NERC
NORTH AMERICAN ELECTRIC RELIABILITY CORPORATION

TADS Section 1600 Request: Comments and Responses

Proposed Outage Data Collection for BES Elements Operated at Less Than 200 kV

December 2012

RELIABILITY | ACCOUNTABILITY

Table of Contents

Executive Summary

The Transmission Availability Data System (TADS) data collection began with the establishment of the Transmission Availability Data System Task Force (TADSTF) under the NERC Planning Committee (PC) in October 2006. The U.S. Department of Energy, Energy Information Administration (EIA) has been coordinating with the TADSTF since inception of the Task Force, and requesting the Bulk Electric System (BES) element outage data collection using its Form-411 Schedule 7. On October 27, 2007, the NERC Board of Trustees (BOT) approved the collection of TADS Phase I outage data beginning in calendar year 2008 for elements operated at 200 kV and above. On October 29, 2008, the NERC Board of Trustees (BOT) approved the collection of non-automatic outage data beginning in calendar year 2010 (Phase II).[1] To date, this data has been collected on an annual basis, with the analysis of this data providing key input to NERC's annual *State-of-Reliability* report.[2]

The elements operated at 100-199 kV voltage class make up approximately 47% of the total BES circuit miles. Studies have indicated that 66% of protection system misoperations occurred on 100-199 kV BES circuits. To make the TADS outage data collection consistent and provide visibility of the performance of all elements within the revised BES definition,[3] at its December 13-14, 2011 meeting, the PC approved the request for public comment on the less than 200 kV BES element outage data collection recommended by the TADS Working Group (TADSWG).[4] The TADS data request requires automatic outage (momentary and sustained) and non-automatic operational outage data to be submitted for BES elements with an operating range of 100-199 kV starting in calendar years 2013 and 2014, respectively. NERC requested public comment of this revised data request for a forty-five day comment period beginning on January 9, 2012.[5]

After evaluation of all public comments, the TADSWG responded to industry input and modified the data request which had proposed the 100-199kV automatic outage (both momentary and sustained) data to be reported starting in calendar year 2013. The reporting schedule was also extended to align with FERC approval of the revised BES definition. If the Federal Energy Regulating Commission (FERC) did not approve the proposed BES definition by June 30, 2012, automatic outage data would be reported starting in calendar 2014. As of December 5, 2012, FERC has not yet issued an order on the proposed BES definition.[6] Further, reporting of 100-199kV non-automatic operational outages is not required until the benefits of TADS Phase II

[1] Two reports, available at http://www.nerc.com/filez/tadstf.html, describe the TADS Phase I and Phase II data collection efforts.
[2] http://www.nerc.com/files/2012_SOR.pdf
[3] http://www.nerc.com/files/Petition_Rev_Def_BES_20120125.pdf
[4] http://www.nerc.com/docs/pc/PC_Meeting_Draft_Minutes_December%2013-14_2011.pdf
[5] http://www.nerc.com/docs/pc/tadswg/Section_1600_Data_Request_Letter_DRAFT_TADS_100-199kv_clean.pdf
[6] On June 21, 2012, FERC issued the NOPR that proposes to approve the NERC's revisions to the BES definition, available at: http://www.ferc.gov/whats-new/comm-meet/2012/062112/E-4.pdf.

have been demonstrated after five years of data collection as stated in the TADS Phase II Final Report.

At its September 18-19, 2012 meeting, the PC approved the request for public comment regarding outage data collection for elements operated at less than 200 kV.[7] The modified TADS data request requires only sustained automatic outage data to be submitted for BES elements operated at less than 200 kV, which would reduce more than 50% of reporting burden. The data requests also requires operational outage data to be collected if the 5 year assessment in 2015 of non-automatic outages finds that the collection of data relative to elements operated at 200 kV and above beneficial to support identification of risks to reliability. NERC requested public comment of this revised data request for a forty-five day comment period beginning on October 5, 2012, consistent with Section 1600 of NERC Rules of Procedure.[8]

While the 100-199kV outage data is needed to support NERC's ability to assess transmission availability performance for the newly defined BES, NERC also recognizes that collection of data on momentary automatic outages for elements operated at less than 200 kV may be a potential burden to report; therefore, the above proposal has limited the reporting to sustained automatic outages and operational outages for these particular voltage classes. Further, reporting of 100-199kV non-automatic operational outages will not be required until the benefits of TADS Phase II have been demonstrated after five years of data collection as stated in the TADS Phase II Final Report.

At the close of the 45-day public comment period, NERC received 33 comments: 30 responses from Transmission Owners (TOs) already responsible for TADS reporting, and 3 responses from other organizations. One common concern by respondents is the implementation schedule. Public comments to incremental costs were wide ranging and inconsistent; results were inconclusive. TADSWG evaluated and responded to each comment submittal.[9]

After reviewing these comments and considering the urgency of bolstering data collection to prioritize reliability issues, TADSWG recommended the following data request and reporting timeline to provide sufficient lead time TO's to adapt their internal data collection systems and processes to support the proposed TADS reporting requirements:

- Only sustained automatic outage data is required to be submitted for BES elements in the BES Less than 100 kV and BES 100-199 kV voltage classes.
- BES element sustained automatic outage data collection should align with the BES definition as approved by the NERC BOT with all inclusions and exclusions.
- If FERC approves the BES definition in the first two quarters of the year, sustained automatic outage data is required to be submitted for BES elements in the BES less than

[7] http://www.nerc.com/docs/pc/DRAFT_PC_Meeting_Minutes_September_2012mm.docx.pdf
[8] http://www.nerc.com/docs/pc/tadswg/Section_1600_Data_Request_Letter_DRAFT_TADS_100-199kv_clean.pdf
[9] http://www.nerc.com/docs/pc/tadswg/Section_1600_BES_0_99_100_199_Reporting_Comments_and_Responses.pdf

100 kV and BES 100-199 kV voltage classes commencing in the first reporting period of the next calendar year.

- If FERC approves the BES definition in the second two quarters of the year, sustained automatic outage data is required to be submitted for BES elements in the BES less than 100 kV and BES 100-199 kV voltage classes commencing in the first reporting period of the second subsequent calendar year.
- Keep 200kV and above element inventory and outage data collection the same as defined in the TADS Data Instruction Manual.[10] Keeping the collection of 200kV and above element inventory and outage data the same will ensure the continuity of all collected data and produce valid metric comparisons from year to year.
- BES less than 200 kV non-automatic, operational outage data should not be reported until the benefits of TADS Phase II 200 kV+ collection have been demonstrated after five years of data collection as stated in the TADS Phase II Final Report.[11]

Although starting the reporting of the sustained automatic outages and operational outages after 2014 will miss the U.S. Department of Energy, Energy Information Administration (EIA) Form-411 regular cycle of Schedule 7 changes, the EIA has expressed its agreement with this staggered start of data collection.

[10] http://www.nerc.com/docs/pc/tadswg/Data%20Reporting%20Instr%20Manual%2020101202a%20clean.pdf
[11] http://www.nerc.com/docs/pc/tadstf/TADS_Phase_II_Final_Report_091108.pdf

Introduction

To make the TADS outage data collection consistent and provide visibility of the performance of all elements within the revised BES definition,[12] at its December 13-14, 2011 meeting, the Planning Committee PC approved the request for public comment on the less than 200 kV BES element outage data collection recommended by the TADS Working Group.[13] The TADS data request required automatic outage (momentary and sustained) and non-automatic operational outage data to be submitted for BES elements with an operating range of 100-199 kV starting in calendar years 2013 and 2014, respectively. NERC requested public comment of this revised data request for a forty-five day comment period beginning on January 9, 2012.[14]

After evaluation of all public comments, the TADSWG responded to industry input and modified the data request which had proposed the 100-199kV automatic outage (both momentary and sustained) data to be reported starting in calendar year 2013. The reporting schedule was also extended to align with FERC approval of the revised BES definition. If FERC did not approve the proposed BES definition by June 30, 2012, automatic outage data would be reported starting in calendar 2014. As of December 5, 2012, FERC has not yet issued an order on the proposed BES definition.[15] Further, reporting of 100-199kV non-automatic operational outages would not be required until the benefits of TADS Phase II have been demonstrated after five years of data collection as stated in the TADS Phase II Final Report.

At its September 18-19, 2012 meeting, the PC approved the request for public comment regarding outage data collection for elements operated at less than 200 kV.[16] The modified TADS data request required only sustained automatic outage data to be submitted for BES elements operated at less than 200 kV, which would reduce more than 50% of reporting burden. The data request also required operational outage data to be collected if the 5 year assessment in 2015 of non-automatic outages finds that the collection of data relative to elements operated at 200 kV and above beneficial to support identification of risks to reliability. NERC requested public comment of this revised data request for a forty-five day comment period beginning on October 5, 2012, consistent with Section 1600 of NERC Rules of Procedure.[17]

While the 100-199 kV outage data is needed to support NERC's ability to assess transmission availability performance for the newly defined BES, NERC also recognizes that collection of data on momentary automatic outages for elements operated at less than 200 kV may be a potential burden to report; therefore, the above proposal has limited the reporting to sustained automatic outages and operational outages for these particular voltage classes. Further,

[12] http://www.nerc.com/files/Petition_Rev_Def_BES_20120125.pdf
[13] http://www.nerc.com/docs/pc/PC_Meeting_Draft_Minutes_December%2013-14_2011.pdf
[14] http://www.nerc.com/docs/pc/tadswg/Section_1600_Data_Request_Letter_DRAFT_TADS_100-199kv_clean.pdf
[15] On June 21, 2012, FERC issued the NOPR that proposes to approve the NERC's revisions to the BES definition, available at: http://www.ferc.gov/whats-new/comm-meet/2012/062112/E-4.pdf.
[16] http://www.nerc.com/docs/pc/DRAFT_PC_Meeting_Minutes_September_2012mm.docx.pdf
[17] http://www.nerc.com/docs/pc/tadswg/Section_1600_Data_Request_Letter_DRAFT_TADS_100-199kv_clean.pdf

reporting of 100-199 kV non-automatic operational outages will not be required until the benefits of TADS Phase II for 200 kV+ TADS data have been demonstrated after five years of data collection as stated in the TADS Phase II Final Report.

At the close of the 45-day public comment period, NERC received 33 comments: 30 responses from TOs already responsible for TADS reporting, and 3 responses from other organizations.

The following NERC regions were represented in the comments[18]:

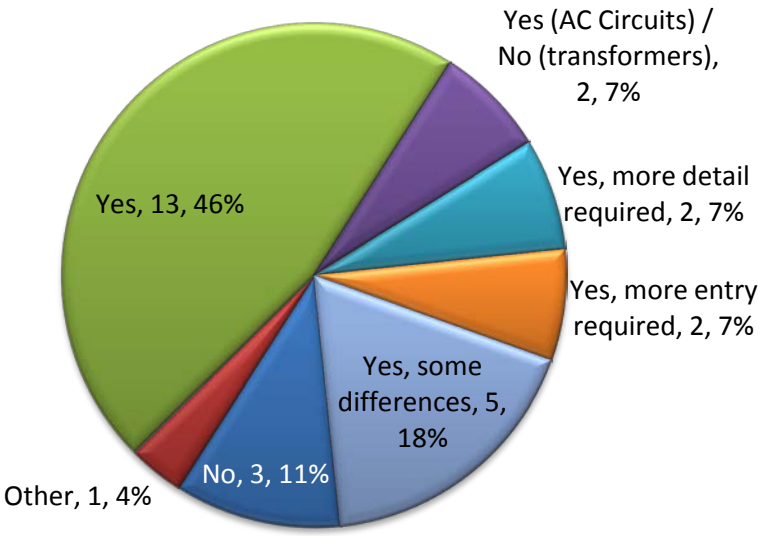
- 3 responses from TO's in Midwest Reliability Organization (MRO)
- 3 responses from TO's in Northeast Power Coordinating Council (NPCC)
- 3 responses from TO's in Reliability*First* Corporation (RFC)
- 9 responses from TO's in SERC Reliability Corporation (SERC)
- 2 responses from TO's in Southwest Power Pool, Inc. (SPP)
- 3 responses from TO's in Texas Regional Entity (TRE)
- 5 responses from TO's in Western Electrify Coordinating Council (WECC)
- 2 responses from TO's in multiple Regions
- 3 responses from companies not associated with a NERC Region

The following is a summary set of public comments:

[18] Some TO's are registered in more than one Regional Entity.

Question 1: If you are a Transmission Owner, do you currently collect Outage data similar to the proposed TADS outage data? If "yes," please explain.

Figure 1: BES Less than 200 kV TADS Outage Data Collection Already Collected?
(28 Responses)



Question 2: If you are a Transmission Owner, please identify the existing number of 100-199kV Elements in your inventory. Please identify, based on the current draft BES definition of radial circuit, the number of 100-199 kV Elements in your inventory which you expect to be exempt from becoming a BES facility.

Figure 2A: Existing 100-199 kV Elements
(28 Responses)

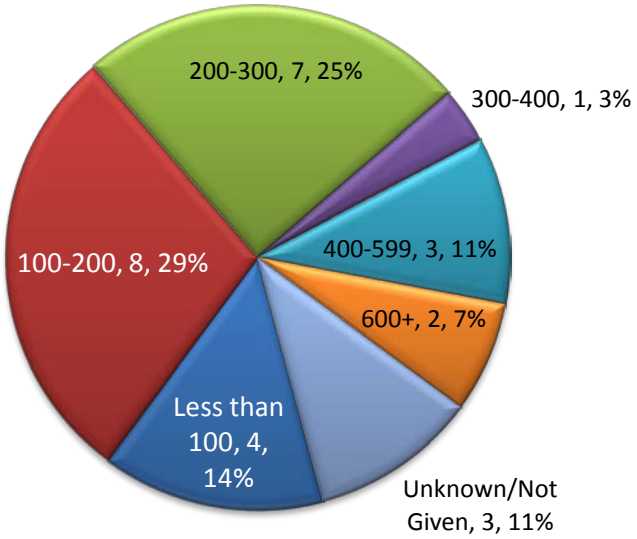
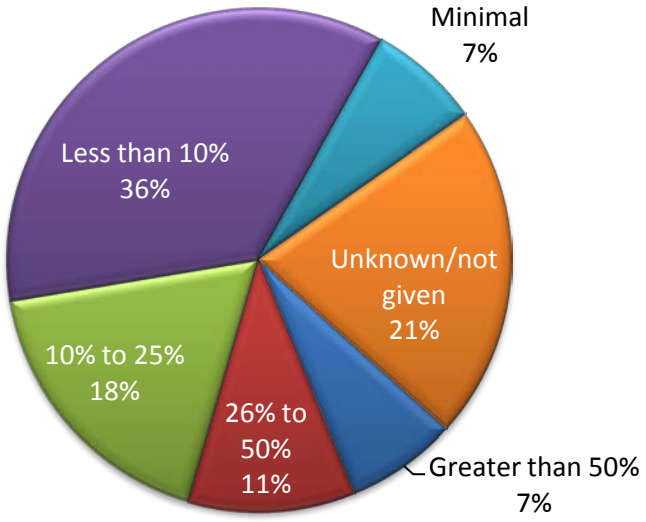
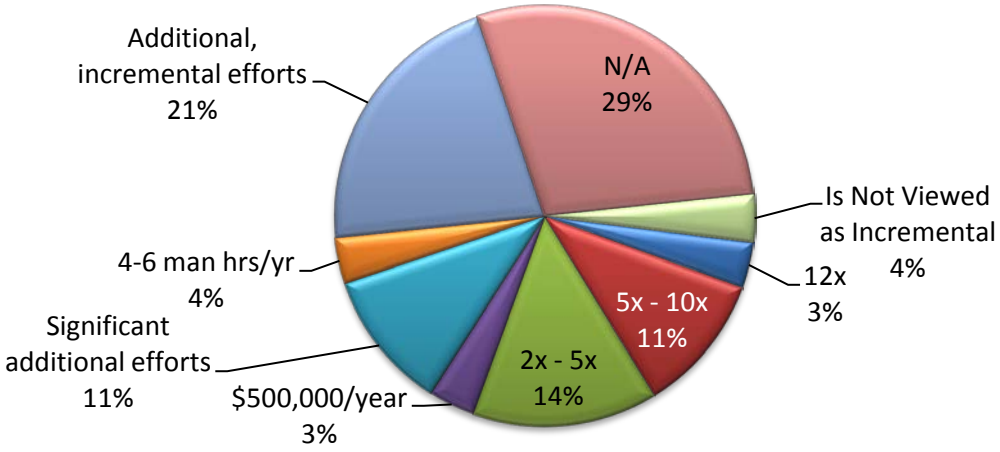


Figure 2B: Expected Percent BES Exempt 100-199 kV Elements
(28 Responses)



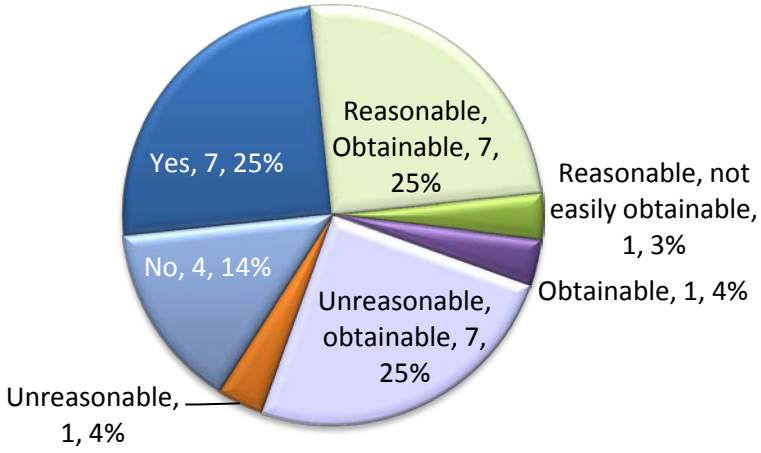
Question 3: If you are a Transmission Owner and if you currently do not collect 100-199kV Outage data similar to the proposed TADS outage data, recognizing additional outage information and analysis will be required by the BES Standards (PRC and EOP Reliability Standards at a minimum), what incremental increase in effort beyond the BES Standards will be required to fulfill the proposed TADS data collection?

