



## NORTH AMERICAN ENERGY STANDARDS BOARD

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January 29, 2016  
Filed Electronically

The Honorable Kimberly D. Bose  
Secretary  
Federal Energy Regulatory Commission  
888 First Street N.E., Room 1A  
Washington, D.C. 20426

RE: Parallel Flow Visualization Project Status (Docket No. EL14-82-000)

Dear Ms. Bose:

The North American Energy Standards Board ("NAESB") voluntarily submits this report to the Federal Energy Regulatory Commission ("FERC" or "Commission") to update the Commission regarding the Parallel Flow Visualization ("PFV") project. This report is intended to provide the Commission with information on the continued coordination efforts related to the PFV project by NAESB, the North American Electric Reliability Corporation ("NERC") and the Interchange Distribution Calculator ("IDC") Association and an updated project timeline based upon new information provided by the IDC Association. As described in previous reports, the PFV project is an industry supported, coordinated effort by NAESB, NERC and the IDC Association to improve the congestion management process within the Eastern Interconnection by improving the IDC tool's real-time data and resulting visibility of the source and magnitude of parallel interchange flows in the bulk electric system. Following the NAESB Wholesale Electric Quadrant ("WEQ") Executive Committee approval of a recommendation for PFV-related modifications to the NAESB WEQ Business Practice Standards last year, the IDC Association has been diligently making the necessary preparations for a field trial of the standards.

This report was drafted with the support of NERC and the IDC Association and supplements previous status reports filed by NAESB on July 11, 2014, January 28, 2015, and March 25, 2015. As indicated in these status reports, NAESB will continue to file periodic status reports throughout the project to inform the Commission on the progress of the PFV project and any additional PFV-related standard development efforts. Upon completion of the field trial and ratification of the standards, NAESB will file a report with the Commission containing the final version of the NAESB WEQ Business Practice Standards for the PFV effort.

Respectfully submitted,

*Jonathan Booe*

Mr. Jonathan Booe  
Executive Vice President & CAO, North American Energy Standards Board

cc: Chairman, Norman C. Bay, Federal Energy Regulatory Commission  
Commissioner, Cheryl A. LaFleur, Federal Energy Regulatory Commission  
Commissioner, Tony Clark, Federal Energy Regulatory Commission  
Commissioner Colette Honorable, Federal Energy Regulatory Commission  
  
Mr. Michael Bardee, Office of Electric Reliability, Federal Energy Regulatory Commission

Mr. Max Minzner, General Counsel of the Commission, Federal Energy Regulatory Commission

Mr. Michael Goldenberg, Senior Attorney, Office of General Counsel, Federal Energy Regulatory Commission

Ms. Jamie L. Simler, Director, Office of Energy Market Regulation, Federal Energy Regulatory Commission

Mr. J. Arnold Quinn, Director, Office of Energy Policy and Innovation, Federal Energy Regulatory Commission

Mr. Cade Burks, Chairman and Chief Executive Officer, North American Energy Standards Board

Mr. Michael Desselle, Vice Chairman WEQ, North American Energy Standards Board

Ms. Rae McQuade, President, North American Energy Standards Board

Mr. William P. Boswell, General Counsel, North American Energy Standards Board

Mr. Gerry W. Cauley, President and Chief Executive Officer, North American Electric Reliability Corporation

Mr. Mark Lauby, Senior Vice President and Chief Reliability Officer, North American Electric Reliability Corporation

Mr. Charles A. Berardesco, Senior Vice President, General Counsel, and Corporate Secretary, North American Electric Reliability Corporation

Mr. Michael D. McMullen, Chair of the IDC Association Steering Committee, IDC Association

Enclosures (all documents and links are available publically on the NAESB website – [www.naesb.org](http://www.naesb.org))

- Appendix A Letter from IDC Association to NAESB
- Appendix B Updated Parallel Flow Visualization Project Timeline
- Appendix C Description of NAESB Full-Staffing Process

**UNITED STATES OF AMERICA  
FEDERAL ENERGY REGULATORY COMMISSION**

**REPORT OF THE NORTH AMERICAN ENERGY STANDARDS BOARD**

The North American Energy Standards Board ("NAESB") is voluntarily submitting this report to provide the Federal Energy Regulatory Commission ("FERC" or "Commission") with a status update on the Parallel Flow Visualization ("PFV") project. This report is intended to supplement the information provided to the Commission in status reports filed by NAESB on March 25, 2015, January 28, 2015, and July 11, 2014. The PFV project is an industry supported, coordinated effort between NAESB, the North American Energy Standards Board ("NERC") and the Interchange Distribution Calculator ("IDC") Association. The intended goal of PFV is to enhance the congestion management process within the Eastern Interconnection by improving the availability of real-time data to the IDC tool and thus improving the visibility of the source and magnitude of parallel interchange flows on the bulk electric grid. NAESB has developed PFV-related modifications to its standards, and as originally envisioned, a field trial will be conducted on these standards prior to final approval by the NAESB Wholesale Electric Quadrant ("WEQ") Executive Committee ("EC") or ratification by NAESB membership. NAESB communicated an initial timeline for the PFV project to the Commission in its status report filed in July 2014. This report provides the Commission with an updated timeline based upon new information provided by the IDC Association and highlights the coordination activities of NAESB, NERC, and the IDC Association regarding the PFV project.

