Welcome (10:00 – 10:05)
1. Jim Gluck, PJM, provided a brief overview of the Tech Change Forum, ground rules and the agenda.

Past Meeting Issue Review (10:05 – 10:10)
2. Jim Gluck, PJM, opened the floor for past issues. No issues were brought up.
   A. No updates for the Formal Post-implementation Review.

Initiative Roadmap Updates (10:10 – 10:25)
3. Roadmaps for PJM initiatives through 2017 will be presented.
   A. Rebecca Stadelmeyer, PJM, provided an update on 5-Minute Settlements. She stated the compliance filing was submitted on January 11, 2017. Ms. Stadelmeyer also indicated no changes to the timeline at this point and plans to update the timeline on a quarterly basis with highlights per quarter. She stated that updates will be made to MSRS and will be discussed at the Market Settlements Subcommittee (MSS) where all updates will be placed on the MSS meeting materials area.
   B. Kim Warshel, PJM, provided an update on Intraday Offers. She stated there were market rule discussions held during Generator Offer Flexibility Senior Task Force (GOFSTF) in 2015 where all meeting materials are available on PJM.com for review. Ms. Warshel stated the Intraday Offers Education session was held on January 9, 2017, with a WebEx recording available on the Tech Change Forum web page. She mentioned testing was available in the Train environment as of December 21st and will be available until 3Q17. Ms. Warshel announced the go-live date is November 1st. She stated all supporting documentation regarding Intraday Offers changes are available on the Markets Gateway web page.
      Ms. Warshel also discussed important changes regarding schedule IDs. On slide 5 of her presentation, she stated the items on the left display what is currently available for schedule IDs and the items on the right will be the only schedule IDs available for use when the Intraday Offers updates have been implemented. Users can begin changing the schedule IDs now to save time in the future.
   C. Swapna Kanury, PJM, provided an update on Coordinated Transaction Scheduling (CTS). She stated the member design session date on the roadmap is a tentative date and the February Tech Change Forum will have the updated information along with registration available for these sessions.
Product Roadmap Updates (10:25 – 11:30)

4. Roadmaps for individual products will be presented.

   A. Gerry McNamee, PJM, provided an update on the DR Hub roadmap. He stated that DR Hub is the replacement for the existing tool, eLRS. Mr. McNamee announced that DR Hub will go into production in April. He provided a review of progress so far and that the DR Hub user interface was released to Train last week. He also mentioned the web services release will be January 26th instead of February 2nd.

   B. Gerry McNamee, PJM, provided an update on the roadmaps of InSchedule, Power Meter, Member Voting, eDataFeed, Data Viewer, and Account Manager. He stated that a quarterly release is currently scheduled for the end of March/early April. Mr. McNamee provided details on the release features and stated the Data Viewer updates were based on results of the member survey.

   C. Jennifer Conn, PJM, provided an update on roadmaps for eRPM and FTR Center. She reminded the group that the rebranded name for eRPM is Capacity Exchange. Ms. Conn requested participants to utilize the training environment which will be available in 4Q17. She stated a demonstration will be available in 3Q17. Ms. Conn announced that PJM plans to conduct design reviews in February 2017 as well as some time in 2Q17.

   D. Ian Mundell, PJM, provided an update on the Gen Model and Queue Point roadmaps. He stated the Queue Point release is planned to go live on January 26. Mr. Mundell also stated there would be a release after the current queue closes for updates and use of additional forms. He mentioned that Queue Point will be replacing the DataSheet application and Attachment forms on www.pjm.com. Mr. Mundell advised users to register for CAM accounts and to use the new forms as laid out in the user guide available on the Planning Center tool page. He mentioned the January 26th release will only impact Attachment N and Impact Study Forms.

