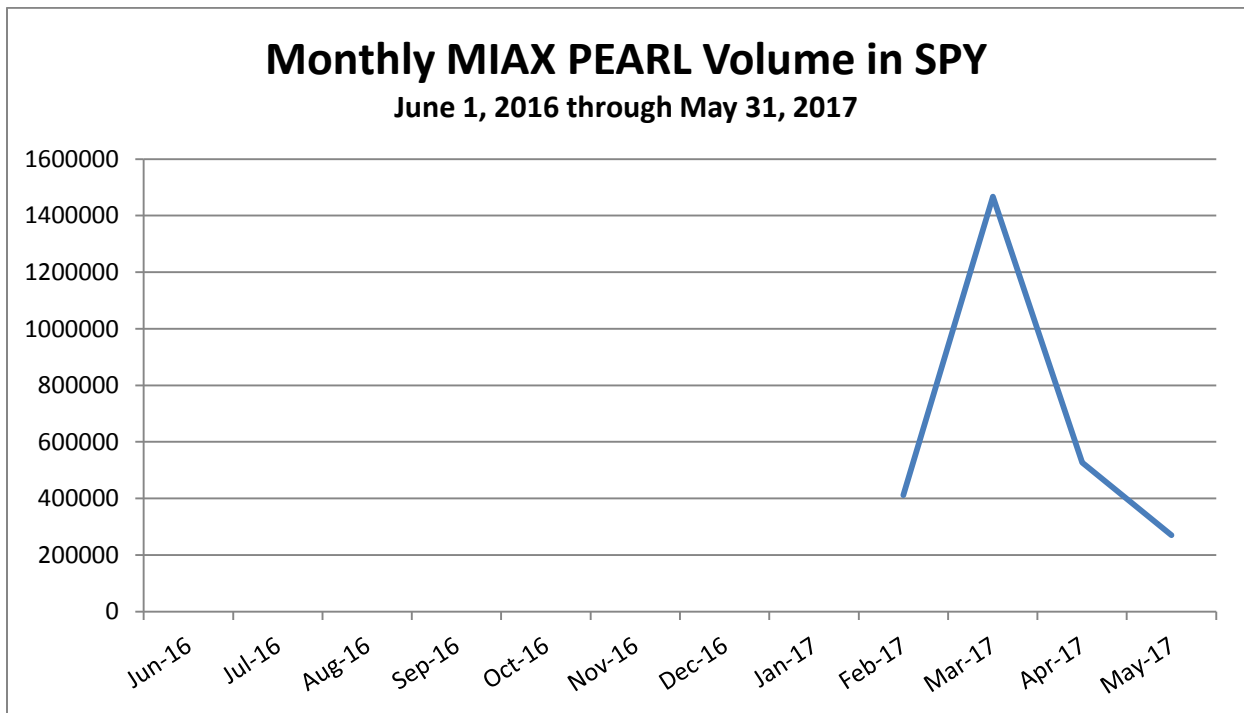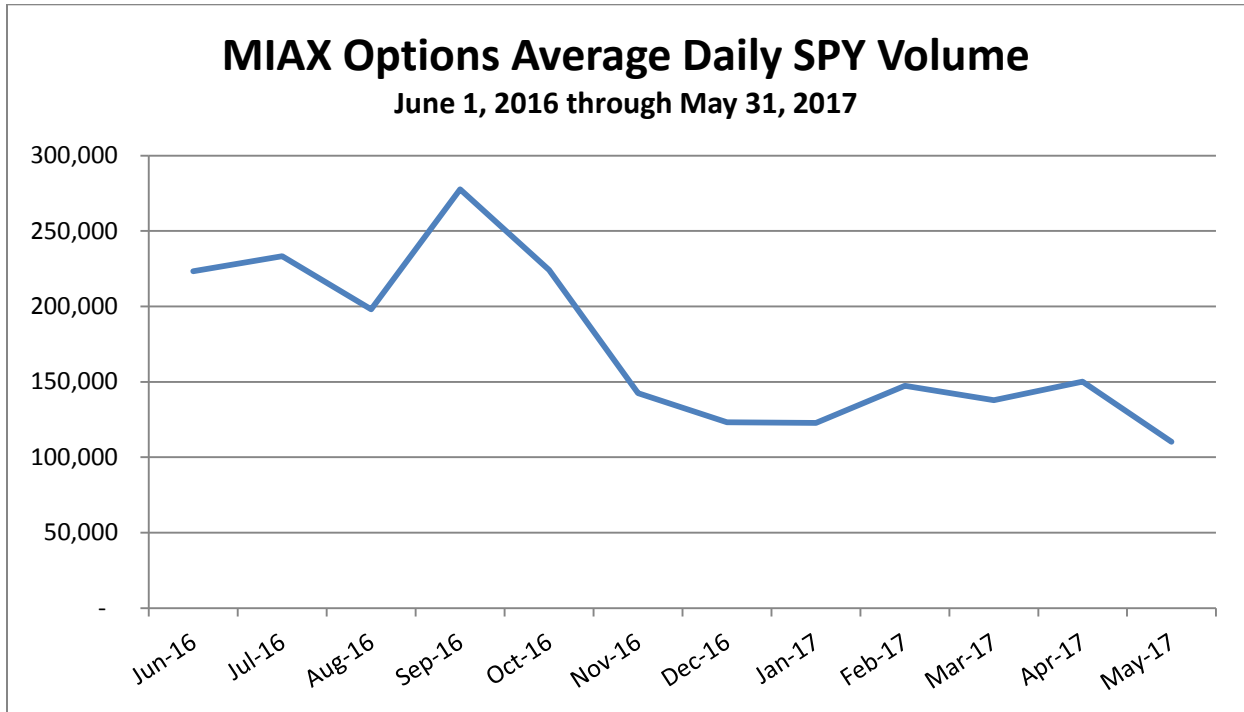**I. MIAX Options, MIAX PEARL and Industry Volume in SPY for the Reporting Period**