Updated PFV Project Timeline

As previously communicated, the NAESB WEQ EC approved a recommendation to support PFV-related modifications to the NAESB WEQ Business Practice Standards in February 2015.<sup>1</sup> Since this time, the IDC Association's IDC Working Group ("IDCWG") has continued with preparation efforts for the PFV field trial. These preparations have included the implementation of enhancements to the IDC tool that are considered prerequisite to conducting a field trial for PFV. The IDCWG has dedicated a significant amount of time to testing and refining these modifications, including weekly meetings and working with the software developer, Open Access Technology International Inc. ("OATI"). Additionally, starting in March 2015, the IDCWG began performing an assessment of the PFV-related modifications to the NAESB WEQ Business Practice Standards to identify the necessary modifications to the IDC tool to allow for the PFV field trial. Recently, the IDC Association communicated its evaluation to OATI. It is expected that OATI will present a change order detailing the needed modifications to the IDC tool and the associated financial implications for review by the IDC Association Steering Committee ("SC") by the February 9, 2016 meeting of the committee. Approval of the change order and associated budgetary expenditures by the IDC Association SC will be required to initiate the development of the modifications by OATI to the IDC tool software for the PFV field trial. The IDC Association SC has indicated it will work diligently to

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<sup>1</sup> NAESB Status Report on the Parallel Flow Visualization Project was filed in Docket No. EL14-82-000 on March 25, 2015 and is available at the following link: [https://naesb.org/pdf4/ferc032515\\_pfv\\_status\\_report.pdf](https://naesb.org/pdf4/ferc032515_pfv_status_report.pdf).

complete the approval process. The letter provided by the IDC Association communicating the expected future project timeline and providing additional details regarding the efforts of the IDCWG is provided in Appendix A.

Following the approval of the change order, the IDCWG will work with OATI to develop, implement, and test the needed modifications for the PFV field trial. The IDCWG will also develop a test plan, which will include commercial and reliability test metrics developed with the assistance of NAESB and NERC, respectively. Once this process is completed, the PFV field trial is expected to begin. Below is an anticipated timeline for the PFV field trial. An updated full project timeline can be found in Appendix B. The dates reflected below are tentative and dependent upon several factors, including the approval of the change order by the IDC Association SC and implementation of the software development process by OATI.

- March 2016 to February 2017 – The IDCWG and OATI work to develop the PFV-related modifications to the IDC tool
- March 2017 to July 2017 – Testing begins on PFV-related modifications to IDC tool
- August 2017 to January 2019 – The eighteen month PFV field trial is conducted

This timeline represents a 15 month delay from the anticipated project schedule originally communicated to the Commission in July 2014.<sup>2</sup> As noted in the previous filings, the project timeline is tentative and while efforts are made to adhere as closely as possible to the projected timeline, delays may arise. NAESB will continue to inform the Commission via status report regarding any changes to the PFV project timeline.

At the conclusion of the PFV field trial, the IDCWG will evaluate the field trial data and develop a report on the results of the commercial metrics of the project. The NAESB WEQ Business Practices Subcommittee (“BPS”) will use the report to help guide any standard revisions it deems necessary for commercial purposes. The NAESB WEQ BPS, the NERC Operating Reliability Subcommittee (“ORS”) and the IDC Association will jointly work to resolve any adverse reliability impacts, and the NAESB WEQ BPS will make any appropriate revisions to the standards. The recommendation for PFV-related modifications will then be presented to the NAESB WEQ EC, and, if adopted, will be submitted to the NAESB WEQ membership for ratification as part of the NAESB full-staffing process included in Appendix C. Following ratification, NAESB will file the standards with the Commission.

#### Continued Coordination Efforts

Throughout 2015, NAESB, NERC, and the IDC Association continued their coordination efforts to make sure the organizations remain in lock-step regarding the PFV project. NAESB and NERC staff discuss the PFV project and progress during their monthly coordination calls, and NAESB staff has continued coordination efforts with the chair of the NERC ORS as well as the lead of the NERC ORS work group assisting in the development of the reliability metrics for the PFV field trial. NAESB has established a coordination liaison between the NAESB WEQ BPS and the IDCWG, and the NAESB WEQ BPS has a standing agenda item to discuss coordination issues.