Figure 3: Data Request Incremental Increase in Effort
(28 Responses)



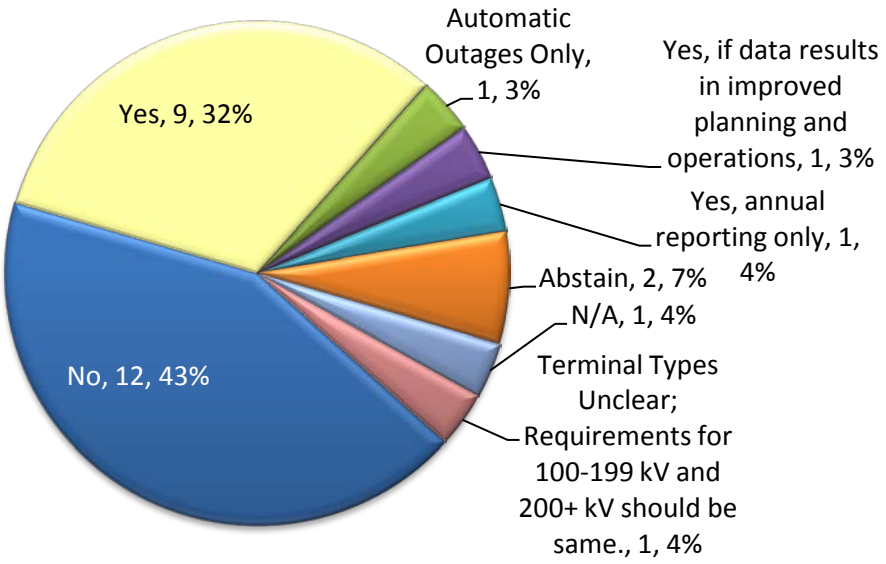
Question 4: Is the data being requested reasonable and obtainable? If "no", please explain.

Figure 4: Reasonable and Obtainable Data Request (28 Responses)



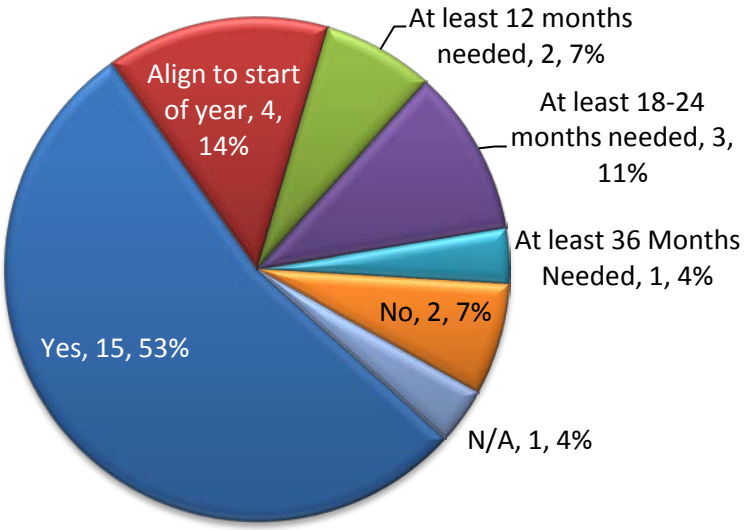
Question 5: Is the proposed data reporting appropriate? If "no," please explain.

Figure 5: Appropriate Data Request
(28 Responses)



Question 6: Is the implementation schedule for the proposed data reasonable? If "no," please explain.

Figure 6: Reasonable Implementation Data Request Schedule
(28 Responses)



Question 7: For Transmission Owners with less than 100kV or 100-199kV TADS Elements in the BES, assuming you will have to develop a system to export misoperations for the PRC Reliability Standards and events under EOP Reliability Standards, what is the incremental cost of this TADS proposal beyond the cost necessary to implement the standards?

Table 4: Overall Costs, One Time System Modification, Annual Costs/Man-Hours				
TO Name	**Qualitative Costs**	**One Time Cost**	**Annual Costs**	**Annual Man-Hours**
Associated Electric Cooperative, Inc.			$500,000	
Ameren Services Company	Minimal			
ACES Power Marketing, Brazos Electric Power Cooperative, North Carolina Electric Membership Corporation, Great River Energy, Arizona Electric Power Cooperative, Southwest Transmission Cooperative, and Sunflower Electric Power Corporation	Unknown/Not Given			
American Transmission Co. LLC	N/A			
Austin Energy				160
APS	Unknown or Not Given			
Bonneville Power Administration	Not viewed as incremental cost			
Consolidated Edison	None			
CenterPoint Energy		$100,000	$10,000	
Duke Energy Corporation	Not viewed as incremental cost			
Dominion Virginia Power		$10,000		
Exelon on behalf of Baltimore Gas & Electric, ComEd, and PECO	Unknown or Not Given			
Great River Energy	Significant			

Table 4: Overall Costs, One Time System Modification, Annual Costs/Man-Hours				
TO Name	**Qualitative Costs**	**One Time Cost**	**Annual Costs**	**Annual Man-Hours**
Georgia Transmission Corporation		$80,000		240
Hydro One Networks	Unknown or Not Given			
Idaho Power Company				3x Current
Kansas City Power & Light	None			
LCRA Transmission Services Corporation	N/A			
LG&E and KU				2080
Manitoba Hydro	Unknown or Not Given			
New York Power Authority				256
Oklahoma Gas and Electric Company		$250,000	Additional Implementation Costs	
PEPCO Holdings Inc.	Undetermined Increased Man-hour Costs			
Public Service Electric and Gas Company	Unknown or Not Given			
Southern California Edison	Severe			
South Carolina Electric & Gas Company			3x-4x	3x-4x
South Mississippi Electric Power Association				Incremental Increase
Salt River Project Agricultural Improvement and Power District			$20,000	
Tennessee Valley Authority			$120,000	
Xcel Energy	N/A			

Comments and Responses

General Comments

A number of entities, in addition to answering the 7 specific questions in the Data Request, included additional, general comments. These comments are listed in the table below.

Table 5: General Comments and Responses

Organization and Comment	Comment Response
Edison Electric Institute On behalf of our member companies, the Edison Electric Institute appreciates the opportunity to provide the following brief comments on proposed expansion of the TADS database initiative. We agree that the reliability assessment program is an important feature of the Electric Reliability Organization (ERO) under Section 215 and support the efforts to strengthen the program. Data collection is an important basic ingredient for conducting various assessments. However, as set forth in these comments, we ask that NERC suspend the TADS expansion and instead seek to coordinate with the North American Transmission Forum (NATF) to ensure a reasonable data collection effort that balances costs and benefits, and the priorities of these efforts within NERC. In considering changes, we believe that it is important to recognize that companies also continuously conduct assessments and analyses of their own performance, including analyses of routine events, equipment, and personnel, as part of their regular management activities. Some of this activity takes place as part of compliance under mandatory standards, some also takes place as a matter of proactive asset management discipline. In addition, we understand that NATF has an initiative to collect data and develop various metrics involving system protection and relay equipment. The TADS proposal also comes at a time when companies expect to remain under strong pressures to manage costs and find efficiencies. Within NERC, there are multiple sets of initiatives aimed at improving the efficiency of core program areas --- standards	We appreciate EEI's comments and suggestions of coordination with the North American Transmission Forum (NATF) and resource prioritization. Since 2009, NERC Transmission Availability Data System (TADS) Working Group (formerly TADS Task Force) and NERC staff have been communicating with the NATF and other organizations (e. g., the Canadian Electricity Association, and U.S. Energy Information Administration) on TADS data collection. Assume each NATF member provides data security permission to NERC, NERC would be pleased to have NATF sponsor a project to synchronize basic data between NATF's webTracker tool and NERC's webTADS database. This would save an extra step of each member exporting basic data from webTracker and importing it into webTADS. Another cost effective alternative is to use the existing TADS design and security management. Each NATF transmission owner may specify NATF to be their 'Delegated Reporting Entity'. That would consolidate webTADS data entry labor under NATF coordination among its members. We agree with the EEI's suggestion that coordinating data collections with NATF and other industry reliability organizations balances costs and benefits, improving efficiency and consistency. We commit to apply the same principles and work with

Table 5: General Comments and Responses	
Organization and Comment	**Comment Response**
development, and compliance and enforcement --- and to sharpen the focus of the core on those issues that most affect bulk power system reliability. For almost two years, significant discussion has taken place around the 'everything is a priority' problem, and NERC has rightly responded with strong initiatives to attend to this. EEI has been on record to challenge NERC to find ways and means to identify those activities having a lower priority in attracting budget resources. In light of the present situation, EEI recommends that NERC identify TADS expansion as a lower priority and to not expand the database at this time. Moreover, we are not convinced that the additional burden associated with TADS expansion will offer a proportionate benefit to the reliability assessment program. We agree that TADS is a very small component of the NERC budget, however, this can be an example that NERC really can set priorities, discipline its budget, and recognize the real limits of stakeholders' resources to support each and every activity that NERC seeks to advance. Instead, EEI urges NERC to coordinate with NATF and its members, and to seek a way forward that will balance the legitimate objectives of the reliability assessment program with the need to accept limits. Efforts to coordinate will help ensure that efforts are not duplicated or wasted. The relevant part of Section 215 is that the ERO will conduct periodic assessments of the bulk power system. Suspending TADS expansion for now does not impair NERC from fulfilling this responsibility in a complete and cost effective manner.	NATF on system protection and relay equipment data collection. EEI also properly pointed out that data collection is an important basic ingredient for conducting various assessments, and the ERO needs to sharpen the focus on core programs areas – standards development, compliance and enforcement. The TADS quarterly reporting and collection of four key inventory attributes will provide the necessary information in a timely manner to enable NERC to offer high value information for risk analysis. This data will also aid in identifying new or revised standards projects that have the most potential for improving the reliability of the bulk power system. As outlined in the NERC's *2012 State of Reliability* report,[19] analysis results based on TADS and other reliability data reporting serve as technical input to standards development and project prioritization, compliance process improvement. This analysis of bulk power system performance not only provides an industry reference for historical bulk power system reliability, it also offers analytical insights towards industry action, and enables the discovery and prioritization of specific actionable risk control steps.
Georgia Transmission Corporation GTC would like to commend the NERC staff in not including Automatic Momentary outage in this data request. Based on operating experience in Georgia, GTC does not anticipate or expect any Momentary outages less than 200 kV to cause any widespread, cascading outages in the Southeast.	Thank you for your comments.

[19] http://www.nerc.com/files/2012_SOR.pdf

Georgia Transmission Corporation GTC would also like to commend the NERC staff in waiting to see if the Non-Automatic outage data is beneficial after the 5 year assessment. Down to the 100 kV level, there are estimated ~150 – 115 kV Non-Automatic outages for GTC to report per year. Including this in the TADS data reporting would add several man-hours to investigate, collect, verify, translate and submit the data.	Thank you for your comments.
Georgia Transmission Corporation One of GTC's early concerns for TADS 200 kV and above was that it would take several years (4-5) to have enough data to trend and make valid comparisons. We are already observing some agencies and companies trying to make comparisons with only 2 years of data. GTC would rather see NERC wait and publish data when there are 4 or 5 years of data to utilize.	We appreciate your comments and agree that NERC would publish trending results when 4 or 5 years of data is available.
Georgia Transmission Corporation GTC generally initiates projects to improve the reliability of a circuit based on comparing its performance to our system wide performance. It is unlikely we would initiate a reliability project because one of our lines was worse than a regional or national average in TADS. In addition, GTC's loads are served by many circuits owned by other utilities. We only own ~18% of the line miles serving our load. To get a picture of "our true" performance – we need outage data from other utilities, which we cannot get from NERC TADS.	We appreciate your feedback. GTC could obtain TADS data from other utilities by following NERC Rules of Procedure Section 1503 (Requests for Information, available at http://www.nerc.com/fileUploads/File/Rules_of_Procedure/NERC_ROP_Effective_20120315_without_appendices.pdf).
Bonneville Power Administration Bonneville Power Administration (BPA) opposes the North American Electric Reliability Corporation's (NERC) proposed revision to the Transmission Availability Data System (TADS) to include 100-199kV facilities as described in the January 9, 2012 and subsequent fall 2012, Request for Public Comment on the Transmission Availability Data System (TADS) Proposed 100-199kV Outage Data Collection. BPA has two areas of concern: One, BPA has provided NERC, through the Western Electricity Coordinating Council (WECC), with three calendar years of TADS 200kV and above data (three years of automatic outage, one year of non-automatic outage. According to the TADS Phase I report, Transmission Data System Revised Final Report dated	Thank you for your comments. For the current 200 kV+ dataset, NERC uses outage statistics from TADS, supplemented with Event Analysis data, in order to determine priority areas of reliability risk. As TADS is a mandatory system, in contrast to the voluntary Event Analysis process, the data gathered is more comprehensive. TADS data provides a window into near miss cascades through the analysis of common mode and dependent mode outages and general outage statistics. By analyzing these outage events and statistics across NERC, commonalities are being discovered that will help to inform decision makers. The risk analysis, using multiple datasets in