   Tawnya Luna, PJM, provided an update on the PJM.com Planning Queue web pages on www.pjm.com. She informed the group that interviews regarding the interconnection queues were conducted in late 2016. Ms. Luna stated the pages on www.pjm.com will be updated based on that feedback. She mentioned the new interconnection queues will replace the Generation Interconnection, Merchant Interconnection, Long-Term Firm Transmission Service and ARR Analyses web pages. Ms. Luna announced that all the tables will be combined into a single, user friendly and readable table format with filters. She stated the beta release will be available at the beginning of 3Q17 for users to try out the page and new features as well as provide feedback. Ms. Luna mentioned the final version of queues page will release at the end of 3Q17. She also indicated users may need to update systems that are scraping the queue pages. Ms. Luna stated that the pages which are no longer necessary will be removed by the end of September with communication provided prior to those dates.

   E. Tawnya Luna, PJM, provided an update on the PJM.com roadmap. She stated the Planning section on the www.pjm.com web site will be reorganized and simplified. Ms. Luna announced if there is any interest in providing feedback on that section for
stakeholders to utilize the “Feedback” link on www.pjm.com. She mentioned two new features to be released in 2017: (1) Manuals in HTML format and (2) CEII Secure Content Access.

F. Beth Schweser, PJM, provided an update on the ExSchedule roadmap. She stated the roadmap includes the ExSchedule enhancements but the dates are not finalized at this time. Ms. Schweser announced the rescheduled database upgrade will happen on March 16.

G. Beth Schweser, PJM, stated there were no updates to the OASIS roadmap since the last Tech Change Forum meeting. She stated the team is looking to consolidate member feedback by the end of 1Q17 for the OASIS refresh and the team is currently waiting on FERC rules for the NAESB WEQ-012 PKI implementation.

H. Rich Brenton, PJM, stated there were no updates to the Emergency Procedures roadmap. He mentioned to date there are no enhancements scheduled for Emergency Procedures. Mr. Brenton stated the team will provide updates on a quarterly basis but no updates as planned for the first 6 months of 2017.

I. Kevin Bonner, PJM, provided an update on the Tools Security roadmap. He stated that eRPM was updated to the new single sign on (SSO) implementation on January 23rd with plans to update MSRS the week of Feb 6th. Mr. Bonner also provided the timeframe for OASIS and eSuite updates for the SSO plan to be week of February 20th. He provided updates on each release scheduled for February and March.

Mr. Bonner received a question from the phone regarding the multi-factor authentication and if it was a one-time thing to enter the added authentication. Mr. Bonner stated it is a one-time password on a particular device but that will expire after 90 days in which the user will have to re-enter the extra authentication.

Mr. Bonner advised the System ID and User Interface Restriction roll out would occur in March. He provided a release plan for this roll out on slide 6 of the Tools Security Roadmap slide deck.

J. Chidi Ike-Egbuonu, PJM, provided an update on the eDART roadmap. She indicated there was one small change on slide 3 showcasing the new Reactive Test Results Tickets under the Gen. Tickets button that was released in December, 2016. Ms. Ike-Egbuonu stated two items have ongoing feedback:

(1) Reactive Reserve Check (RRC) Rewrite – looking for feedback. PJM received feedback that data was incorrect so the release was rolled back due to incorrect data.

(2) Reactive Test Results Tickets – User Interface changes were made available on December 14, 2016. Data to be available this week and PJM is asking for participants to try the new tool and to provide feedback.

She stated all feedback can be sent to ReactiveTesting@pjm.com. Ms. Ike-Egbuonu mentioned the current method is to be retired May 1, 2017. She advised that users should begin reporting in eDART as soon as possible to work out any issues.
Ms. Ike-Egbuonu discussed the eDART refresh and reasons for refreshing. She mentioned the Oracle server support for eDART is ending May, 2017. Ms. Ike-Egbuonu stated the refresh will require to move to updated technology as well as plans to update to the SSO functionality as other tools. She advised the group that the refresh would include updates to the user interface web pages and include migration of JAVA Browserless Command Line Interface (CLI). Ms. Ike-Egbuonu provided details on out of scope areas as well as expectations to the project.