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<sup>2</sup> NAESB Status Report on the Parallel Flow Visualization Project was filed in Docket No. EL-14-82-000 on July 11, 2014 and is available at the following link: [https://naesb.org/pdf4/ferc071114\\_pf\\_v\\_status\\_report.pdf](https://naesb.org/pdf4/ferc071114_pf_v_status_report.pdf).

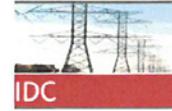
Additionally, the IDCWG invited NAESB WEQ BPS participants to attend their November 12, 2015 meeting to discuss the IDCWG's assessment of the NAESB standards. NAESB, NERC, and the IDC Association plan to continue these coordination efforts throughout the remainder of the PFV project.

As previously indicated, NAESB will continue to file status reports to update the Commission on the progress of the test preparations, the status of the PFV field trial, and any modifications made to the standards.

Appendices:

- A. Letter from IDC Association to NAESB
- B. Updated Parallel Flow Visualization Project Timeline
- C. Description of NAESB Full-Staffing Process

**IDC Tools Member Association**



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Michael McMullen (MISO Sr. Director Regional Operations)  
IDC Tools Member Association - Steering Committee Chair and  
Designated IDC Association Project Manager  
2985 Ames Crossing Road  
Eagan, MN 55121

January 6, 2016

Caroline Trum  
Deputy Director  
North American Energy Standards Board  
801 Travis, Suite 1675  
Houston, TX 77002

Re: IDC Parallel Flow Visualization Timeline Update

Dear Caroline:

As requested, I am communicating the latest timeline for the IDC Working Group (IDCWG) and Steering Committee's (SC) Parallel Flow Visualization (PFV) efforts. Since the February 2015 NAESB Executive Committee approval of the WEQ-008 Standard, the IDCWG has continued with their efforts related to IDC Change Order (CO) 283 (Generation to Load Reporting Requirements), while designing the IDC COs for the Parallel Flow Visualization project. A large amount of effort by the IDCWG in 2015 has gone toward refining necessary data submission, data validation and testing of CO 283, which is a prerequisite to PFV. This testing consisted of weekly working meetings, with software updates by OATI as needed enhancements were found.

The IDCWG recently sent a draft CO to OATI for evaluation by OATI. This draft CO documents the necessary changes required in the IDC application, to implement WEQ-008 Parallel Flow Visualization standards. Once complete, the evaluation will be reviewed by the IDCWG for completeness and accuracy. The evaluation stage will also establish more detailed development cost and timing to the IDC Association Steering Committee (SC) for consideration. A final CO will be developed and as in all changes to the IDC application, will be approved to make the necessary changes to continue to move the project forward.

The PFV development timeline (attached) was generated by the IDCWG in early 2015. The OATI Evaluation of these CO(s) will show whether the November 2016 CO Development completion can be met. The evaluation by OATI is expected to be complete for the IDCWG's

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January 20-21, 2016 meeting and available for further review by the IDC SC at its February 9, 2016 meeting. IDC SC approval of the final PFV CO is required prior to OATI development.

The IDC SC recognizes the significance of the CO approval and will work diligently towards timely completion of the approval process. However, the SC also acknowledges that PFV could have significant cost impacts to the industry supporting its development and may require IDC SC members to find additional internal budget resources and approvals for their share of expected costs which may factor into the process.

The Roadmap (attached) shows a tentative schedule between the CO development and its readiness for the PFV Field Trial to start. The OATI Evaluation, IDC Association Steering Committee approval, and OATI Development all have some schedule risk involved before the second timeline can be firmed up and a more definite start to the PFV Field Trial start can be forecasted.

I look forward to continued discussions as the PFV product gets further developed.

Sincerely,



Michael McMullen

IDC Association Project Manager

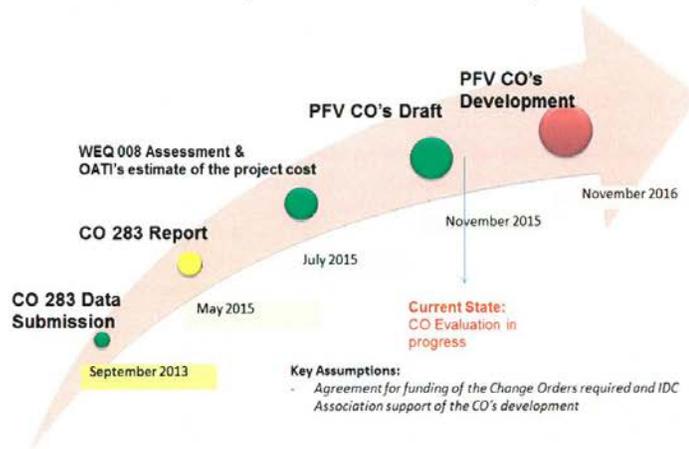
Attachment: Timeline and Road map slide (1 page)