September 26, 2007, discusses the intended uses of the data. A portion of section 2.6 is provided below: ". . . We believe that the greatest use of TADS data will be for outage cause analysis and outage Event analysis. Event analysis will aid in the determination of credible contingencies and will result in better understanding, and this understanding should be used to improve planning and operations. Ultimately, these improvements should result in improved transmission system performance. In addition, trending each Regional Entity's performance against its own history will show how that region's performance is changing over time. It will take a number of years of data collection (five years was suggested by several commenter's) before the data can be useful for trend analysis. A through-time comparison is appropriate for evaluating a region's performance. . . ." BPA believes NERC should provide evidence that the TADS data already submitted is providing tangible benefits. This evidence should be in hand before embarking on an effort to expand the quantity of data requested. Furthermore, NERC should be able to demonstrate that the benefits of TADS outweigh the costs of collecting the data. This should be done before asking for more data. And the reporting is now requiring more specific cause codes, which implies to getting into minutia instead of looking at the larger picture. Two, lowering the voltage threshold for outage reporting increases the likelihood that existing complex electrical configurations will have to be reported to fit into "cookie cutter" molds. Also the current practice of including line terminated transformers in line outage statistics gives misleading statistics to transformer outages. These types of transformers should only be included if the transformer caused the line outage. Another issue with transformers involves AC-DC converter transformers which are an integral part of the converter equipment and should not be accounted for as a separate transformer.	combination with TADS, will help to guide NERC away from an ad-hoc prioritization of issues to a data-driven, risk-based prioritization of issues. Work has already begun with the recently created Reliability Issues Steering Committee (RISC) to help this prioritization. The result of this work should result in improved standards and priorities that, instead of focusing on administration, will focus on reducing key reliability risks across the BES. A side effect of this is that further data is required to quantitatively determine reliability benefit. In order to perform adequate analysis, TADS data is needed for all voltages across the BES instead of only 200 kV+. After analysis of Event Analysis data, it was determined that a large (approximately ⅓) amount of events involve the Less than 200 kV portion of the BES. Analyzing less than 200 kV TADS data will help provide insight into these events, help to find commonalities to help avoid the events before they occur, and help provide risk information to prioritize NERC issues. In response to the comment stating that the reporting is asking for more specific cause codes, there is no proposal to change the TADS cause codes at this time. The original vision for TADS cause codes were to keep the original 17 cause codes as consistent as possible over time for trending. You are correct that it involves effort to define the lower voltage Elements correctly. However, TADSWG is composed of TO subject matter stakeholder experts who are well versed with the Bulk Electric System, and every effort will be made to create concise, sufficient definitions that can satisfy the varied configurations across North America. Your comments regarding including line terminated transformers in line outage statistics and transformers in AC-DC

	converters are valid. These comments will be discussed within the TADSWG during the 2013 Data Reporting Instruction Manual revisions.
APS APS believes that this is an unnecessary burden without any real reliability benefits as TADS is an annual report for outages that occurred the previous year.	Please refer to the previous response.
Ameren Services Company Overall, Ameren supports the proposed < 200 kV BES element outage data collection described in this data request. However, given the widely varying topology/design of lower voltage facilities (many taps, loops within the same line, element/non-element, et al) it will be incumbent on the rules to be exact and unchanging if any meaningful analysis is to occur.	Thank you for your comments. NERC Staff as well as the TADSWG stakeholder group will work diligently on the definitions to provide consistency across all TADS reporting.
ACES Power Marketing, Brazos Electric Power Cooperative, North Carolina Electric Membership Corporation, Great River Energy, Arizona Electric Power Cooperative, Southwest Transmission Cooperative, and Sunflower Electric Power Corporation In general, we agree additional data provides additional benefit. However, submitting additional data does not come without cost. Given that that the full value of TADS data submitted for 200 kV and higher facilities has not been fully realized, we question if collecting additional data is the appropriate use of resources at this juncture or would it make more sense to focus on the existing data set? As a result, we do not believe sufficient justification has been provided for the expansion of the TADS data request to below 200 kV including the sub-100 kV BES facilities. First, we do not see any cost/benefit analysis justifying the additional data reporting. Because a number of Transmission Owners have no facilities 200 kV or greater, we believe the number of Transmission Owners that are required to report TADS data could increase greatly. These entities will likely experience significant costs implementing new software systems for reporting and additional staff costs associated with the analyzing, tracking, and validating the data. This could increase burden on NERC staff. NERC staff will	Thank you for your comments. For the current 200 kV+ dataset, NERC uses outage statistics from TADS, supplemented with Event Analysis data, in order to determine priority areas of reliability risk. As TADS is a mandatory system, in contrast to the voluntary Event Analysis process, the data gathered is more comprehensive. TADS data helps to support Event Analysis data in risk assessment. TADS data provides a window into near miss cascades through the analysis of common mode and dependent mode outages as well as general outage statistics. By analyzing these outage events and statistics across NERC, commonalities are being discovered that will help to inform decision makers. The risk analysis, using multiple datasets in combination with TADS, will help to guide NERC away from an ad-hoc prioritization of issues to a data-driven, risk-based prioritization of issues. Work has already begun with the recently created Reliability Issues Steering Committee (RISC) to help this prioritization. The result of this work should result in improved standards and priorities that, instead of focusing on administration,

likely have to provide more support to industry to ensure industry understands the data requirements as well as review and validate that the proper data has been submitted. Furthermore, Transmission Owners that already are required to report may also experience incremental software costs necessary to expand reporting capabilities for larger volumes of data. For these Transmission Owners, the number of facilities below 200 kV will likely be significantly larger than those 200 kV or higher. For example, one of our members will experience a six fold increase in the number of circuits that will require reporting. These Transmission Owners will also experience increased staff costs for analyzing, tracking and validating additional data. Does the additional reliability benefit outweigh these costs? Since incremental cost information is requested in the questions for comments posted in the supporting letter, we hope these incremental cost impacts will be evaluated carefully in determining if the request is cost justified. Second, the key drivers for changing the data reporting thresholds have not been explained. The data request references the TADS final report dated September 26, 2007 which states "that the greatest use of TADS data will be for outage cause analysis and outage Event analysis." Since this report was written before the TADS data collection efforts were approved by the NERC Board of Trustees, we assume collection of 200 kV and above data was intended to satisfy this expectation regarding the use of the data. What has changed that since the original TADS data request was implemented? Nothing in the proposed data request seems to explain specifically why 200 kV and above facility outage data is insufficient. Furthermore, the NERC Event Analysis process has been performing well in review of system events and would appear to be fulfilling the purpose stated in the September 26, 2007 TADS report referenced earlier. Third, the data request does not clearly explain why the data is necessary. Rather, it seems to take the approach that more data is better which is not always the case especially when costs of analyzing and obtaining the data is compared to the incremental benefits of the additional data. The data request does	will focus on reducing key reliability risks across the BES. A side effect of this is that further data is required to quantitatively determine reliability benefit. In order to perform adequate analysis, TADS data is needed for all voltages across the BES instead of only 200 kV+. After analysis of Event Analysis data, it was determined that a large (approximately ⅓) amount of events involve the Less than 200 kV portion of the BES. Analyzing less than 200 kV TADS data will help provide insight into these events, help to find commonalities to help avoid the events before they occur, and help provide risk information to prioritize NERC issues. In terms of NERC staff burden, TADS data provides a very valuable source of data to examine reliability of the Bulk Electric System. With the completion of the fourth year of collection in 2011, resources were dedicated to start performing studies on common and dependent mode outages as well as general outage cause codes. Before this time, there was not enough outage data to perform a thorough analysis. As TADS approaches its fifth year of data collection and beyond, more efforts will go into analyzing the data. In response to your comment on the timeline, TADSWG has recommended a modified timeline for the data request based on the comments received from industry. Additional time was given for TOs to prepare to submit the additional data, and the start of the Less than 200 kV reporting will align with the beginning of the year instead of during the year to help entities budget for the changes more effectively.

not clearly present the value of the current TADS data, and it does not explain how that value supports the incremental data request. Unless a clear road map is developed for the purpose and ultimate use of the data, we feel additional data collection simply is not justified. Fourth, the supporting documents referenced in the data request do not actually appear to support the data. The executive summary of the TADS Revised Final Report dated September 26, 2007, which is referenced as major support for expanding the collection of data, states that the data request should be limited to 200 kV and above. It seems the TADS SUB-200 KV DATA SUBMISSION - NOVEMBER 19, 2012 report would need to be updated to support the proposed data request. This same report also states on page 5 that a number of years of data (likely five) would be required for useful trend analysis. Since Phase I of the existing data request was implemented in 2008 and phase II in 2010, it would seem that sufficient time has not been allowed for trending analysis. Yet, there is no discussion regarding the whether the trend analysis has been useful. The focus should be on proving this existing data set is useful and provides value before requesting incremental data. The incremental data request should only proceed once the benefits of the existing data set are well understood and proven. Fifth, given the significant increase in the number of circuits that needs to be reported, we question if six months is sufficient time to implement the request fully. We suggest 12 months would be more appropriate. It will allow those entities to include the incremental costs for reporting in their budget cycle.	
<u>Austin Energy</u> Should < 200kV TADS outage reporting become mandatory, AE requests that NERC make the specific data requirements readily available as early as possible. Reporting TADS outage data in GMT time slows down the data entry process and increases the chance of errors, especially considering the extra conversion around Daylight Savings Time. It seems reasonable to have each reporting entity specify in which time zone it is reporting and have the OATI software convert the	Thank you for your comments. The specific data requirements will be made available as early as possible to assist entities to prepare for reporting. This is an excellent comment. The reason that DADS reporting uses the new method is due to lessons learned after implementing TADS. A newer change to webTADS bulk uploading allows the user to specify the time zone in the dialog box before bulk uploading. Then, webTADS would

time behind the scenes (similar to how it is handled for DADS reporting).	automatically convert the time into GMT.
Consolidated Edison 1) Are facilities that have been exempted from the BES through the Exception process out of scope for TADS reporting? 2) Are phase angle regulators in scope for TADS reporting?	For the Less than 100 kV and 100-199 kV Elements, this is correct. For 200 kV+ Elements, TADSWG discussed the idea and determined that the collection of 200 kV+ Elements should not be modified in order to provide consistency with prior 200 kV+ metrics. Phase angle regulators would be in scope for TADS if partially or completely owned by a TO and a BES element. Phase angle regulators at the 200 kV+ voltage classes are already reported in TADS.
CenterPoint Energy CenterPoint Energy agrees that TADS proposed <100 kV and 100-199 kV Non-Automatic Planned outages would be a burden to report. Center Point Energy also agrees with delaying the reporting of Non-Automatic Operational outages for these lower voltage classes until the determination of benefits to reliability is completed by the NERC Planning Committee on or before August 15, 2015 for the >200 kV voltage class. In general, Non-Automatic Operational outages are usually less than 10% of all Non-Automatic outages, so the reporting of these outages is not warranted. Reporting only the Sustained Automatic and Operational Non-Automatic outages for the <100 kV and 100-199 kV voltage classes does reduce the reporting burden to TADS, but it still necessitates utility systems to collect all outages to provide a dataset for consistent determination of the outage type and the cause code. The TADS Phase 1 published report states "It will take a number of years of data collection (five years was suggested by several commenters) before the data can be useful for trend analysis." Since the overall benefits of TADS are still under evaluation by the TADSWG, the Performance Analysis Subcommittee ("PAS"), and the NERC Planning Committee, it is not appropriate at this time to collect additional outage data that may or may not be useful.	Thank you for your comments. For the current 200 kV+ dataset, NERC uses outage statistics from TADS, supplemented with Event Analysis data, in order to determine priority areas of reliability risk. As TADS is a mandatory system, in contrast to the voluntary Event Analysis process, the data gathered is more comprehensive. TADS data helps to support Event Analysis data in risk assessment. TADS data provides a window into near miss cascades through the analysis of common mode and dependent mode outages as well as general outage statistics. By analyzing these outage events and statistics across NERC, commonalities are being discovered that will help to inform decision makers. The risk analysis, using multiple datasets in combination with TADS, will help to guide NERC away from an ad-hoc prioritization of issues to a data-driven, risk-based prioritization of issues. Work has already begun with the recently created Reliability Issues Steering Committee (RISC) to help this prioritization. The result of this work should result in improved standards and priorities that, instead of focusing on administration, will focus on reducing key reliability risks

CenterPoint Energy recommends that the TADS data collection remain unchanged and that the NERC Planning Committee reconsider a revised data request after making its determination in 2015 on the demonstration of the benefits of TADS. At that time, NERC trend analysis on 5 years of TADS data should be complete, and the BES definition and its impacts to data collection (i.e. additions and deletions of Elements) should also be known.	across the BES. A side effect of this is that further data is required to quantitatively determine reliability benefit. In order to perform adequate analysis, TADS data is needed for all voltages across the BES instead of only 200 kV+. After analysis of Event Analysis data, it was determined that a large (approximately ⅓) amount of events involve the Less than 200 kV portion of the BES. Analyzing less than 200 kV TADS data will help provide insight into these events, help to find commonalities to help avoid the events before they occur, and help provide risk information to prioritize NERC issues.
New York Power Authority • Does the proposal include reporting generator step up (GSU) transformers with TADS data when the GSU is defined as a BES Elements? If so, who is responsible for reporting outages of transformers owned by registered generator owners? • Can the TADS reportable elements be tied to BES definition and not the proposed definition? It would cumbersome to have separate definitions for BES and TADS elements. • Who reports TADS data for a BES Element owned by a Non-Registered Entity? For example when 115kV line that would be considered BES under the proposed definition and those lines are owned by a municipal utility or industrial load. • What analysis and results has NERC produced with the data it has collected thus far?	TADS reporting only covers Elements either owned or partially owned by a TO. If a TO partially owns the GSU, it would be reportable. However, if the GSU is wholly owned by a generator owner, it would not be reportable in TADS. The BES definition that TADS will use is the proposed definition still under the approval process within FERC. Upon FERC approval, TADS Elements in the Less than 100 kV and 100-199 kV voltage classes will be aligned with the BES definitions. For 200 kV+ Elements, TADSWG decided to not change the reporting criteria due to the reporting systems already in place for 200 kV+ Elements and to keep consistent metrics. TADS reporting only covers Elements either owned or partially owned by a Transmission Owner (TO). If a TO does not partially or completely own the AC Circuit Element, it is not reportable in TADS. Upon registration of a new TO, the new TO would be responsible for reporting in TADS for reporting periods after their registration as a TO. In both of the mentioned examples, these Elements would most likely not be BES Elements due to the Local Networks exception, E3, of the proposed BES definition. Please refer to:

	http://www.nerc.com/docs/standards/sar/bes_definition_third_posting_roadmap_20111107_clean.pdf for more details. NERC, through the TADSWG, has produced annual TADS reports for 2008-2011 TADS data. Data charts have been uploaded to the NERC site at: http://www.nerc.com/page.php?cid=4|62 to show the data. TADS data is used in both the 2011 Risk Assessment of Reliability Performance report as well as the 2012 State of Reliability report. These reports are available at: http://www.nerc.com/page.php?cid=4|37 .
Tennessee Valley Authority After reviewing the proposed < 200-kV outage data collection, we recommend: • The implementation should coincide with the beginning of a calendar year (2014 or 2015). • The benefits of the data should be proven in light of the significant costs associated with collecting the data before proceeding with the request. We believe that the 200+ kV data provides a sufficient sample for NERC to get a 'pulse' of the reliability of the transmission system. • Delay operational type data reporting until after 'sunset' rule and proof of benefit. Especially SOL (and SVL) type operations which are done by operators to manage the system and are performed in a controlled manner. At a minimum, apply the same sunset rule to the <200 kV as the > 200 kV so that they expire at the same time (2015). • Do not collect the fault type, outage mode, outage initiation code, and event type fields for 100-199kV (make them voluntary as a minimum) until proven beneficial for >200 kV. • A 'sunset clause' should be applied to each new NERC field that is requested. If after a pre-determined number of reporting cycles no benefits of continued collection of the < 200 kV data (these benefits should be ones not demonstrated in the > 200 kV data), the request should be stopped for that field or request. • An exclusion criteria for extreme events (hurricane Sandy, Southeast 2011 Tornadoes, etc.) should be established as these type events highly skews the results.	1. Thank you for your comments. TADSWG has recommended a modified schedule that provides fixed dates as well as aligns the collection to the beginning of a calendar year. 2. For the current 200 kV+ dataset, NERC uses outage statistics from TADS, supplemented with Event Analysis data, in order to determine priority areas of reliability risk. As TADS is a mandatory system, in contrast to the voluntary Event Analysis process, the data gathered is more comprehensive. TADS data helps to support Event Analysis data in risk assessment. TADS data provides a window into near miss cascades through the analysis of common mode and dependent mode outages as well as general outage statistics. By analyzing these outage events and statistics across NERC, commonalities are being discovered that will help to inform decision makers. The risk analysis, using multiple datasets in combination with TADS, will help to guide NERC away from an ad-hoc prioritization of issues to a data-driven, risk-based prioritization of issues. Work has already begun with the recently created Reliability Issues Steering Committee (RISC) to help this prioritization. The result of this work should result in improved standards and priorities

	that, instead of focusing on administration, will focus on reducing key reliability risks across the BES. A side effect of this is that further data is required to quantitatively determine reliability benefit. In order to perform adequate analysis, TADS data is needed for all voltages across the BES instead of only 200 kV+. After analysis of Event Analysis data, it was determined that a large (approximately ⅓) amount of events involve the Less than 200 kV portion of the BES. Analyzing less than 200 kV TADS data will help provide insight into these events, help to find commonalities to help avoid the events before they occur, and help provide risk information to prioritize NERC issues. 3. Operational outages in the BES Less than 100 kV and BES 100-199 kV voltage classes will not begin until after the determination of the value of 200 kV+ non-automatic outage collection in 2015. 4. TADSWG has considered this and has chosen to collect the same information as 200 kV+ Elements for consistency with previous TADS reporting. 5. Thank you for your comment. As TADS collection continues, the data will be continually evaluated for fields that are unbeneficial and can be removed from TADS. 6. This is an excellent comment. NERC's RAPA and Events Analysis departments are working to help correlate TADS Events with Event Analysis Events to be able to perform this step. As this improves, separating outage data by severe events and non-severe events should become easier.
<u>Utility Services</u> Currently, TADS reporting only covers transmission 200kV and above. It serves to reason that there is a lot more 100-199kV lines, so the sheer number of events	In addition to using TADS data to support these standards the current 200 kV+ dataset of outage statistics from TADS is used, supplemented with Event Analysis data, in