**Monthly MIAX Options Volume in SPY**
June 1, 2016 through May 31, 2017

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**MIAX Options Average Daily SPY Volume**
June 1, 2016 through May 31, 2017



**Monthly MIAX PEARL Volume in SPY**
June 1, 2016 through May 31, 2017

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## MIAX PEARL Average Daily SPY Volume June 1, 2016 through May 31, 2017



## Monthly Industry Volume in SPY
### June 1, 2016 through May 31, 2017

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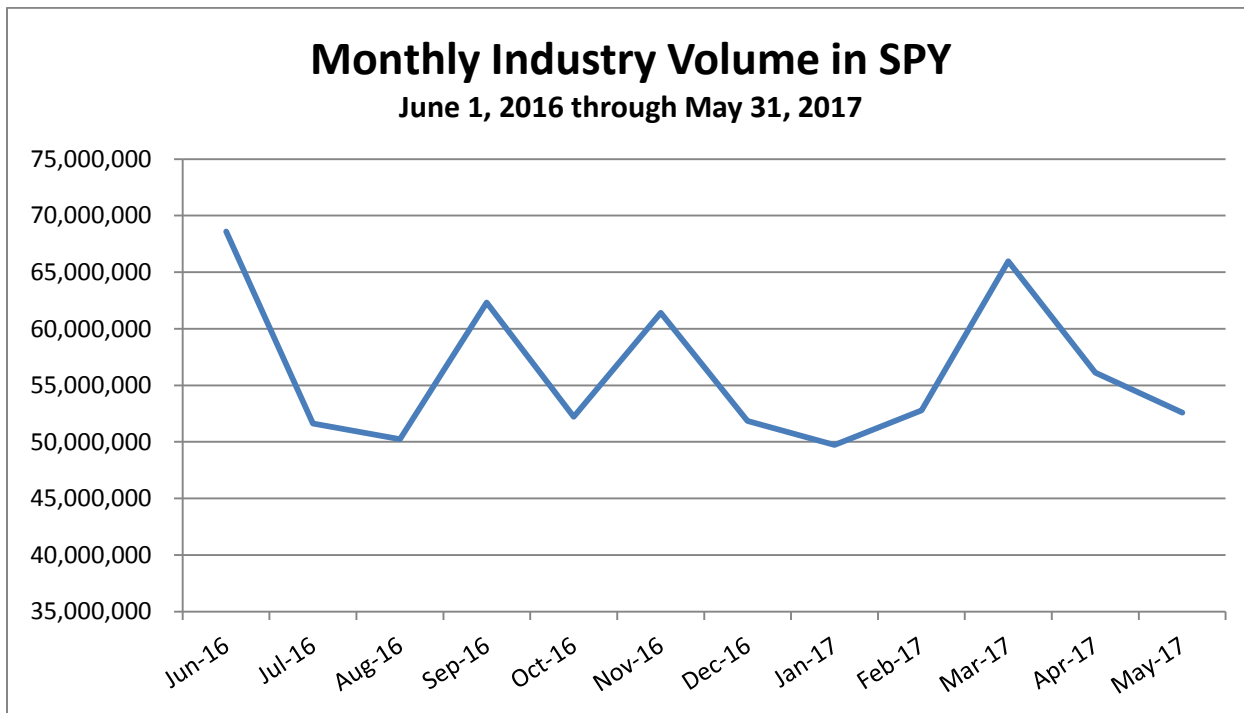
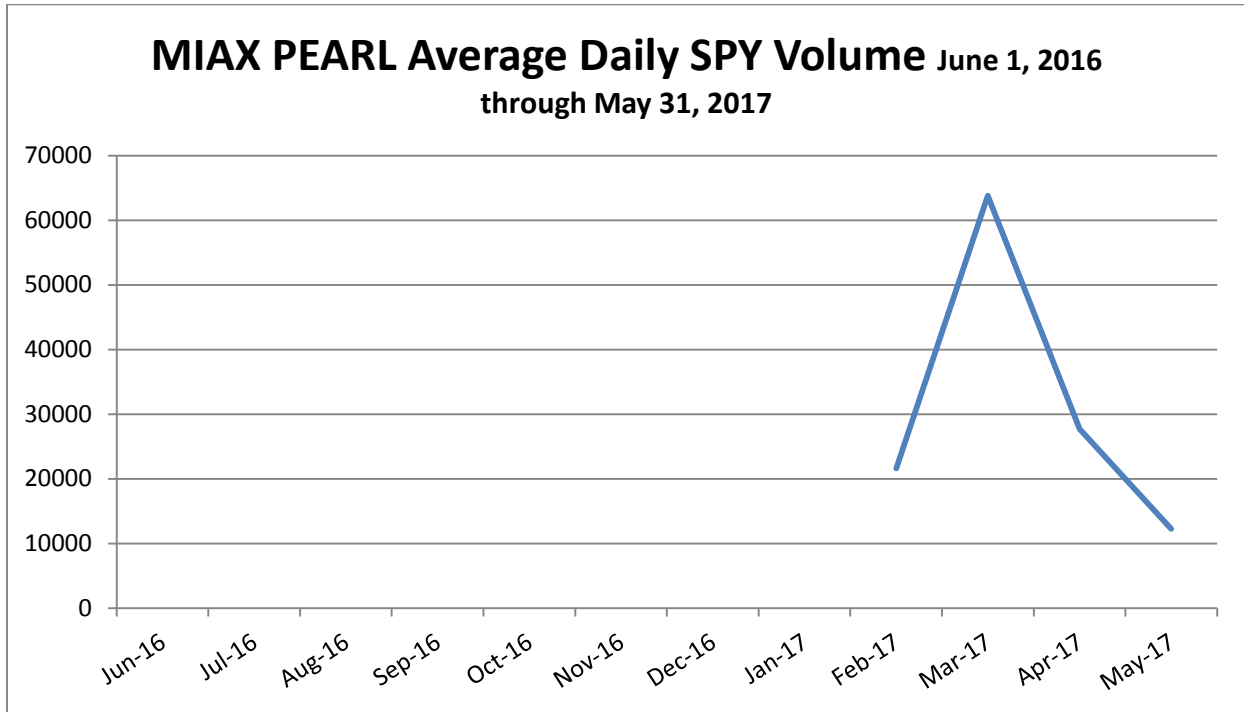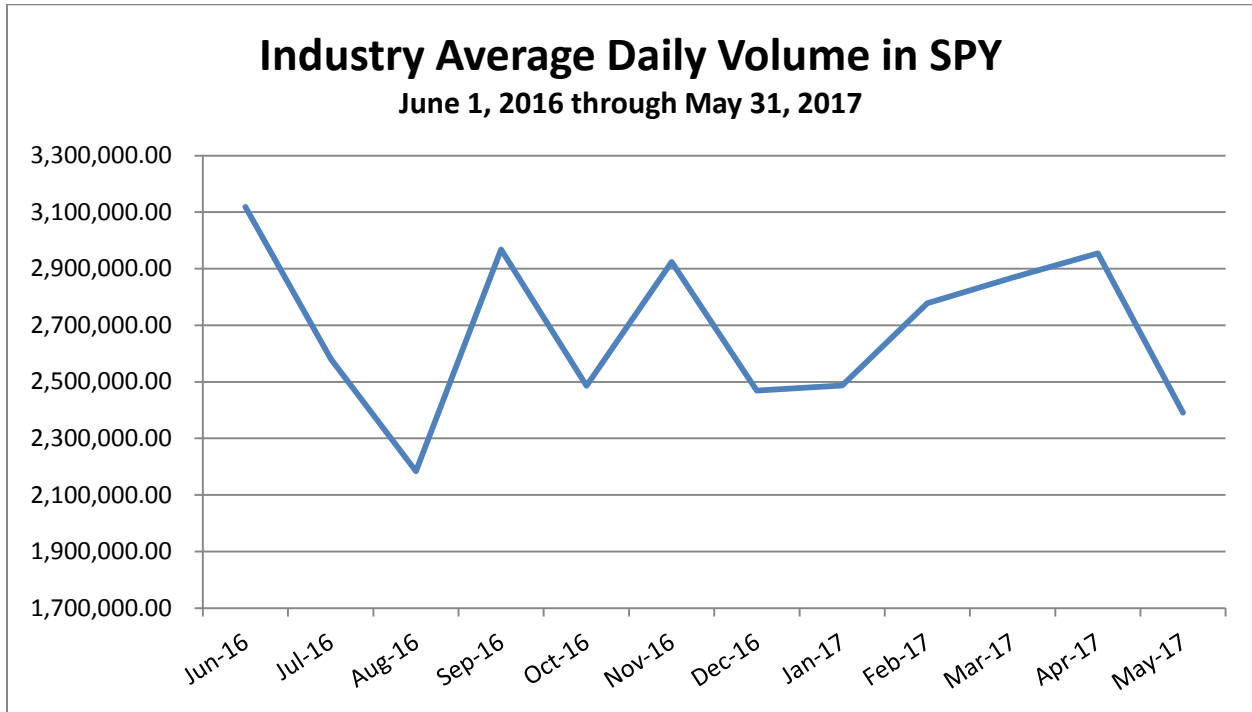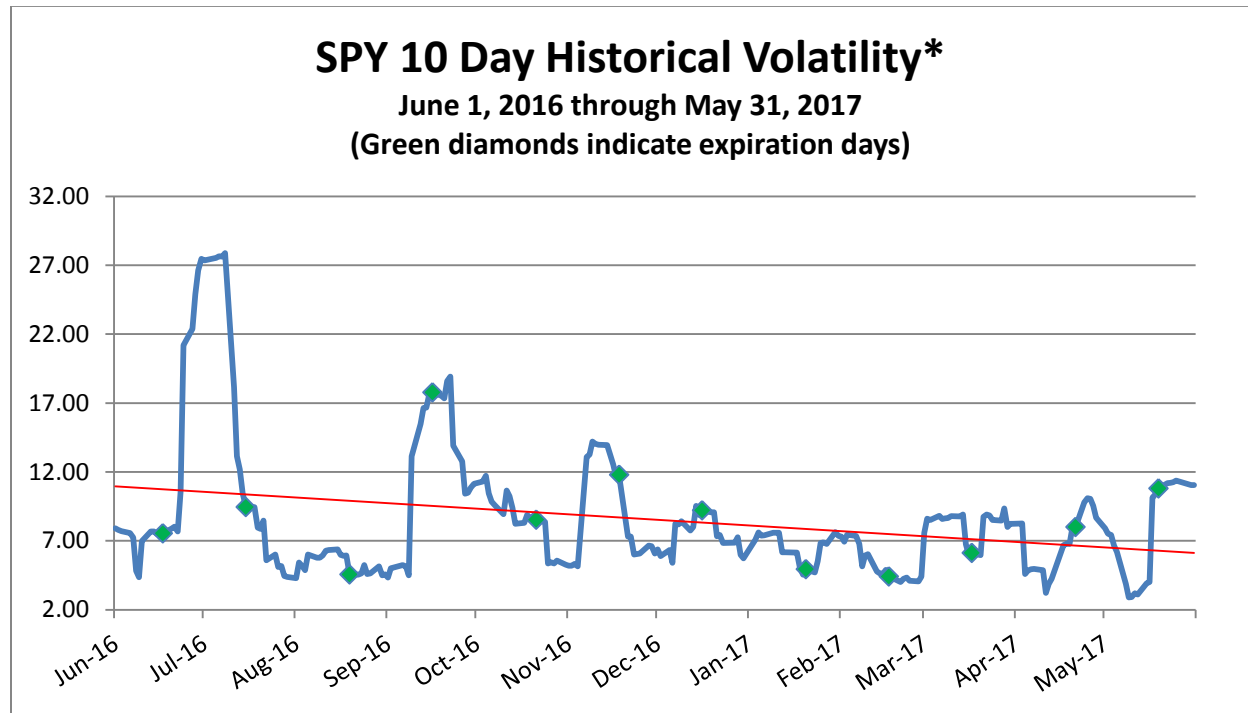**Industry Average Daily Volume in SPY**
**June 1, 2016 through May 31, 2017**