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## Road Map To IDC Development



## Road Map To Trial Period



Appendix B - Updated Parallel Flow Visualization Project Timeline

**Updated Timeline for the Future of the Parallel Flow Visualization Project**

- February 24, 2015 – The NAESB WEQ EC voted to adopt the recommendation of the NAESB WEQ BPS for the PFV-related modifications to the NAESB WEQ Business Practice Standards and initiate the full-staffing process. The standards will be held in abeyance for the entirety of the full-staffing period to allow for the IDC Association to conduct the PFV field trial.
- March 2015 to December 2015 – The IDCWG performed its assessment on the PFV-related modifications to the NAESB WEQ Business Practice Standards and communicated its evaluation of the necessary changes to the IDC tool to OATI through a draft change order.
- December 2015 to February 2016 – OATI reviews the IDCWG assessment and evaluates the change order for the necessary modifications to the IDC tool.
- February 9, 2016 – OATI presents the change order to the IDC Association Steering Committee for consideration and ultimately an approval.
- March 2016 to February 2017 – Should the IDC Association Steering Committee approve the change order during its February 9, 2016 meeting, OATI will begin to develop the PFV-related modifications to the IDC tool. This process is expected to last twelve months. During this time period, the IDC Association will also create the test plan for the PFV field trial.
- March 2017 to July 2017 – OATI and the IDC Association will conduct initial testing on the implemented modifications to the IDC tool in preparation for the PFV field trial, making any necessary adjustments. This process is expected to last five months.
- August 2017 to January 2019 – The eighteen month PFV field trial is conducted. The PFV field trial will be conducting in a parallel testing environment.
- As indicated in the July 2014 filing, the NAESB WEQ BPS, the NERC ORS, and the IDC Association will all work together to address any adverse reliability impacts. Following the conclusion of the PFV field trial, the NAESB WEQ BPS will evaluate the report on the commercial metrics provided by the IDC Association to determine if any revisions to the standards are necessary. The recommendation, either as originally presented to the NAESB WEQ EC in February 2015 or with any additional modifications deemed necessary by the NAESB WEQ BPS, will be submitted to the NAESB WEQ EC for approval. If the NAESB WEQ EC takes action to end the full-staffing period and to adopt the recommendation, the standards will be submitted for NAESB WEQ membership ratification. Once ratified, NAESB will file the standards with the Commission.

Appendix C - Description of NAESB Full-Staffing Process

Exert from the NAESB Operating Practices as approved via Board Resolution September 11, 2015 (Section C3)

Section C. Standards Development and Maintenance

Standards development and maintenance is a process by which a new standard is created or an existing standard is revised or deleted. The process is initiated either by the NAESB annual plan or by the submission of a request. Requests should be submitted electronically on the NAESB form Request for Standards Development and forwarded to the executive director for consideration by the EC. In addition, the EC may itself initiate a standards development and maintenance action based on legislative or regulatory events.

3. Full Staffing

The NAESB practice of full staffing is to be employed when there are interdependencies in the development of standards that would require an iterative approach.

This process is applied when the technical standards developed to support business practices may require changes to the business practices, or it is impractical to implement the business practices without the supporting technical standards completed. The business practices are adopted by the applicable quadrant EC(s), but they are not ratified until the technical standards are complete. In this manner, there is an opportunity to change the business practices if needed, and an indication of industry support is attained through the EC vote on the business practices prior to undertaking the technical development.

Similarly, implementation of business practices that may be dependent on other organization's or other quadrant's work products can use the process of full staffing to approve the business practices yet begin the ratification process after the dependent activity is complete, thus providing an opportunity for the business practices to be modified to take into account the other organization's or quadrant's work products. By doing such, the standards development in NAESB may be more effectively coordinated and timed for release with other organization's or quadrant's work products.

For the applicable EC(s) to use the full staffing process, first there will be a simple majority vote to determine if full staffing is required, which would imply a delay of ratification until the interdependent development is completed. Following the full staffing vote, the business practice standard(s) would be adopted pursuant to a super majority vote. Prior to ratification, should it be determined that additional change(s) are required to the EC adopted standard(s), the change(s) would follow the existing process for standards development. At any time, the applicable EC(s) can determine to stop the full staffing process and begin the ratification process through a simple majority vote.