that would need to be examined for TADS applicability could be tremendous, even if the number of events reported is not that great. This will be for both the 125 TOs that are not reporting today and the 211 TOs that are already reporting. Additionally, it is predicted that in NPCC there are going to be a number of newly identified BES transmission elements with the implementation of the new BES definition, including new TO registrations, so the data used to determine that there are 336 TOs today and only 125 TOs do not report to TADS is inaccurate. Since it is contingent upon the new definition this should be postponed until after the implementation of the BES to get a better picture of the amount of entities this will affect. New TO registration for these entities will be a burden as it stands today. It is unknown what additional burden this reporting requirement will add. For the standards referenced in the justification of expanding the data request, there are pending changes both approved and under development which will negate the justification as follows. Version 2 of EOP-004 has recently passed industry and BOT approval and will no longer require analysis of these types of outages. This will now only be covered in the Events Analysis Process, which is currently a voluntary process. Under PRC-004, NERC is not at this time collecting information on Protection System operations, so the number of incidents that would be reportable under this TADS data request is unknown. Under the new version of PRC-004, which is currently under development, the standard will require reporting of the number of Protection System Operations. Approval and implementation of this standard will provide a much better scope the changes to the TADS collection will encompass. While the expanded scope of the TADS collection may prove to be of minimal reporting burden there are currently too many variables to accurately determine what the actual burden will be. The scope of the expansion is based on a change to the BES definition which is designed to make changes. The 2 standards	order to determine priority areas of reliability risk. As TADS is a mandatory system, in contrast to the voluntary Event Analysis process, the data gathered is more comprehensive. TADS data helps to support Event Analysis data in risk assessment. TADS data provides a window into near miss cascades through the analysis of common mode and dependent mode outages as well as general outage statistics. By analyzing these outage events and statistics across NERC, commonalities are being discovered that will help to inform decision makers. The risk analysis, using multiple datasets in combination with TADS, will help to guide NERC away from an ad-hoc prioritization of issues to a data-driven, risk-based prioritization of issues. Work has already begun with the recently created Reliability Issues Steering Committee (RISC) to help this prioritization. The result of this work should result in improved standards and priorities that, instead of focusing on administration, will focus on reducing key reliability risks across the BES. A side effect of this is that further data is required to quantitatively determine reliability benefit. In order to perform adequate analysis, TADS data is needed for all voltages across the BES instead of only 200 kV+. After analysis of Event Analysis data, it was determined that a large (approximately ⅓) amount of events involve the Less than 200 kV portion of the BES. Analyzing less than 200 kV TADS data will help provide insight into these events, help to find commonalities to help avoid the events before they occur, and help provide risk information to prioritize NERC issues.

referenced as justification are changing as well, EOP-004 to be filed with FERC and PRC-004 currently under development. At this time, waiting to expand the scope of the TADS program until there is better data to analyze the additional burden is the best course of action.	

The Section 1600 request includes the 7 specific questions in the Data Request. All comments have been considered and responses are provided below.

Question 1: If you are a Transmission Owner, do you currently collect Outage data similar to the proposed TADS outage data? If "yes," please explain.

Table 3: If you are a Transmission Owner, do you currently collect Outage data similar to the proposed TADS outage data? If "yes," please explain.

Organization and Comment	Comment Response
South Mississippi Electric Power Association Yes, we require transmission outages be entered in a database as part of our transmission outage request procedure for non-automatic outages. Our operators log the automatic outages in our operator's log.	We appreciate your comment.
Oklahoma Gas and Electric Company Yes, we currently collect automatic outages through our Disturbance Database. Each 100-199kV outage will need to be reviewed to determine if the outage is a sustained outage.	We appreciate your comment.
Manitoba Hydro Manitoba Hydro currently collects outage data similar to most of the proposed TADS data. The issues for us are that (i) we need to collect and tag outage data to meet both Canadian Electricity Association (CEA) as well as TADS requirement, which are not exactly the same, (ii) the data lives in numerous locations across the Corporation, and (iii) we currently don't have an automated system to bring all of this data together.	We appreciate your comment and feedback. We will discuss with the Canadian Electricity Association (CEA) and evaluate whether together we could streamline the transmission outage reporting.
Dominion Virginia Power Comments: Yes. We participate in the current TADS automatic outage reporting for >200KV elements so we have a system to record and gather the outage details, but additional outage data entry will be needed. However, we do not have the level of detail being requested in the inventory data.	Thank you for your comment.

Table 3: If you are a Transmission Owner, do you currently collect Outage data similar to the proposed TADS outage data? If "yes," please explain.	
Organization and Comment	**Comment Response**
South Carolina Electric & Gas Company We do currently collect 100-199 kV outage data similar to the proposed TADS outage data through an Interruption data program (IDP). However, formatting the data to fit TADS submittals will take time and resources.	Thank you for your comment.
Tennessee Valley Authority We collect outage data on less than 200-kV AC circuits and transformers, but not to the extent that would be required for TADS. We do not collect outage ID, fault type, outage mode, outage initiation code, event type, or disturbance report filed. Even if a utility is already collecting the data in an identical manner to the proposed manner, there will be an increased burden upon the utility. This is because of the increased vigilance which is required when reporting data to any regulatory agency. This extra cost to the industry is not justifiable without proven benefits.	Thank you for your comment.
Salt River Project Agricultural Improvement and Power District a. Yes, been collecting somewhat similar to TADS for our 115kV system	Thank you for your comment.
Hydro One Networks Yes. Hydro One currently collects outage data similar to the proposed TADS outage data.	Thank you for your comment.
Great River Energy GRE does collect this information but in a different application and format than the proposed TADS outage data is currently collected. We currently use an outage management system (OMS) to collect forced sustained and momentary outages on circuits 100-199 kV. However, if the circuit is open-ended without a service interruption, this data would not be captured in the GRE OMS. Only operations that would have a customer service impact would be collected.	Thank you for your comment.

Table 3: If you are a Transmission Owner, do you currently collect Outage data similar to the proposed TADS outage data? If "yes," please explain.	
Organization and Comment	**Comment Response**
Ameren Services Company 1. Ameren is a Transmission Owner. We do currently collect outage data similar to the proposed TADS outage data. This data is used for internal metrics reporting and for participation in the North American Transmission Forum.	Thank you for your comment.
Austin Energy No.	Thank you for your comment.
Exelon on behalf of Baltimore Gas & Electric, ComEd, and PECO Yes. Auto Operation data is currently collected for PJM Transmission Metrics.	Thank you for your comment.
PEPCO Holdings Inc. PHI currently collects less than 100 kV and BES 100-199kV outage data in the same manner used to collect 230-500kV data.	Thank you for your comment.
New York Power Authority Yes, outage data is collected for current TADS reporting requirements, NYISO NTAC reporting, Protection Operation Reporting and internal metrics.	Thank you for your comment.
Kansas City Power & Light Yes, we have a monthly meeting with all responsible personal to discuss how each outage should be recorded. In many aspects our company recordable transmission metrics mimic TADS Automatic, Operational, and Plan outage cause codes for 69kV and above. Currently, there is less than 10 reportable lines 345 kV lines and expanding to 100-199 kV would increase the number of recordable lines to over 235. Reporting the cause codes with this is not a big problem because our company was already preparing for the shortcoming; however, past installation and modification for these lines are going to be more of a challenge as our company upgrade and modify as necessary. It would be hard maybe impossible to track down when the device was last modify.	Thank you for your comment. No historical precursor Elements or reconfiguration dates will be required. The data requests will be modified to clarify this.
LCRA Transmission Services Corporation Yes. LCRA TSC currently collects automatic, sustained outage data for the proposed 100-199kV TADS elements as a part of our internal outage data recording processes.	Thank you for your comment.

Table 3: If you are a Transmission Owner, do you currently collect Outage data similar to the proposed TADS outage data? If "yes," please explain.	
Organization and Comment	**Comment Response**
Idaho Power Company A: Yes, outage data is collected. However, this data is entered into the reporting system by operators. Significant additional analysis is required after the fact to determine the additional data required by TADS that we cannot expect operators to analyze and enter on the fly. Also, some of the required inventory data, such as terminal types and radial designations, are not available in the outage data collection system.	Thank you for your comment. The data request was modified to use a staggered rollout of the terminal type field to allow more time for TOs to prepare their systems.
Consolidated Edison Yes. Consolidated Edison collects outage data similar to the proposed TADS outage data.	Thank you for your comment.
Duke Energy Corporation Response: We don't systematically collect all the sub-200 kV maintenance/planned outage data at all locations.	Thank you for your comment.
Public Service Electric and Gas Company Yes for 200kV and higher voltages. In the case of transmission systems such as PSE&G's that are highly networked at the 500, 345 and 230kV levels, the underlying 138kV network does not have much impact on BES reliability and thus collecting such information has little if any value for overall reliability. Data for 100-199kV is collected in order to ensure that these underlying facilities are properly maintained and are compliant with all applicable NERC standards.	Thank you for your comment.
American Transmission Co. LLC Yes. We collect similar outage data for all of ATC's facilities down to 69kV.	Thank you for your comment.
Xcel Energy Yes for transmission lines, no for transformers.	Thank you for your comment.
CenterPoint Energy Yes. CenterPoint Energy currently has data systems that collect the <100 kV and 100-199 kV outage data (Automatic and Non-Automatic). However, the current systems do not have all of the <100 kV and 100-199 kV data formatted for TADS, so additional programming and effort would be required to put the data in the necessary format for reporting to NERC.	Thank you for your comment.

Table 3: If you are a Transmission Owner, do you currently collect Outage data similar to the proposed TADS outage data? If "yes," please explain.	
Organization and Comment	**Comment Response**
Associated Electric Cooperative, Inc. Associated Electric Cooperative Inc (AECI) is a Transmission Owner and does not actively collect less than 200 kV data in a similar manner to the proposed TADS outage data collection. These details of these outages are gathered and outage reports are constructed, but not the extent to report in TADS.	Thank you for your comment.
Georgia Transmission Corporation Georgia Transmission Corporation (GTC) collects data on less than 100 kV (this would be 46 kV and 69 kV for GTC) and 100-199 kV (this would be 115 kV for GTC) circuits similar to the proposed TADS expanded requirements. We have modified our software systems to produce data that matches the definitions set forth in TADS There are very significant differences: • GTC does not count single ended operations on network circuits as outages because no load is lost. • For internal use, GTC measures outage duration as customer restoration time. • GTC measures outage duration as when circuits are returned to normal only for external benchmarking. We continue to advocate recording both load restoration time and return to normal time so that a company could compare either or both restoration metrics. • We have to do extra work to get benchmarking data that compares load restoration times. • We have started to record non-automatic outages solely for TADS reporting. • We record the outage data but exclude major storms from benchmarking. GTC defines a major storm as severe weather conditions resulting in the loss of service to a significant amount of customers (five percent or more of customers served in an operating area or more than one percent of total customers) that have not been restored in 24 hours. • We cap outage duration (return to normal) at 48 hours for non-automatic events.	Thank you for your comment.

Table 3: If you are a Transmission Owner, do you currently collect Outage data similar to the proposed TADS outage data? If "yes," please explain.	
Organization and Comment	**Comment Response**
LG&E and KU No. We collect data on breaker relay operations and misoperations as well as data on planned breaker outages in the form of logged switching instructions. This data is logged separately and wasn't designed to return element outage data as is required for TADS reporting.	Thank you for your comment.
Bonneville Power Administration Yes, except for transformer outages, BPA electronically collects 100-199kV raw transmission circuit outage data that can be used as the basis for the proposed TADS outage data reporting. Transformer outage data is not stored in a manner that can be electronically retrieved. Significant effort is required to manually review and manipulate the raw data to convert it into a format required by TADS. BPA does NOT use the same coding system as NERC thus effort is required in translation and interpretation review before submission.	Thank you for your comment.
Southern California Edison Yes. Southern California Edison (SCE) collects scheduled element or facility outage and relay outage data, as well as information on its relay operations and maintenance. Outage information for transmission and distribution facilities is housed in various databases with different attributes. SCE defines distribution facilities as being facilities115kV and below not under California Independent System Operator (CAISO) control.	Thank you for your comment.

Question 2: If you are a Transmission Owner, please identify the existing number of 100-199kV Elements in your inventory. Please identify, based on the current draft BES definition of radial circuit, the number of 100-199kV Elements in your inventory which you expect to be exempt from becoming a BES facility.

Table 4: If you are a Transmission Owner, please identify the existing number of 100-199kV Elements in your inventory. Please identify, based on the current draft BES definition of radial circuit, the number of 100-199kV Elements in your inventory which you expect to be exempt from becoming a BES facility.	
Organization and Comment	**Comment Response**
South Mississippi Electric Power Association Currently we have 116 100-199kV Elements in our inventory. Of those, we have 93 100-199kV Elements that can be exempted based on the current draft BES definition of radial circuit.	Thank you for your comments.
Oklahoma Gas and Electric Company Currently, we have 410 transmission lines of 100-199kV voltage class, none of which are radial.	Thank you for your comments.
Manitoba Hydro Existing number of 100-199 kV Elements: • Lines = 114 total lines – 23 radial lines • Transformers = 29 with low-side voltage 100-199 kV	Thank you for your comments.
Dominion Virginia Power BES Transformers (High side Low side 100-199KV): 94 Radial transformers to be excluded: 9 BES AC Circuits (100-199 KV): 176 Radial AC circuits to be excluded: 60 Comments: We included BES transformers with low side voltages (not high side voltages) 100-199KV in the above numbers. We assume you meant use low side voltages to determine applicability. Did you leave out local networks in the above numbers to be excluded for any particular reason?	Yes, transformers with a low-side voltage of 100-199 kV were requested. No, local networks are exempted from the proposed Bulk Electric System definition and would not be TADS reportable based on this data request.
South Carolina Electric & Gas Company Our system has 196 elements 100-199kV. 69 elements are expected to be exempt from becoming a BES facility.	Thank you for your comments.
Tennessee Valley Authority Currently, we have 562 AC Circuits with a voltage between 100 and 199-kV and 52 Transformers with a low side voltage between 100 and 199-kV (total = 614 elements). Only about 10 of the circuits would be exempt from reporting.	Thank you for your comments.

Table 4: If you are a Transmission Owner, please identify the existing number of 100-199kV Elements in your inventory. Please identify, based on the current draft BES definition of radial circuit, the number of 100-199kV Elements in your inventory which you expect to be exempt from becoming a BES facility.	
Organization and Comment	**Comment Response**
Salt River Project Agricultural Improvement and Power District The number of this inventory is 60 items.	Thank you for your comments.
Hydro One Networks The number of 100-199kV Elements that are expected to be reportable is less than 200.	Thank you for your comments.
Great River Energy Below is an estimate. NOTE: Many of these elements include some assets that are owned by both GRE and other TOs and therefore may or may not be reported directly by GRE. (108 115kV ELEMENTS) (14 161kV ELEMENTS) 122 ESTIMATED 100-199kV ELEMENTS TOTAL 8 ESTIMATED EXEMPT ELEMENTS 114 ESTIMATED ADDITIONAL ELEMENTS TO REPORT 100-199kV	Thank you for your comments.
Ameren Services Company Ameren's system contains roughly 435 100-199kV elements. Based on the current draft BES definition of radial circuit, we expect fewer than 10 elements to be exempt from becoming a BES facility.	Thank you for your comments.
Austin Energy Austin Energy (AE) has eighty-eight 100-199kV Elements as defined in the "TADS Definitions" document dated 12-9-10 (eighty-two 138kV AC Circuits and six transformers with low-side voltage between 100-199kV). AE does not have any DC Circuits with >= +/- 100 kV DC voltage or AC/DC Back-to-Back Converters with >= 100 kV AC voltage, both sides. Using the draft BES definition of radial circuit, AE has one radial circuit that emanates from a single point of connection between 100-199kV. AE believes this radial circuit would be exempt from TADS reporting.	Thank you for your comments.