MIAX has observed no negative impact from the continuation of the Pilot Program in the Exchange's monthly or average daily volume statistics for options based on the SPY. MIAX monthly and average daily volume is generally driven by external economic, political, financial, social and industrial factors. In summary, monthly and average daily volume in SPY Options on MIAX during the reporting period appears to be driven by the same factors that influence general market activity and does not appear to have been influenced in any measurable way by the Pilot Program.

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**2.  The Impact of Monthly and Expiration Day Volatility on the price of SPY**

### SPY 10 Day Historical Volatility*
**June 1, 2016 through May 31, 2017**
**(Green diamonds indicate expiration days)**



*\* Historical volatility information provided by Livevol, Inc.*

MIAX has observed no impact attributable to the continuation of the Pilot Program on the monthly or expiration day volatility of the underlying SPY instrument.

**3.  The Size and Different Strategies Employed with Respect to Positions Established in SPY Options**

During the period covered in this Report, MIAX Options released new trading system functionality that enabled the trading of additional types of strategies on the Exchange. More specifically, the MIAX Options Complex Order System began trading (with underlying symbol IWM) on October 24th, 2016.  Complex Order functionality was made available for additional underlying classes on December 12th and January 30th, concluding with all symbols trading on MIAX Options having Complex Order functionality available.  Complex Order functionality for SPY was released as part of the December 12th roll out. Complex Order functionality enables member firms to submit orders for the concurrent purchase or sale of two or more different options in the same underlying security.  Common Complex Order strategies include: Straddles, Spreads, Strangles, and Combos, and member firms have full discretion to use the type of strategy best suited for their trading purposes.