Ms. Ike-Egbuonu provided the following timelines for the refresh project:

**Browserless**

- 1Q17 – CLI design; Stakeholder presentations and feedback; *Action required* - Stakeholders should have representation at eDART XML users group to provide feedback on this feature.
- 2Q17 – Testing
- 3Q17 – Shutdown of Java browserless interface; CLI will be in full use.

**User Interface**

- 1Q17 – User experience analysis and design, requirements gathering, user account mapping to Account Mapping. *Action required* – Stakeholders should provide feedback to Chidi or team at eDART user group meetings.
- 2Q17 – Work planning
- 3Q17 – User interface refresh

Ms. Ike-Egbuonu also listed the efforts happening during 1Q17 along with a time table on slide 14.

K. Mr. Venkat Balachandran, PJM, provided a refresher and roadmap overview of Data Miner 2. He indicated the target date for initial API integration specifications to be available is the end of March. Mr. Balachandran stated that beta testing will begin May 15 and will request all feedback due back to PJM by July 31. He stated the feedback requested will be via the Tech Change Forum. He also mentioned Data Miner 2 - Phase I go-live is planned for mid-August. Mr. Balachandran also mentioned PJM is targeting the retirement of the PJM.com flat files to begin in 3Q18 in a phased approach.

He stated the data feed portal will be hosted on Microsoft Azure Cloud Platform to include filtering, pagination, sorting and include the data dictionary search. Mr. Balachandran indicated Data Miner 2 will be built utilizing RESTful web API services and will support multiple data formats (JSON and XML). He also mentioned versioning will be available via the API.

Chad Hutchinson, PJM, provided a mockup demonstration of the updated Data Miner 2 layout. He showed how the main page will feature frequently accessed data. Mr. Hutchinson then navigated via the left navigation to show how it will provide all data set categories in alphabetical order will the ability to dive into the set for specific information.
He showed data table features and how all data displayed is based on filters and ability to sort and export. Mr. Hutchinson reviewed the layout of each data page which includes description of data set, link to API testing and full list of data terms for that set. He stated all feedback can be provided to Chad at chad.hutchinson@pjm.com or to techchangeforum@pjm.com.

Jim Gluck, PJM, provided a review of the new consolidated roadmap view PJM has been working on.

**General Updates (11:00 – 11:20)**

5. Todd Keech, PJM, provided an update on day-ahead posting timing. He stated at this time no end user changes have been made to currently access data via market tools or PJM.com.

6. Ginger Quintavalla, PJM, discussed *member-initiated* process improvement. She provided a background on the main purpose of this initiative and that it was based on client visits, survey feedback and in-person feedback at stakeholder meetings. Ms. Quintavalla also provided a description of what type of feedback PJM may receive. She stated we are looking to take the feedback and move into a process improvement where we can make it an actionable item along with review of priority and complexity. Ms. Quintavalla stated this process is part of a 2017 Corporate Goal to get this information back out to the members. She stated updates will be made on a quarterly basis.

7. Jim Gluck, PJM, provided general updates.

   A. Recent Production Issue Review
      1. On January 18th, Real Time LMPs (RTLMPs) were not posted to Data Viewer. PJM will be improving internal notification processes when data is not posted in time.
      2. On January 8th, a four (4) minute network connectivity issue impacted PJM tools. PJM is currently working to correct the issue with a hardware refresh.
      3. On December 4, 2016, a vendor defect caused Ancillary Services cases for hours ending in 18 and 19 to not be approved. PJM worked with vendor to correct the issue and deployed the update on December 6, 2016.

   B. Mr. Gluck provided windows for blackout times as well as maintenance windows. He stated PJM is continuing to look for opportunities on maintenance windows.

   C. Mr. Gluck announced to the group that a survey will be released in early February to gauge feedback regarding the value of the Tech Change Forum and other general feedback.