Table 4: If you are a Transmission Owner, please identify the existing number of 100-199kV Elements in your inventory. Please identify, based on the current draft BES definition of radial circuit, the number of 100-199kV Elements in your inventory which you expect to be exempt from becoming a BES facility.	
Organization and Comment	**Comment Response**
Exelon on behalf of Baltimore Gas & Electric, ComEd, and PECO ComEd has approximately 314 transmission lines and 88 transformers in the 100-199 kV inventory. BG&E has approximately xxx transmission lines and xx transformers in the 100-199 kV inventory. PECO has approximately 28 transmission lines and 8 transformers in the 100-199 kV inventory.	Thank you for your comments.
PEPCO Holdings Inc. Existing number of elements for PHI is 101. No change due to radial definition with the BES draft. There will be a decrease of the number of elements due to the LN exclusion in the new definition. However it should be recognized that when the new NERC BES definition goes into effect, there will have be additional facilities that will need to be classified as BES elements at all voltage levels. Based on the "opinion" of the BES Definition Drafting Team, the small bus section between two breakers in a substation bus arrangement (i.e., ring bus, breaker-and-a-half scheme, etc.) which feeds a radial line, or a distribution transformer, or a LN, is considered part of the BES, even if the radial line, or distribution transformer or LN, is excluded. As such, will outages of these small bus sections need to be reported in TADS? Usually only line or transformer outages are reported in our logging system (tripping of the corresponding substation bus section is understood and therefore not called out separately). It will require a more detailed analysis by the TADS coordinator to determine if the tripping of a non-BES line, or transformer, also resulted in the trip of a BES bus section in the substation. Should these types of bus section facility outages be reported in TADS?	If no TADS Element is taken in a not in-service state, no outage would be reported. Bus section facility outages would not be reported in TADS in this case.
New York Power Authority The following NYPA Elements are expected based exclusion E1 defined in the 10/3/2012 Bulk Electric System Definition Guidance Document; ***List of Elements Redacted.***	Thank you for your comment.

Table 4: If you are a Transmission Owner, please identify the existing number of 100-199kV Elements in your inventory. Please identify, based on the current draft BES definition of radial circuit, the number of 100-199kV Elements in your inventory which you expect to be exempt from becoming a BES facility.	
Organization and Comment	**Comment Response**
Kansas City Power & Light There are approximately 227 existing number of 100-199 kV elements in our inventory but only 2 is exempt based on current draft BES definition of radial circuits.	Thank you for your comment.
LCRA Transmission Services Corporation LCRA TSC currently has 197 AC Circuits and 13 Transformers that meet the NERC TADS Element definitions and operate between 100-199kV. LCRA TSC also has a total of 9 AC Circuits that meet the BES exemption criteria.	Thank you for your comment.
Idaho Power Company A: 154 elements, 58 of which are radial.	Thank you for your comment.
Consolidated Edison There are approximately 301 existing 100-199 kV Elements and 165 of these Elements will not be considered as BES Elements under the current draft definition either because of the radial exclusion or the local network exclusion.	Thank you for your comment.
Duke Energy Corporation Response: We don't currently have this database inventory based upon the revised BES definition, and expect it will take several months to develop it. Until that effort is completed, we won't know the number of 100-199 kV elements which are exempt.	Thank you for your comment.
Public Service Electric and Gas Company For 138kV Overheard Conductors PSE&G has an aggregate of approximately 280 circuit miles For 138kV Pipe Cable Conductors PSE&G has an aggregate of approximately 104 circuit miles The number of 100-199 kV Elements in your inventory expected to be exempt from becoming a BES facility is a small percentage.	Thank you for your comment.
American Transmission Co. LLC 378 circuits and 54 transformers. 60 circuits	Thank you for your comment.
Xcel Energy Northern States Power (NSP) ~ 250 Public Service company of Colorado (PSC) ~ 125 Southwest Public Service Company (SPS) ~ 225	Thank you for your comment.

Table 4: If you are a Transmission Owner, please identify the existing number of 100-199kV Elements in your inventory. Please identify, based on the current draft BES definition of radial circuit, the number of 100-199kV Elements in your inventory which you expect to be exempt from becoming a BES facility.	
Organization and Comment	**Comment Response**
CenterPoint Energy CenterPoint Energy has a total of two hundred thirty-one 138 kV circuits. Twelve of those 138 kV circuits are radial circuits which are expected to be exempt based on the current draft of the BES definition.	Thank you for your comment.
Associated Electric Cooperative, Inc. AECI currently owns and/or operates 188 transmission facilities energized at 100-199 kV. An exact list of these facilities that would be excluded by the new BES definition has not been developed, but this list is believed to be minimal.	Thank you for your comment.
Georgia Transmission Corporation GTC has identified ~50 - 115 kV AC circuits where we own >=50% of the mileage. We will report on these and not report on circuits with <50% ownership. Based on the definition of "radial circuit" about 9 of the 50 circuits (Elements) would be exempt from reporting requirements Under the current Definition of BES using the bright-line, GTC has no 46 or 69 kV circuits that would need reporting to TADS. We estimate we own ~40 - 230/115 kV transformers that will become separate Elements to track.	Thank you for your comment.
LG&E and KU Currently there are 219 elements within the 100-199 kV voltage class. Based on the current draft BES definition, there are 27 elements which we expect to be exempt from becoming a BES facility.	Thank you for your comment.
Bonneville Power Administration BPA has a total of 270 of the 100-199kV elements. BPA does not expect to exempt any elements based on the current draft BES definition of radial circuit.	Thank you for your comment.

Table 4: If you are a Transmission Owner, please identify the existing number of 100-199kV Elements in your inventory. Please identify, based on the current draft BES definition of radial circuit, the number of 100-199kV Elements in your inventory which you expect to be exempt from becoming a BES facility.	
Organization and Comment	**Comment Response**
Southern California Edison SCE is in the process of applying the revised BES definition to its system topology, specifically its extensive 115kV sub-transmission facilities, and cannot at this time definitively identify the number of 100-199 kV Elements which we expect to be exempted from becoming BES Facilities. As follows is a list of SCE's 100-199 kV Elements taken from the CAISO Transmission Registry and are currently identified as being a part of SCE's Bulk Power System. ***List of Elements by Type Redacted.***	Thank you for your comment.

Question 3: If you are a Transmission Owner and if you currently do not collect Bulk Electric System less than 100kV and Bulk Electric System 100-199kV Outage data similar to the proposed TADS outage data, recognizing additional outage information and analysis will be required by the BES Standards (PRC and EOP Reliability Standards at a minimum), what incremental increase in effort beyond the BES Standards will be required to fulfill the proposed TADS data collection?

Table 5: If you are a Transmission Owner and if you currently do not collect Bulk Electric System less than 100kV and Bulk Electric System 100-199kV Outage data similar to the proposed TADS outage data, recognizing additional outage information and analysis will be required by the BES Standards (PRC and EOP Reliability Standards at a minimum), what incremental increase in effort beyond the BES Standards will be required to fulfill the proposed TADS data collection?	
Organization and Comment	**Comment Response**
South Mississippi Electric Power Association Not applicable since we are collecting such data.	Thank you for your comments.
Oklahoma Gas and Electric Company We currently have 36 transmission lines that are 200kV and up and 32 of those lines are TADS reportable. If the proposal to add 100-199kV transmission lines is approved, the resulting number of transmission lines that would be subject to TADS reporting would be 442 or 12 times those currently subject to reporting. Therefore, the increase in effort will be exponentially greater than the current requirement	Thank you for your comments.
Manitoba Hydro While Manitoba Hydro collects similar data to that proposed for TADS on outages 100-199 kV and less that 100kV, the data is in such a format that it must be manually manipulated and reviewed/completed to fulfill the TADS requirements. While this manual effort was reasonable when reporting on outages >200kV, it will be a significant amount of work with these proposed changes. We estimate the incremental effort to provide data below 200kV to be 3 times as much effort as was required for only data >200kV.	Thank you for your comments.
Dominion Virginia Power Comments: Not Applicable.	Thank you for your comments.

Table 5: If you are a Transmission Owner and if you currently do not collect Bulk Electric System less than 100kV and Bulk Electric System 100-199kV Outage data similar to the proposed TADS outage data, recognizing additional outage information and analysis will be required by the BES Standards (PRC and EOP Reliability Standards at a minimum), what incremental increase in effort beyond the BES Standards will be required to fulfill the proposed TADS data collection?	
Organization and Comment	**Comment Response**
South Carolina Electric & Gas Company We currently obtain information for the BES standards, however, additional man-hours and cost will be required in order to develop and implement a new system to export the key inventory data for TADS below 200kV and is approximated at 3 to 4 times the previous cost of obtaining TADS above 200kV information.	Thank you for your comments.
Tennessee Valley Authority We collect some of the proposed 100-199 kV outage data. The outages that are reportable under PRC-004-2a, and under EOP-004-1 are a very small percentage of the total outages (approximately 10% or less). One of the most significant burdens on utilities is the coordination of reporting of outages on interconnected lines between utilities. There are many more lines at this level and hence much more effort in coordination of data to ensure accuracy. Therefore, since the current standards are only about 10% of the current outages at this voltage level, the incremental increase will be about 10 times as many outages or about 1000% increase above the current BES Standards. A large portion of this increase is due to ensuring data quality for reporting to a regulatory agency and the additional fields that we do not currently record which are difficult to obtain for all of the outages.	Thank you for your comments.
Salt River Project Agricultural Improvement and Power District Blank	Thank you for your comments.
Hydro One Networks Hydro One currently collects data similar to the TADS outage data specification. However, additional incremental efforts will be required to report the additional data to TADS based on this expanded scope.	Thank you for your comments.

Table 5: If you are a Transmission Owner and if you currently do not collect Bulk Electric System less than 100kV and Bulk Electric System 100-199kV Outage data similar to the proposed TADS outage data, recognizing additional outage information and analysis will be required by the BES Standards (PRC and EOP Reliability Standards at a minimum), what incremental increase in effort beyond the BES Standards will be required to fulfill the proposed TADS data collection?	
Organization and Comment	**Comment Response**
Great River Energy GRE currently reports 16 TADS elements greater than 200kV. GRE would have to report an additional 114 elements. These elements would have to be set up in the current TADS reporting application and these elements would then have to be entered in the reporting process. It is estimated that GRE's reporting burden would increase approximately 600% after the initial application changes based on the number of elements that will need to be reported.	Thank you for your comments.
Ameren Services Company N/A	Thank you for your comments.
Austin Energy To fulfill the proposed TADS data collection, AE would have to establish a tracking program (e.g., software application or spreadsheet database) and collection procedure for gathering 100-199kV outage data in a central location in a format readily available for TADS reporting. AE has eleven times as many 100-199kV TADS Elements as it has >= 200 kV Elements. The amount of data AE would have to collect for TADS reporting would increase substantially. The proposed requirements would necessitate additional training for all system operators and the Reliability and Power Quality group. The varied reporting requirements shown below add complexity to data reporting and add to the training and data collection time. (AE recognizes that excluding Non-Automatic Planned Outages on 100-199kV Elements reduces the time required for data entry.) 100-199kV Elements • Automatic Outages • Non-Automatic Operational Outages	Thank you for your comments.

Table 5: If you are a Transmission Owner and if you currently do not collect Bulk Electric System less than 100kV and Bulk Electric System 100-199kV Outage data similar to the proposed TADS outage data, recognizing additional outage information and analysis will be required by the BES Standards (PRC and EOP Reliability Standards at a minimum), what incremental increase in effort beyond the BES Standards will be required to fulfill the proposed TADS data collection?	
Organization and Comment	**Comment Response**
>= 200kV Elements • Automatic Outages • Non-Automatic Operational Outages	
Exelon on behalf of Baltimore Gas & Electric, ComEd, and PECO There will be an incremental change to the work processes to reformat the data into WebTADS. This is due to the Exelon Transmission Owning companies inventory of 100-199kV elements is about 2.5 times the 200kV data currently submitted to NERC.	Thank you for your comments.
PEPCO Holdings Inc. Although PHI currently collects less than 100 kV and BES 100-199kV outage data in the same manner used to collect 230-500kV data, additional resources will be required to handle the increased data collection effort and additional time for SMEs to analyze each outage to make proper entry into TADS .	Thank you for your comments.
New York Power Authority Minimal, although Protection and Control will need to provide fault analysis and determine the cause of the outage.	Thank you for your comments.
Kansas City Power & Light No effort has been collected for TADS based on voltages below 69kV. But for system above 69kV, our company is already based all Automatic and Operational outages on TADS. Plan outages will have to be re-evaluated as it is currently in the log book and SPP CROW and needs to be converted to some type of TADS format.	Thank you for your comments.
LCRA Transmission Services Corporation The proposed TADS data collection would lead to an incremental increase of approximately 4-6 hours in annual report preparation, as there would likely be significantly more outages to review, classify, and report.	Thank you for your comments.

Table 5: If you are a Transmission Owner and if you currently do not collect Bulk Electric System less than 100kV and Bulk Electric System 100-199kV Outage data similar to the proposed TADS outage data, recognizing additional outage information and analysis will be required by the BES Standards (PRC and EOP Reliability Standards at a minimum), what incremental increase in effort beyond the BES Standards will be required to fulfill the proposed TADS data collection?	
Organization and Comment	**Comment Response**
Idaho Power Company A: Adding 100-199kV outage data to the TADS effort will approximately triple the effort required to report the data.	Thank you for your comments.
Consolidated Edison N/A	Thank you for your comments.
Duke Energy Corporation Response: We don't view this TADS effort as incremental. It is a stand-alone effort because we don't have to develop this inventory to satisfy the PRC and EOP requirements.	Thank you for your comments.
Public Service Electric and Gas Company Minimal effort is expected for automatic outages (trips) as these are promptly investigated. However, effort for planned and operational outages would be significant.	Thank you for your comments.
American Transmission Co. LLC N/A	Thank you for your comments.
Xcel Energy Xcel Energy estimates and incremental increase of 2-3x.	Thank you for your comments.

Table 5: If you are a Transmission Owner and if you currently do not collect Bulk Electric System less than 100kV and Bulk Electric System 100-199kV Outage data similar to the proposed TADS outage data, recognizing additional outage information and analysis will be required by the BES Standards (PRC and EOP Reliability Standards at a minimum), what incremental increase in effort beyond the BES Standards will be required to fulfill the proposed TADS data collection?	
Organization and Comment	**Comment Response**
CenterPoint Energy Although CenterPoint Energy collects data similar to the proposed TADS <100 kV and 100-199 kV Outage data, we expect a substantial increase in effort to collect all of the data fields and perform the necessary data validation and error checking for the additional <100 kV and 100-199 kV outages. Changes to the existing data collection systems would also be needed. CenterPoint Energy would be reporting 100-199 kV Sustained Automatic and Non-Automatic Operational Outages for the first time for thirty-six Transformers and an additional two hundred nineteen AC Circuits consisting of approximately 2,022 circuit miles as compared to the current reporting of ³200 kV Outages for zero Transformers and fifty-four AC Circuits consisting of 1,216 circuit miles. An additional effort will need to be made to determine which, if any, <100 kV AC Circuits and Transformers would be included in TADS reporting as BES Elements. Reporting only the Sustained Automatic and Operational Non-Automatic outages for the <100 kV and 100-199 kV voltage classes does reduce the reporting burden to TADS, but it still necessitates utility systems to collect all outages to provide a dataset for consistent determination of the outage type and the cause code.	Thank you for your comments.

Table 5: If you are a Transmission Owner and if you currently do not collect Bulk Electric System less than 100kV and Bulk Electric System 100-199kV Outage data similar to the proposed TADS outage data, recognizing additional outage information and analysis will be required by the BES Standards (PRC and EOP Reliability Standards at a minimum), what incremental increase in effort beyond the BES Standards will be required to fulfill the proposed TADS data collection?	
Organization and Comment	**Comment Response**
Associated Electric Cooperative, Inc. AECI is registered with NERC as a JRO on behalf of AECI and 6 other child companies. As an approximation this additional data reporting would require much additional coordination and employee resources. Each member of the AECI JRO would need to dedicate the time of one electrical engineer to spearhead this additional data reporting request. It is approximated that after including wages/benefits for additional personnel required, the cost would be at least $500,000 annually.	Thank you for your comments.
Georgia Transmission Corporation The question does not apply since we already collect the data.	Thank you for your comments.
LG&E and KU Due to an increase in reportable elements and these elements undergoing more frequent operations, the increase in effort will require additional time from current employees involved with monitoring TADS as well as a likely addition of employee(s) for monitoring daily TADS outage information. Based on current time required for reporting, weekly time requirements could increase from 4 hours per week to 40 hours per week. Future costs may include the creation of a tracking program to tie the current element tracking systems together.	Thank you for your comments.
Bonneville Power Administration Blank	Thank you for your comments.