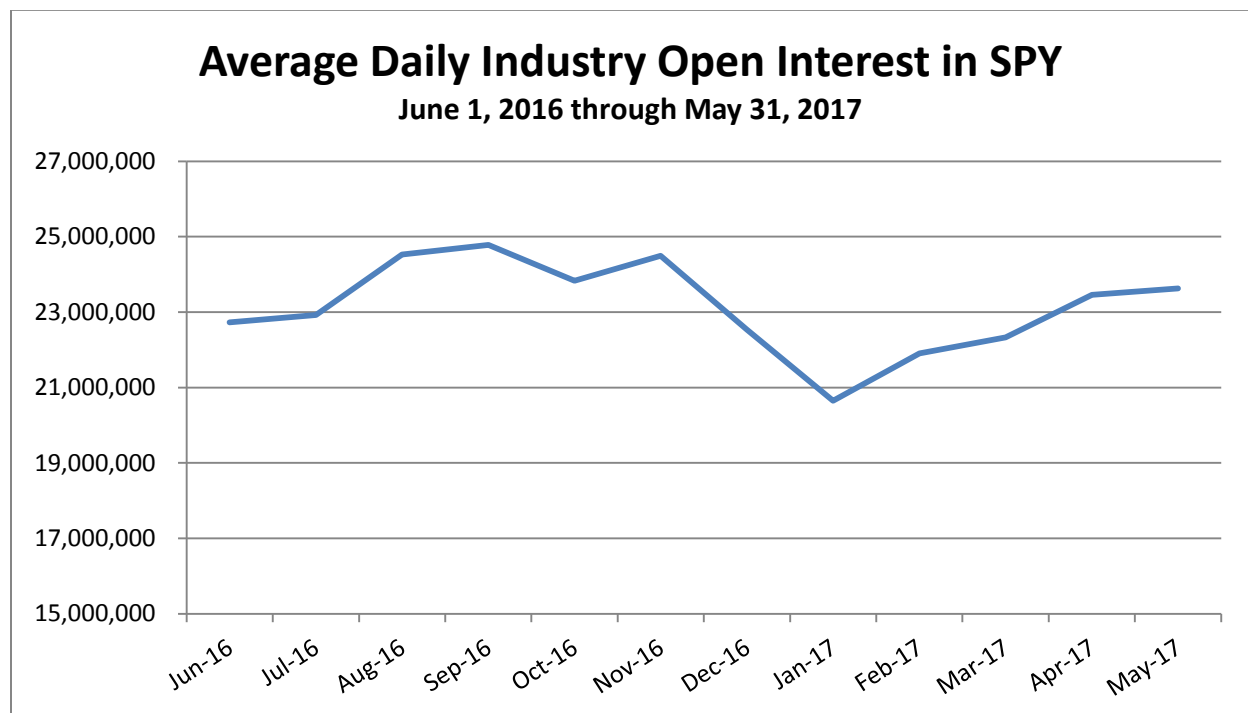
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There were no significant observable differences in the types of Complex Order strategies used for SPY when compared to the types of strategies used in trading other symbols in the MIAX Options Complex Order System.  Further, the Exchange observed no impact, problems or reported problems associated with the Pilot Program as it relates to the size and type of strategy used for trading SPY (including trading in Complex Orders and all other MIAX Options or MIAX PEARL systems, inclusively). During the report period, the Exchange observed no impact attributable to the continuation of the Pilot Program on the monthly or expiration day volatility of the underlying SPY instrument.

**4.  Observed Problems in the Underlying Security or that Otherwise Arose as a Result of the Pilot Program**

MIAX has observed no specific problems in SPY related to the SPY Pilot Program.  MIAX has not received any complaints regarding the lack of position and exercise limits in SPY during the operation of the SPY Pilot Program.

**5.  Industry Reported Open Interest in SPY Options**



**Average Daily Industry Open Interest in SPY**
**June 1, 2016 through May 31, 2017**

MIAX has observed no negative impact from the continuation of the Pilot Program in open interest levels for options based on the SPY during the Reporting Period.

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## Conclusion

Since the Exchange has observed no negative impact to its operations or to the industry and received no negative feedback regarding the SPY Pilot Program from its participants, the Exchange is in favor of continuing the removal of position and exercise limits for SPY options on a permanent basis.

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## Appendix A

Submitted with this report as Appendix A, MIAX has provided a spreadsheet of data that had been collected and analyzed for purposes of this report.  See attached spreadsheet data.