   D. Mr. Gluck highlighted new features PJM will provide for the Tech Change Forum in the upcoming Tech Change Forum Community which will include discussion boards, knowledge articles and roadmaps.
8. Foluso Afelumo, PJM, provided an update on the web policy created to ensure equitable access to PJM systems for members. He reviewed the previous discussion of the concurrent session and usage rates. Mr. Afelumo stated the concurrent session approach was placed into Production but rolled back due to unforeseen issues. He mentioned the updated concurrent sessions will be implemented in March.

Usage Rates

Mr. Afelumo reviewed the process for usage rates. He stated PJM will start monitoring the usage that when a user goes over the maximum request rate the data request will be throttled. Mr. Afelumo advised that a daily report is generated and sent to PJM client managers of all IP addresses that have gone over the maximum request rate. He stated if users have issues and believe it is the throttling issue to contact your PJM client manager or the PJM customer hotline.

Mr. Afelumo stated the throttling is in effect on oasis.pjm.com flat files which was implemented on December 19th. He also stated the throttling expires when the excessive rates usage goes down.

Ginger Quintavalla, PJM, mentioned how PJM does not always have a user name associated to the throttling. Mr. Afelumo indicated for oasis.pjm.com the flat files are not authenticated sessions so PJM can only identify IP address. PJM technical teams have been reviewing other systems with similar IP addresses and getting user names to generate better reports for internal use and follow ups.

9. Kevin Bonner, PJM, provided information on Account Manager best practices. He pointed out the main highlights of a Company Account Manager (CAM) are: (1) to notify PJM when CAMs leave the company or move out of the CAM role at their company; (2) maintain a minimum of two CAMS; and (3) to review account access regularly for their users.

Mr. Bonner also reviewed the blackout period for locking and unlocking accounts. He requested that CAMs refrain from attempting to lock and unlock accounts in the first 5 minutes of the hour and half past the hour (e.g. do not unlock between 3:00 – 3:05, 3:30 – 3:35, etc.). Mr. Bonner stated PJM is investigating a permanent solution to eliminate this requirement.

10. Ian Mundell, PJM, provided details on the new Queue Point Attachment N and Impact Study features. He reviewed and showed screen shots of the current forms, provided an explanation of the Queue Point home page, new forms, advanced features, as well as the new “find a form” option. Mr. Mundell indicated there is a “take a tour” feature available to show users how to utilize the tool. He also mentioned the remaining forms will be deployed in 2Q17.

11. Bill Walker, PJM, provided a feature walkthrough of the PJM Member Community. He reviewed existing functionality such as searching for information, navigating through topics, reading knowledge articles as well as submitting new cases. Mr. Walker also reviewed the new workflows within the PJM Member Community. He stated these new features are functions typically requested via the hotline where additional information may be required. The new features on the PJM Member Community allow users to Request Demand Bid Access, Request Demand Bid Limit Increase, Initiate Generation Transfer Process and to Request Declaration of Authority.
Sandra Hopkins, Dominion Virginia Power, had several questions around the generation transfer process such as who can see the data and if other parties have access to provide field updates. Bill Walker, PJM, stated the only person seeing the case is the one that initiates the case and typically, one party has all the information that must be submitted. Mr. Walker also stated PJM is investigating how to allow multiple users access to one case for situations like the generation transfer process.

**Future Meeting Announcement (11:40-11:45)**

12. Jim Gluck, PJM, highlighted important upcoming dates.

- 1/30 – eDART Users Group
- 2/22 and 3/16 – Market Settlements Subcommittee (MSS) meetings containing 5-minute settlements details

**General Feedback**

No feedback items were brought up at this time.

**Future Forum Topics**

No future forum topics were brought up at this time.

**Future Forum Dates**

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<thead>
<tr>
<th>Date</th>
<th>Time</th>
<th>Location</th>
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<tbody>
<tr>
<td>February 27, 2017</td>
<td>10:00 a.m.</td>
<td>PJM Conference &amp; Training Center/ WebEx</td>
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<tr>
<td>March 21, 2017</td>
<td>10:00 a.m.</td>
<td>PJM Conference &amp; Training Center/ WebEx</td>
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