Table 5: If you are a Transmission Owner and if you currently do not collect Bulk Electric System less than 100kV and Bulk Electric System 100-199kV Outage data similar to the proposed TADS outage data, recognizing additional outage information and analysis will be required by the BES Standards (PRC and EOP Reliability Standards at a minimum), what incremental increase in effort beyond the BES Standards will be required to fulfill the proposed TADS data collection?	
Organization and Comment	**Comment Response**
Southern California Edison SCE collects this information for voltage levels below 200 kV, but the information is housed in different databases and the data elements cannot be easily synchronized with the current TADS data requirements. An enormous amount of effort would be required in order to collect the proposed TADS outage data. This is because SCE does not currently collect all of the proposed new data elements, and does not store the data it has collected in a TADS-ready data format. SCE's current computer systems and programs are not capable of storing the proposed TADS outage data in the format required by the proposal.	Thank you for your comments.

Question 4: Is the data being requested reasonable and obtainable? If "no," please explain.

Table 6: Is the data being requested reasonable and obtainable? If "no," please explain.	
Organization and Comment	**Comment Response**
South Mississippi Electric Power Association Yes.	Thank you for your comment.
Oklahoma Gas and Electric Company No, the data requested is unreasonable because we have no evidence of a return on investment for the amount of time and energy it takes to supply the data related to 200kV and greater. With limited personnel resources, this request places an extra burden on OG&E. OG&E does not believe that collecting outage information for 100-199kV and BES less than 100kV helps improve planning or operations of the transmission system. The reasonability of this request depends upon whether or not this data is actually used. As stated above, industry has seen no benefit in providing the 200kV and up data to NERC thus far and unless significant effort is put into actually using the data for the benefit of industry, the request is most unreasonable. Furthermore, since the TADS process is a manual process, the additional burden on our personnel would be considerable.	Thank you for your comments. For the current 200 kV+ dataset, NERC uses outage statistics from TADS, supplemented with Event Analysis data, in order to determine priority areas of reliability risk. As TADS is a mandatory system, in contrast to the voluntary Event Analysis process, the data gathered is more comprehensive. TADS data helps to support Event Analysis data in risk assessment. TADS data provides a window into near miss cascades through the analysis of common mode and dependent mode outages as well as general outage statistics. By analyzing these outage events and statistics across NERC, commonalities are being discovered that will help to inform decision makers. The risk analysis, using multiple datasets in combination with TADS, will help to guide NERC away from an ad-hoc prioritization of issues to a data-driven, risk-based prioritization of issues. Work has already begun with the recently created Reliability Issues Steering Committee (RISC) to help this prioritization. The result of this work should result in improved standards and priorities that, instead of focusing on administration, will focus on reducing key reliability risks across the BES. A side effect of this is that further data is required to quantitatively determine reliability benefit. In order to perform adequate analysis, TADS data is needed for all voltages across the BES instead of only 200 kV+. After analysis of Event Analysis data, it was determined that a large (approximately ⅓)

Table 6: Is the data being requested reasonable and obtainable? If "no," please explain.	
Organization and Comment	**Comment Response**
	amount of events involve the Less than 200 kV portion of the BES. Analyzing less than 200 kV TADS data will help provide insight into these events, help to find commonalities to help avoid the events before they occur, and help provide risk information to prioritize NERC issues.
Manitoba Hydro Yes, the data requested is reasonable however it is not easily obtainable. Most of the data exists in a variety of databases. The effort to collate this data, fill in any gaps, and convert it into the TADS format will be significant.	Thank you for your comments.
Dominion Virginia Power Comments: No, the outage data for only a subset of outages (example momentary outages are not included) for less than 200KV elements is not reasonable, it adds complexity. Personnel will have to enter differing amounts of data and information just because the element is operated at a different voltage. NERC is being very sensitive to the burden on some entities who do not already participate in TADS outage data and to those who do not already collect outage data. When TADS phase I and phase II were first being developed the extra burden did not seem to be an issue. The whole process of TADS data collection is already a burden; however having different rules and different levels of importance solely differentiated by voltage class is not reasonable. Periodic and incremental changes to reporting outage data (both quantity and type of data) and changes to definitions of terms creates continual need for entities to change internal and external processes. Constant change is costly. If we do not report momentary outages for less than 200KV elements now, it's only a matter of time before NERC realizes that data is useful, creating yet another incremental change. Further, if momentary outage information is not needed for less than 200 kV elements, then it should not be required for 200KV and above elements. And if NERC waits until after the new data collection starts, then adds operational outage data to the mix in 2015, this would result in another incremental change to our	In a prior version of this data request, TADSWG did include momentary and sustained automatic outages. However, based on industry comment, momentary automatic outages were removed from the data request to reduce burden even to those that already collect 200 kV Element TADS data. For momentary outage collection below 200 kV, there are no plans in the foreseeable future to collect this data. If, based on the analysis, momentary outages above 200 kV+ are deemed not to impart serious reliability risk, TADSWG would give serious consideration to not collecting momentary outages at 200 kV+. The non-operational dataset for 200 kV+ Elements will be analyzed significantly to determine whether these outages contribute significantly to reliability risk. Only then will consideration be given to collecting the data for Less than 200 kV+ Elements, given the amount of Less than 200 kV+ BES Elements. TADSWG considered aligning 200 kV+ collection with the BES definition. However, for consistency of the metrics and to reduce burden, it was decided to keep the 200 kV+

Table 6: Is the data being requested reasonable and obtainable? If "no," please explain.	
Organization and Comment	**Comment Response**
processes. We suggest a moratorium on changes to TADS reporting for a 5 year period, which is the same period NERC cited as the time frame for useful trending. Further, it is not reasonable to exclude radials only at some voltage classes. The TADS data request indicates using the draft definition for BES which excludes radial circuits, local networks, and local distribution facilities. It is apparent that these elements were intended to be excluded from less than 200KV elements and if so these should be excluded for 200KV and above elements. Please revise wording to assure consistency and to reduce errors in reporting. Yes, the outage data is obtainable. But it would be easier to obtain the same data for all voltage classes instead of partial data for some voltage classes. Additional Comment: In the NERC opening letter (second sentence, 4th paragraph) it states that NERC is requesting "…Sustained Automatic Outages…", however in the next sentence it states "…Sustained Automatic Outages and Operational Outages…". Update the wording to be consistent. Maybe the title should indicate which outages are included and state that planned outages and operational outages are excluded. In addition NERC is apparently unsure as to when operational outages will be required and likely will not decide until after the new data request is issued. If NERC determines that (non-automatic) or planned outage data is no longer beneficial, resources dedicated to that effort could be used to supply the additional voltage class data. If NERC waits until after the new data collection starts, then adds operational outage data to the mix in 2015, this would result in another incremental change to our processes.	collection unchanged. For your additional comment, the words will be clarified to indicate that currently only sustained automatic outages will be collected in BES Less than 100 kV and BES 100-199 kV voltage classes.
<u>South Carolina Electric & Gas Company</u> The data being requested is obtainable; however it will increase the number of man hours and resource investment.	Thank you for your comment.

Table 6: Is the data being requested reasonable and obtainable? If "no," please explain.	
Organization and Comment	**Comment Response**
Tennessee Valley Authority No, it is not reasonable. The monetary benefits of collecting the data should be proven first with documented cases shown from the 200-kV and above data. We believe that the 200+ kV outages are a sufficient sample size to get a "pulse" of the industry. It is a wasteful use of resources (costs which must be passed on to the end user) to use the entire transmission outage population when a sample of outages provides sufficient accuracy about the reliability of the transmission system. NERC can request additional information from specific utilities whenever the needs justify it (such as after a 'blackout' event). *Obtainable:* Asking if the data is obtainable is not a valid question. Any data is obtainable if you do not regard the cost (and benefit) of obtaining the data. NERC already knows that the data in this request is obtainable. Recommend for the next 1600 request; please change the question to simply "Is the data being requested reasonable".	Thank you for your comments. For the current 200 kV+ dataset, NERC uses outage statistics from TADS, supplemented with Event Analysis data, in order to determine priority areas of reliability risk. As TADS is a mandatory system, in contrast to the voluntary Event Analysis process, the data gathered is more comprehensive. TADS data helps to support Event Analysis data in risk assessment. TADS data provides a window into near miss cascades through the analysis of common mode and dependent mode outages as well as general outage statistics. By analyzing these outage events and statistics across NERC, commonalities are being discovered that will help to inform decision makers. The risk analysis, using multiple datasets in combination with TADS, will help to guide NERC away from an ad-hoc prioritization of issues to a data-driven, risk-based prioritization of issues. Work has already begun with the recently created Reliability Issues Steering Committee (RISC) to help this prioritization. The result of this work should result in improved standards and priorities that, instead of focusing on administration, will focus on reducing key reliability risks across the BES. A side effect of this is that further data is required to quantitatively determine reliability benefit. In order to perform adequate analysis, TADS data is needed for all voltages across the BES instead of only 200 kV+. After analysis of Event Analysis data, it was determined that a large (approximately ⅓) amount of events involve the Less than 200 kV portion of the BES. Analyzing less than 200 kV TADS data will help provide insight into these events, help to find commonalities to help avoid the events before they occur, and help provide risk information to prioritize NERC issues.

Table 6: Is the data being requested reasonable and obtainable? If "no," please explain.	
Organization and Comment	**Comment Response**
Salt River Project Agricultural Improvement and Power District No. There has not been a stated benefit to the TADS data gathering to this point and adding the lower voltage will not add benefit.	Thank you for your comment.
Hydro One Networks The data being requested is obtainable. The data request is reasonable as long as the data are reviewed and analysed by NERC with results and findings shared with the contributing entities. The resulting benefits from these data collections should be shared periodically with the contributing entities.	Thank you for your comment. Results will be shared with the contributing entities in accordance with the TADS Phase I and Phase II reports. As part of the change, there will be an effort to incorporate more benchmarking reports inside of webTADS to compare regional and NERC performance to the given TO's performance.
Great River Energy GRE feels that 100-199kV elements would be reasonable and obtainable and would align more closely with other NERC Standard reporting requirements. However the real question is if it is necessary. The current value of TADS data analysis is difficult to ascertain. Unless a clear road map is developed on what the purpose and ultimate use of the data is, GRE feels that more data collection is not warranted. In the Request for Public Comment Letter the question of how the data will be used is answered in part by quoting the 9/26/2007 report that states "…the greatest use of TADS data will be for outage cause analysis and outage Event analysis…". GRE believes that the Event Analysis process is fulfilling this purpose and is actually a better vehicle for event analysis. The report goes on to say that "…In addition, trending each Regional Entity's performance against its own history will show how that region's performance is changing over time…". Does the current report address this trending and draw any conclusions? Will adding reporting requirements improve our trending capability? If the data request is expanded, the effective date for the additional data reporting requirements should be extended due to the application and process changes that would be required.	Thank you for your comments. For the current 200 kV+ dataset, NERC uses outage statistics from TADS, supplemented with Event Analysis data, in order to determine priority areas of reliability risk. As TADS is a mandatory system, in contrast to the voluntary Event Analysis process, the data gathered is more comprehensive. TADS data helps to support Event Analysis data in risk assessment. TADS data provides a window into near miss cascades through the analysis of common mode and dependent mode outages as well as general outage statistics. By analyzing these outage events and statistics across NERC, commonalities are being discovered that will help to inform decision makers. As outlined in the NERC's *2012 State of Reliability* report,[20] analysis results based on TADS and other reliability data reporting serve as technical input to standards development and project prioritization, compliance process improvement. This analysis of bulk power system performance not only provides an industry reference for historical bulk power system reliability, it also offers analytical insights towards

[20] http://www.nerc.com/files/2012_SOR.pdf

Table 6: Is the data being requested reasonable and obtainable? If "no," please explain.	
Organization and Comment	**Comment Response**
In addition, it must be noted that submitting additional data does not come without cost, especially for those entities that have not been required to submit TADS data in the past. As stated above, it is debatable if the full value of the current TADS data has been fully realized. Is it wise to expand the data set and accrue additional costs at the expense of focusing on the existing data set? GRE feels strongly that the use of the current data set should remain a priority and the expansion of the data set should proceed when benefits can be ascertained through the analysis of the current data set.	industry action, and enables the discovery and prioritization of specific actionable risk control steps.
Ameren Services Company Yes, the data being requested is reasonable and obtainable, as long as NERC provides clear and explicit guidance for how to report the increased variety of line topologies seen at the lower voltage levels.	Thank you for your comments. Clear and explicit guidance on reporting line topologies will be given.

Table 6: Is the data being requested reasonable and obtainable? If "no," please explain.	
Organization and Comment	**Comment Response**
Austin Energy No. NERC has stated that: We believe that the greatest use of TADS data will be for outage cause analysis and outage Event analysis. Event analysis will aid in the determination of credible contingencies and will result in better understanding, and this understanding should be used to improve planning and operations. Ultimately, these improvements should result in improved transmission system performance. In addition, trending each Regional Entity's performance against its own history will show how that region's performance is changing over time. However, utilities already analyze outages and determine credible contingencies. There is no incremental reliability benefit gained by NERC performing the same analyses. The additional burdens created by this reporting requirement will lead to higher costs for utilities which must be passed on to rate payers (with virtually no associated reliability benefit).	Thank you for your comments. For the current 200 kV+ dataset, NERC uses outage statistics from TADS, supplemented with Event Analysis data, in order to determine priority areas of reliability risk. As TADS is a mandatory system, in contrast to the voluntary Event Analysis process, the data gathered is more comprehensive. TADS data helps to support Event Analysis data in risk assessment. TADS data provides a window into near miss cascades through the analysis of common mode and dependent mode outages as well as general outage statistics. By analyzing these outage events and statistics across NERC, commonalities are being discovered that will help to inform decision makers. The risk analysis, using multiple datasets in combination with TADS, will help to guide NERC away from an ad-hoc prioritization of issues to a data-driven, risk-based prioritization of issues. Work has already begun with the recently created Reliability Issues Steering Committee (RISC) to help this prioritization. The result of this work should result in improved standards and priorities that, instead of focusing on administration, will focus on reducing key reliability risks across the BES. A side effect of this is that further data is required to quantitatively determine reliability benefit. In order to perform adequate analysis, TADS data is needed for all voltages across the BES instead of only 200 kV+. After analysis of Event Analysis data, it was determined that a large (approximately ⅓) amount of events involve the Less than 200 kV portion of the BES. Analyzing less than 200 kV TADS data will help provide insight into these events, help to find commonalities to help avoid the events before they occur, and help provide risk information to prioritize NERC issues.

Table 6: Is the data being requested reasonable and obtainable? If "no," please explain.	
Organization and Comment	**Comment Response**
Exelon on behalf of Baltimore Gas & Electric, ComEd, and PECO Yes	Thank you for your comments.
PEPCO Holdings Inc. Although PHI currently collects less than 100 kV and BES 100-199kV outage data in the same manner used to collect 230-500kV data, additional resources will be required to handle the increased data collection effort and additional time for SMEs to analyze each outage to make proper entry into TADS .	Thank you for your comments.
New York Power Authority Yes.	Thank you for your comments.
Kansas City Power & Light Because we were preparing for 100-199 kV TADS reporting, the request is reasonable and obtainable but the challenge is going to be the in-service and modify date of the system.	Thank you for your comments. No historical, prior to implementation of detailed inventory, in-service or modification dates will be required. This is hoped to reduce the burden of collecting that information.
LCRA Transmission Services Corporation The data being requested is obtainable and reasonable.	Thank you for your comments.
Idaho Power Company A: Obtainable, yes. Reasonable, no. The data currently being collected for the 200kV+ system has so far not shown to be beneficial in increasing the reliability of the BES.	Thank you for your comments.
Consolidated Edison Yes, the data requested for additional TADS reporting is reasonable and obtainable.	Thank you for your comments.
Duke Energy Corporation Response: The data is obtainable, but not reasonable. The significant effort does not create benefits commensurate with the cost.	Thank you for your comments.
Public Service Electric and Gas Company The data being requested is obtainable, but it is not reasonable to require it of transmission owners such as PSE&G that have a robust highly networked 500, 345 and 230kV system in their territory. For these owners, 100-199kV elements have little or no impact on overall BES reliability.	Thank you for your comments.
American Transmission Co. LLC Yes	Thank you for your comments.

Table 6: Is the data being requested reasonable and obtainable? If "no," please explain.	
Organization and Comment	**Comment Response**
Xcel Energy YES	Thank you for your comments.
CenterPoint Energy No, it is not reasonable, but it is obtainable. The collection of the subset of Non-Automatic Operational outages necessitates the need to collect and perform data validation on all Non-Automatic outages in order to provide a dataset for consistent determination of the cause code. Since the proposal already excludes the <100 kV and 100-199 kV Non-Automatic Planned Outages which is likely >90% of all Non-Automatic Outages based on CenterPoint Energy's experience, the collection of a small subset of Non-Automatic Operational Outages without a commensurate reduction in the data collection effort is not reasonable. All reporting of <100 kV and 100-199 kV Non-Automatic Outages should be excluded from consideration. With the intent of applying the NERC BES definition to TADS data collection in this proposal, it is unclear why the same BES definition is not applied to the >200 kV TADS data collection as well. For consistency when changes to TADS are proposed, it would be prudent to base all exclusions for all voltage classes in TADS on a similar foundation.	The collection of Non-Automatic Operational outages for BES Less than 100 kV and BES 100-199 kV voltage classes will not commence unless sufficient benefit is found from collection of the same data for 200 kV+ Elements. TADSWG considered aligning the BES definition to 200 kV+ voltage class Elements. However, due to metric consistency and to avoid changing already existing processes and software for 200 kV+, the decision was made not to align 200 kV+ collection to the BES definition.
Associated Electric Cooperative, Inc. No. The data being requested is obtainable yet not reasonable. Operations of these 100-199 kV elements happen across the AECI system in a daily manner. The TPL-001, TPL-002, TPL-003, & TPL-004 studies are completed annually for every AECI element. These studies have not identified any scenarios that cause a cascading event. The burden of dedicating additional personnel & resources to reporting outages on transmission elements that have been identified to not have an adverse impact on reliability the eastern interconnection displays minimal benefit.	Thank you for your comments.

Table 6: Is the data being requested reasonable and obtainable? If "no," please explain.	
Organization and Comment	**Comment Response**
Georgia Transmission Corporation Obtainable – the answer is yes. Reasonable – GTC does not consider the data request to be reasonable. GTC believes that there is a very infinitely small chance that any 115 kV or < 100 kV outages in our territory will result in a widespread, cascading outage in the Southeast. The manpower and costs to track and report on this data could be put to better use on our system.	Thank you for your comments.
LG&E and KU Yes. We collect data on breaker relay operations and misoperations, however, this data isn't linked to easily identify when these operations result in a sustained outage of an element. Information is obtainable, but in current form will require changes and updates to our current reporting processes were TADS to increase to non-sustained and planned outages.	Thank you for your comments. There is no intent to collection Planned or momentary, automatic outages for Less than 100 kV or 100-199 kV BES Elements for the foreseeable future.
Bonneville Power Administration Yes, the data is reasonable and obtainable however the effort required is significant.	Thank you for your comments.
Southern California Edison No. The data being requested by NERC can be collected; however, the scope is not reasonable. The proposed new reporting requirements would force SCE to perform additional reviews and analyses of outages. The data would be in several fields that would need to be converted and transferred into a TADS-compatible data template. This added work would be in addition to the extensive current reviews and analyses of outages which consume significant utility manpower. If NERC enacts the proposed changes to the TADS data elements and moves to a quarterly submittal schedule these combined changes would require SCE to develop new computer programs and acquire additional resources to collect, process, and validate the data necessary to be compliant.	Thank you for your comments. The data request has been modified to provide a staggered schedule for BES Less than 200 kV reporting as well as for quarterly and inventory reporting. This should provide more time to prepare for these changes.

Question 5: Is the proposed data reporting appropriate? If "no," please explain.

Table 7: Is the proposed data reporting appropriate? If "no," please explain.	
Organization and Comment	**Comment Response**
South Mississippi Electric Power Association Yes.	Thank you for your comments.
Oklahoma Gas and Electric Company No, the data requested is inappropriate because we have no evidence of a return on investment for the amount of time and energy it takes to supply this data. With limited personnel resources, this request places an extra burden on industry at a time when NERC compliance obligations continue to challenge industry's resource capacity.	Thank you for your comments. For the current 200 kV+ dataset, NERC uses outage statistics from TADS, supplemented with Event Analysis data, in order to determine priority areas of reliability risk. As TADS is a mandatory system, in contrast to the voluntary Event Analysis process, the data gathered is more comprehensive. TADS data helps to support Event Analysis data in risk assessment. TADS data provides a window into near miss cascades through the analysis of common mode and dependent mode outages as well as general outage statistics. By analyzing these outage events and statistics across NERC, commonalities are being discovered that will help to inform decision makers. The risk analysis, using multiple datasets in combination with TADS, will help to guide NERC away from an ad-hoc prioritization of issues to a data-driven, risk-based prioritization of issues. Work has already begun with the recently created Reliability Issues Steering Committee (RISC) to help this prioritization. The result of this work should result in improved standards and priorities that, instead of focusing on administration, will focus on reducing key reliability risks across the BES. A side effect of this is that further data is required to quantitatively determine reliability benefit. In order to perform adequate analysis, TADS data is needed for all voltages across the BES instead of only 200 kV+. After analysis of Event Analysis data, it was determined that a large (approximately ⅓) amount of events involve the Less than 200

Table 7: Is the proposed data reporting appropriate? If "no," please explain.	
Organization and Comment	**Comment Response**
	kV portion of the BES. Analyzing less than 200 kV TADS data will help provide insight into these events, help to find commonalities to help avoid the events before they occur, and help provide risk information to prioritize NERC issues.
Manitoba Hydro No comment.	Thank you for your comment.
Dominion Virginia Power Comments: No, see responses to Q4.	Thank you for your comment.
South Carolina Electric & Gas Company Abstain	Thank you for your comment.
Tennessee Valley Authority It is not appropriate as numerous fields that are being requested have not been shown to provide any benefit or value as compared to the cost of collecting and verifying the data. We are not aware of how the fault type, outage mode, outage initiation code, and event type fields are useful for system planning or operations improvements. A cost/benefit analysis should be performed for these fields and for the operational type outages prior to implementation. Recommend operational outage data collection should be delayed until after the sunset clause for the >200-kV, especially SOL (and SVL) type operations which are done by operators to manage the system. Recommend at a minimum, there should be a sunset clause applied to the < 200-kV Operational outages (as per NERC TADS Phase II) that is the same year (2015) as the > 200-kV outage reporting.	Thank you for your comment. TADSWG will consider the benefit of collecting these fields. The data request has been modified to indicate that operational outages would not be collected for BES Less than 200 kV Elements until it is determined the same collection for 200 kV+ Elements is beneficial.
Salt River Project Agricultural Improvement and Power District a. No. The smaller utilities systems, typically tribal authorities or electrical or irrigation districts will struggle with this additional cost burden. They do not have large engineering staffs to accommodate.	Thank you for your comments. The schedule has been modified to provide TOs with additional time to prepare.

Table 7: Is the proposed data reporting appropriate? If "no," please explain.	
Organization and Comment	**Comment Response**
Hydro One Networks The proposed data collection changes are appropriate since they will lead to better alignment between the TADS data and the NERC Bulk Electric System definition. This will benefit the reporting TOs, NERC Regions and the electricity industry.	Thank you for your comment.
Great River Energy If the data set expansion is deemed to be prudent, then the data reporting requirements is appropriate. One of the most important measures of reliability is the number of Sustained Automatic Outages. This is a reasonable request to help measure overall grid reliability. Delaying Operational Outage collection after an assessment of the current data collected is completed is a prudent approach. It ensures that the collected data is useful and purposeful and is not being collected for an undefined purpose.	Thank you for your comment.
Ameren Services Company Yes, the proposed data reporting is appropriate.	Thank you for your comment.
Austin Energy No. Utilities already analyze outages and determine credible contingencies. There is no incremental reliability benefit gained by NERC performing the same analyses. The additional burdens created by this reporting requirement will lead to higher costs for utilities which must be passed on to rate payers (with virtually no associated reliability benefit).	Thank you for your comment.

Table 7: Is the proposed data reporting appropriate? If "no," please explain.	
Organization and Comment	**Comment Response**
Exelon on behalf of Baltimore Gas & Electric, ComEd, and PECO No, existing data being reported is less than 5 years old. There has not been an opportunity to analyze the existing >200kV data yet. The current data set is incomplete (not enough years). When an adequate data set is available, justification may exist for expanding the data set. The analysis available on the data being collected at the >200kV level can provide insights into the < 200kV elements. There is no indication from our operating experience that an expanded data set at the <200kV level will provide information of value, especially relative to the costs of collection. Additionally, new Event Type Number data collection has started in 2012. More data collection for an expanded Event Type Number should be analyzed before increasing the collection requirements.	Thank you for your comment.
PEPCO Holdings Inc. Although PHI currently collects less than 100 kV and BES 100-199kV outage data in the same manner used to collect 230-500kV data, additional resources will be required to handle the increased data collection effort and additional time for SMEs to analyze each outage to make proper entry into TADS .	Thank you for your comment.
New York Power Authority No. Reporting GSUs would be time consuming, only duplicate work being done for GADS reporting all while providing no additional information on the health of the transmission system.	Thank you for your comment. The data request will be modified to exclude GSUs as this was not the intent of the data request.
Kansas City Power & Light Because we were preparing for 100-199 kV TADS reporting, the proposed data reporting is appropriate, for yearly. Each outage is recorded but sometimes details for each specific outage could lag a month or two behind because exchange communication between departs and personnel occur.	Thank you for your comment. As part of the implementation of quarterly reporting, a mechanism to perform a year to date update is being considered to avoid the overuse of outage continuation flags.
LCRA Transmission Services Corporation The proposed data reporting appears to be appropriate and well aligned with the TADS reporting goals.	Thank you for your comment.

Table 7: Is the proposed data reporting appropriate? If "no," please explain.	
Organization and Comment	**Comment Response**
Idaho Power Company A: It is not clear how the terminal types will be reported in the inventory. Also, differences in reporting requirements between >200kV elements and 100-199kV elements causes additional effort, rather than allowing the same process to be used for all voltage levels.	Thank you for your comments. Based on comments from industry, the original data request was modified to remove BES Less than 200 kV momentary outages. The previous version of this data request included this data.
Consolidated Edison Yes, the proposed data reporting is appropriate.	Thank you for your comment.
Duke Energy Corporation No. The significant effort does not create benefits commensurate with the cost.	Thank you for your comment.
Public Service Electric and Gas Company Possibly, for automatic outages only to the extent that BES reliability is affected by such outages. In the case of transmission systems such as PSE&G's that are highly networked at the 500, 345 and 230kV levels, the underlying 138kV network does not have much impact on BES reliability and thus collecting such information has little if any value. No for planned and operational outages. In particular, PSE&G concurs with the comments filed on Friday, November 16, 2012 by Edison Electric Institute ("EEI") and incorporates such EEI comments herein as its own. Devoting resources to TADS data collection duplicates the efforts of the North American Transmission Forum, ISOs and RTOs, planners and other entities. The value of collecting TADS data is minimal at best.	Thank you for your comments.
American Transmission Co. LLC Yes	Thank you for your comment.
Xcel Energy N/A	Thank you for your comment.

Table 7: Is the proposed data reporting appropriate? If "no," please explain.	
Organization and Comment	**Comment Response**
CenterPoint Energy No, it is not appropriate. NERC is still determining the intended use and usefulness for the ≥200 kV outage data that has been collected to date, and the BES definition is not yet approved by FERC. The TADS Phase 1 published report states "It will take a number of years of data collection (five years was suggested by several commenters) before the data can be useful for trend analysis." The TADS Phase II published report states "The demonstration of Phase II benefits should be performed on or before August 15, 2015 to allow sufficient time for Planning Committee and Board of Trustees action." NERC needs to complete its trend analysis of the ≥200 kV data and demonstrate its benefits before collecting additional outage data that may or may not be useful. Additionally, it is also not prudent to propose additional data collection based on the revised BES definition until the definition has been adopted and its impacts to data collection assessed	Thank you for your comment.
Associated Electric Cooperative, Inc. No. The data being requested is not appropriate. Operations of these 100-199 kV elements happen across the AECI system in a daily manner. The TPL-001, TPL-002, TPL-003, & TPL-004 studies are completed annually for every AECI element. These studies have not identified any scenarios that cause a cascading event. The burden of dedicating additional personnel & resources to reporting outages on transmission elements that have been identified to not have an adverse impact on reliability the eastern interconnection displays minimal benefit.	Thank you for your comment.

Table 7: Is the proposed data reporting appropriate? If "no," please explain.	
Organization and Comment	**Comment Response**
Georgia Transmission Corporation GTC does not consider the proposed data reporting as appropriate for the following reasons: • GTC believes valid benchmarking should exclude major storms. Utilities typically have a base capacity of labor and materials to handle everyday outages. During major storms, the designated labor and material capacity for restoration is exceeded and normal outage durations are no longer possible. • GTC believes valid benchmarking should put a cap on long outages so as not to skew the data. For example, one outage of two weeks to replace a large transmission structure damaged in a tornado within a small population of circuits will skew data for years. • Configurations and circuit name changes are much more frequent on the 115 kV or < 100 kV systems, requiring more time to track the inventory data and outage data. • GTC believes this data is not relevant to the mission to prevent blackouts, brownouts, or the like. GTC believes that there is a very infinitely small chance that any 115 kV or < 100 kV outages in our territory will result in a widespread, cascading outage in the Southeast.	As NERC improves its alignment of TADS Events and Event Analysis Events, it will become easier to identify these types of TADS Events. Metrics in the future could be made to differentiate these Events and classify them separately. Among the metrics, this skew tends to happen among smaller entities. For this reason, the metrics are usually only calculated on a Regional Entity or NERC-wide level. This is an excellent comment. TADSWG will consider this comment in its next annual data instruction manual review. Perhaps a method where the outage moves from Automatic to Non-Automatic, Planned would be appropriate after certain duration?
LG&E and KU Yes. Requiring only sustained automatic outages will reduce the quantity of outages required to be reported at this time. A longer term outlook on what data requirements will be required in the future would allow for current projects to properly include all of the data that will be necessary to be reported in the future.	Thank you for your comment.
Bonneville Power Administration IF reporting the data actually results in ". . . better understanding, and this understanding should be used to improve planning and operations. Ultimately, these improvements should result in improved transmission system performance." At this point, however, it is simply speculation that 100-199kV Outage data reporting will result in improved transmission system performance.	Thank you for your comment.

Table 7: Is the proposed data reporting appropriate? If "no," please explain.	
Organization and Comment	**Comment Response**
Southern California Edison No. It appears that NERC and FERC believe that the data is required for reliability under the new Bulk Electric System Definition and the increased focus on the 100 kV bright-line standard. However, it is not evident that performing detailed statistical analyses on the cause of outages on lower voltage facilities that will be made possible by the inclusion of such information in the expanded TADS database will generate any useful conclusions on ways to improve system reliability.	Thank you for your comment.

Question 6: Is the implementation schedule for the proposed data reasonable? If "no," please explain.

Table 8: Is the implementation schedule for the proposed data reasonable? If "no," please explain.	
Organization and Comment	**Comment Response**
South Mississippi Electric Power Association Yes.	Thank you for your comment.
Oklahoma Gas and Electric Company No, we believe the request itself is unreasonable and therefore the implementation schedule is unreasonable as well. However, if this requirement is imposed, OG&E will do its best to comply.	Thank you for your comment. The schedule has been modified and staggered to allow TOs more time to prepare.
Manitoba Hydro The implementation schedule is not reasonable. In order to meet this request with the resources we have available, we are planning to implement additional automation of data collection. Such IT projects tend to take a significant amount of time to implement. We would suggest an implementation period of at least three years.	Thank you for your comment. The implementation period has been staggered to provide additional time for TOs to prepare.

Table 8: Is the implementation schedule for the proposed data reasonable? If "no," please explain.	
Organization and Comment	**Comment Response**
Dominion Virginia Power Comments: No. Having a start date that is based on the date of BOT approval does not provide entities with a definitive long term date to begin implementation. Suggest that a date of 1/1/2014 or 1/1/2015 be stated and used so that entities can plan accordingly. Starting data reporting on the 1st day of a new calendar year makes more sense for comparing yearly stats than starting during the year. Also, the Functional Entity reporting deadline of 45 days after end of quarter is not reasonable. Since NERC is citing consistency between other PRC standards (such as PRC-004) as basis for quarterly reporting, we request the submittal dates for TADS also be consistent and be changed to 60 days (or 2 calendar months) after end of quarter.	The schedule has been modified to include fixed dates. TADSWG is considering lengthening the deadline to align with PRC-004 reporting.
South Carolina Electric & Gas Company Yes	Thank you for your comment.
Tennessee Valley Authority The schedule is NOT reasonable. The schedule should be timed to coincide with the beginning of a calendar year (2014 or 2015) because: • Easier for utilities to make adjustments to current systems. Mid-year changes may affect year-to-year trending. • Easier for utilities to adjust staffing funding levels. If required, it is usually easier for a utility to adjust staffing at the end of the year. • The benefit of the 3 or 6 months of additional data provided to NERC by starting at mid-year or 3rd quarter of 2013 would not offset the additional cost and confusion to utilities by starting in the middle of a year. It is October 2012 and NERC has still not posted the new EVENT TYPE NUMBER definitions to the NERC website in the Appendix #7 file (utilities are required to start reporting the interruptions using these Event Type Numbers with outages starting on 1/1/2012). • Allows for additional time for first time reporting utilities. • Allows for additional time for existing utilities to coordinate reporting of inter-tie lines.	The schedule has been modified to include fixed dates and use a staggered approach to additional data collection as well as aligning to the beginning of the year. The new data reporting instruction manual will be posted as soon as it is available. NERC has recently changed document templates, and this has lengthened the modification time of the TADS Data Reporting Instruction Manual due to the 100+ page document needing to be reformatted.

Table 8: Is the implementation schedule for the proposed data reasonable? If "no," please explain.	
Organization and Comment	**Comment Response**
Salt River Project Agricultural Improvement and Power District a. No comment.	Thank you for your comment.
Hydro One Networks The implementation schedule is not reasonable primarily due to the combination of coincident changes in scope, detail and frequency of reporting. Also, the proposed implementation time extends beyond the implementation period previously provided for changes to TADS reporting. Providing inventory by first quarter in 2014 along with quarterly reporting starting in 2014 would be reasonable. Also, due to the timelines in the implementation plan of the BES definition and the exception process, final identification of BES Elements will not be available until such time.	Thank you for your comment. The schedule has been modified to give more time for TOs to prepare for data reporting. Also, the schedule has been aligned to the beginning of the calendar year.
Great River Energy It may not be depending on the time required to make necessary application and process changes to add a significant number of elements. In most instances, the increase in the number of facilities would be considerable for many of the Registered Entities. GRE would suggest the implementation schedule be increased to 12 months.	Thank you for your comment. The schedule has been modified to give more time for TOs to prepare for data reporting. Also, the schedule has been aligned to the beginning of the calendar year.
Ameren Services Company Yes, the implementation schedule is reasonable.	Thank you for your comment.
Austin Energy No. AE suggests Sustained Automatic Outage data collection (<200 kV) begin in the reporting period one year after FERC approval of the BES definition, assuming there is a need to compile/report the requested data (please refer to our answer to questions 4 and 5). This additional time would allow AE to properly allocate budget and schedule resources.	Thank you for your comment. The schedule has been modified to give more time for TOs to prepare for data reporting. Also, the schedule has been aligned to the beginning of the calendar year.
Exelon on behalf of Baltimore Gas & Electric, ComEd, and PECO If required to supply data, the implementation schedule is reasonable.	Thank you for your comment.

Table 8: Is the implementation schedule for the proposed data reasonable? If "no," please explain.	
Organization and Comment	**Comment Response**
PEPCO Holdings Inc. Yes, provided the additional resources identified in question 1 are made available. The implementation plan should contain additional detail. Based on the schedule in the plan will the effort start with assigning TADS ID#s for 100-200kV facility outages on 6/31/13 and data collection beginning 7/1/13, or will the assignment of TADS ID#s start 3/31/13, so that we would have a quarters worth of data to submit on 6/31/13?	Thank you for your comment. The schedule has been modified to give more time for TOs to prepare for data reporting. Also, the schedule has been aligned to the beginning of the calendar year.
New York Power Authority Yes.	Thank you for your comment.
Kansas City Power & Light The implementation schedule is reasonable because this would let people six months in advance to prepare for each data.	Thank you for your comment.
LCRA Transmission Services Corporation The implementation schedule for the proposed, sustained automatic outage reporting would be reasonable for LCRA TSC as it would not require major process changes, only a small amount of work to create queries to display the appropriate data. There was no mention of a proposed non-automatic operational outage data implementation schedule in the Request for Public Comment.	Thank you for your comment. Non-automatic operational outage data would be considered for collection only after the same data was proven useful for 200 kV+ Elements in 2015.
Idaho Power Company Yes.	Thank you for your comment.
Consolidated Edison Yes, the implementation schedule is reasonable.	Thank you for your comment.
Duke Energy Corporation Response: No. The effort to apply the revised BES definition and the resulting increased volume of BES elements under 200 kV will require significantly more time, on the order of 18-to-24 months to develop the database and system for reporting.	Thank you for your comment. The schedule has been modified to give more time for TOs to prepare for data reporting. Also, the schedule has been aligned to the beginning of the calendar year.
Public Service Electric and Gas Company Yes the schedule itself is reasonable if it is determined that the data must be collected.	Thank you for your comment.
American Transmission Co. LLC Yes	Thank you for your comment.

Table 8: Is the implementation schedule for the proposed data reasonable? If "no," please explain.	
Organization and Comment	**Comment Response**
Xcel Energy YES	Thank you for your comment.
CenterPoint Energy No. CenterPoint Energy recommends that the TADS data collection remain unchanged and that the NERC Planning Committee reconsider a revised data request after making its determination in 2015 on the demonstration of the benefits of TADS. At that time, NERC trend analysis on 5 years of TADS data should be complete, and the BES definition and its impacts to data collection (i.e. additions and deletions of Elements) should also be known. The request indicates data reporting "starting six months after FERC approval of the BES definition" which can place the implementation date off of an annual reporting schedule. Since metrics are calculated on a yearly calendar basis, implementation of changes to TADS, if approved by NERC, should be effective January 1st of the reporting year after FERC approval of the BES definition given that approval is received by June 30th of the prior year.	Thank you for your comment. The schedule has been modified to give more time for TOs to prepare for data reporting. Also, the schedule has been aligned to the beginning of the calendar year.
Associated Electric Cooperative, Inc. No. The implementation schedule of six months is not reasonable. If this reporting is to become approved by FERC, the entities registered under the AECI JRO will have to hire and train at least 7 new personnel. AECI recently had an employment opportunity available to be dedicated to performing compliance duties, this required 18 months to fill that role.	Thank you for your comment. The schedule has been modified to give more time for TOs to prepare for data reporting. Also, the schedule has been aligned to the beginning of the calendar year.
Georgia Transmission Corporation The implementation schedule for 100-199 kV Automatic Sustained outages is dependent upon FERC's approval of the BES Definition. Once FERC has approved the Definition, then Transmission Owners only have 6 months to prepare and modify our systems to accommodate this proposed data request. GTC estimates it would take about 18 months to fully prepare and implement software changes for this data proposal. We need to request IT manpower and resources by June in the previous year if we want IT to work on software changes in the following year. This	Thank you for your comment. The schedule has been modified to give more time for TOs to prepare for data reporting. Also, the schedule has been aligned to the beginning of the calendar year.

Table 8: Is the implementation schedule for the proposed data reasonable? If "no," please explain.	
Organization and Comment	**Comment Response**
includes generating a software project plan, a project charter, estimating a total cost of ownership, executive summary, and writing up the detailed technical and functional requirements all before IT actually begins work. Once dedicated IT resources are acquired and staffed, at the start of the year they undergo system re-design, system development, and user acceptance testing before the changes are sent to production. We have a post-implementation phase where further changes may be identified and also implemented. The aforementioned can take up to 18 months to complete. Since the BES Definition has not been approved and since NERC is only providing 6 months to prepare, this really limits the Transmission Owner's ability to be fully prepared in time. It is hard to estimate how drastic changes to the "updated" BES Definition could be. Transmission Owners would have to guess what those changes are and when the changes are going to be implemented, and try to be conservative so we are not caught unprepared. For example, if the BES Definition is FERC approved by May 2013 (under annual or quarterly reporting), we would contact IT by June to budget IT resources and manpower for this proposed data change; though 6 months later would be November 2013, so Transmission Owners would start tracking the proposed TADS data on 1/1/2014. Given a 6 month timeframe, we would need to scramble to be prepared for this. We would have to alter how we do business with our IT; reserve standby contractors which we do not have. Given such a short time frame to prepare would drive up our costs for Compliance. It is not like TADS is the only federally mandated project IT is working on. There is Misoperation reporting, Vegetation Event reporting, maintaining all the ERO Standards and preparing for those changes among others. If we take IT resources to work on TADS, we have less IT resources for our other federally mandated efforts. No, the implementation schedule is not reasonable.	

Table 8: Is the implementation schedule for the proposed data reasonable? If "no," please explain.	
Organization and Comment	**Comment Response**
LG&E and KU Yes. However, if reportable outages were to eventually include non-sustained Automatic outages and Non-Automatic outages the schedule would need to be greatly extended as these would require more effort and resources to collect data as well as to ensure the collected data correct and accurate.	Thank you for your comment. The schedule has been modified to give more time for TOs to prepare for data reporting. Also, the schedule has been aligned to the beginning of the calendar year.
Bonneville Power Administration Both schedules are reasonable.	Thank you for your comments.
Southern California Edison No. The implementation schedule does not appear reasonable as SCE and others will have problems collecting and processing the additional outage data required by the new TADS requirements. Currently, SCE works in conjunction with its regional entity, WECC, to compile outage data on outages at 200 kV and above and is overwhelmed by the scope of that task. As WECC and other regional entities are moving toward providing less assistance on compiling outage data, SCE and other industry members will need to develop a whole new outage reporting tool. In SCE's case, this new tool would act as a single internal source for compiling and processing such data to integrate both transmission and sub-transmission information for the sole purpose of TADS reporting. We do not believe that such a tool can be developed, tested, and implemented within the timeframe proposed by NERC.	Thank you for your comment. The schedule has been modified to give more time for TOs to prepare for data reporting. Also, the schedule has been aligned to the beginning of the calendar year.

Question 7: For Transmission Owners with less than 100kV or 100-199kV TADS Elements in the BES, assuming you will have to develop a system to export misoperations for the PRC Reliability Standards and events under EOP Reliability Standards, what is the incremental cost of this TADS proposal beyond the cost necessary to implement the standards?

Table 9: For Transmission Owners with less than 100kV or 100-199kV TADS Elements in the BES, assuming you will have to develop a system to export misoperations for the PRC Reliability Standards and events under EOP Reliability Standards, what is the incremental cost of this TADS proposal beyond the cost necessary to implement the standards?

Organization and Comment	Comment Response
South Mississippi Electric Power Association There will be some man-hour costs associated to entering such data into the TADS database.	Thank you for your comment.
Oklahoma Gas and Electric Company We do not have a system or tool to export misoperations into TADS. These are all manually examined and entered into TADS. The initial estimate OG&E has received suggests that a solution to allow for auto-export of this data into webTADS would cost approximately $250,000, not including any implementation costs.	Thank you for your comment.
Manitoba Hydro Unable to determine without further investigation.	Thank you for your comment.
Dominion Virginia Power Comment: What standard is requiring transmission owners to export misoperations for PRC and export events for EOP standards? We have to submit operations but an export feature is not a requirement. The cost associated with this new outage data request includes programming costs, testing and process changes estimated to cost $10,000. Cost for additional inventory data and annual reporting is listed separately under our comments to that separate Data Request review. Additional Comment: If NERC would determine that (non-automatic) or planned outage data is no longer beneficial, resources dedicated to that effort could be reallocated to supply the additional voltage class data.	Thank you for your comment.

Table 9: For Transmission Owners with less than 100kV or 100-199kV TADS Elements in the BES, assuming you will have to develop a system to export misoperations for the PRC Reliability Standards and events under EOP Reliability Standards, what is the incremental cost of this TADS proposal beyond the cost necessary to implement the standards?	
Organization and Comment	**Comment Response**
South Carolina Electric & Gas Company We already have the methods in place to comply with the PRC and EOP outage related standards. The cost to implement the TADS proposal is dependent upon estimated additional man-hours to report the additional information. Additional man-hours and cost to develop and implement a new system to export the key inventory data is approximated at 3 to 4 times the previous cost of obtaining TADS information.	Thank you for your comment.
Tennessee Valley Authority Considering the minimal overlap (approximately 10% of outages) of the current standards and the proposed < 200-kV TADS reporting, there is a significant increase in reporting being required. The increase will be an additional 200 outages (or more) per year. The current work-loads and staffing will not be sufficient to ensure accurate reporting of the all the new fields requested by NERC for < 200-kV outages. An additional employee will need to be hired. The cost of the full time employee, additional IT support, and additional testing will cost TVA approximately $120,000 annually. (What is the annual benefit to NERC to have the data (in particular, the operational data)?)	Thank you for your comment. The operational outage data for BES Less than 200 kV Elements will not be collected until after the benefits of 200 kV+ operational outage collection are determined to merit additional collection. This determination would be made in 2015, and TOs would be given sufficient time to update their systems.
Salt River Project Agricultural Improvement and Power District a. The expected extra burden is $10K to $20k per year.	Thank you for your comment.
Hydro One Networks The incremental cost associated with these changes is unknown at this time.	Thank you for your comment.
Great River Energy The incremental cost could be significant depending on the current systems and processes in place. Reporting misoperations is primarily done on the asset management level. Event reporting is only required if certain reporting thresholds are met. TADS reporting involves numerous additional parameters that must be collected and properly formatted prior to submittal.	Thank you for your comment.

Table 9: For Transmission Owners with less than 100kV or 100-199kV TADS Elements in the BES, assuming you will have to develop a system to export misoperations for the PRC Reliability Standards and events under EOP Reliability Standards, what is the incremental cost of this TADS proposal beyond the cost necessary to implement the standards?	
Organization and Comment	**Comment Response**
Ameren Services Company The cost to modify our system to be able to report TADS data for < 200 kV BES elements will be minimal.	Thank you for your comment.
Austin Energy The additional cost for reporting 100-199kV Automatic Outages would be approximately 160 man-hours per year. This number is estimated recognizing the fact that 100-199kV BES outages are currently analyzed to determine if a misoperation occurred (Standard PRC-004-2a) and if such outages are reportable disturbances (EOP-004-1). The additional cost for reporting 100-199kV Non-Automatic Operational Outages could vary from two months (320 man-hours) on the low end to eight months (1280 man-hours) on the high end. This number takes into account the time needed to separate Non-Automatic Outages into two categories, Planned and Operational, with the intent of reporting only Operational Outages. It also considers the training requirements for system operators. The high end includes the possibility of purchasing and implementing a software package that interfaces with SCADA/EMS systems as well as existing outage tracking tools. After the first year, implementation of this program would require 140-160 man-hours per year for reporting 100-199kV Non-Automatic Operational Outages.	Thank you for your comment. The operational outage data for BES Less than 200 kV Elements will not be collected until after the benefits of 200 kV+ operational outage collection are determined to merit additional collection. This determination would be made in 2015, and TOs would be given sufficient time to update their systems.
Exelon on behalf of Baltimore Gas & Electric, ComEd, and PECO Difficult to estimate at this time. More detail needed regarding the scope, frequency and format of the data required including the final BES definition approved by FERC. This is of particular concern for the less than 100 kV data based upon a review of the Bulk Electric System Definition Guidance Document issued by NERC on October 03, 2012.	Thank you for your comment.

Table 9: For Transmission Owners with less than 100kV or 100-199kV TADS Elements in the BES, assuming you will have to develop a system to export misoperations for the PRC Reliability Standards and events under EOP Reliability Standards, what is the incremental cost of this TADS proposal beyond the cost necessary to implement the standards?	
Organization and Comment	**Comment Response**
PEPCO Holdings Inc. Will use the existing system. Increased costs associated with additional resources as identified above. Additionally the impact of the outages of the small bus sections, referenced above, (if they are identified as BES facilities) will be required to be reported via PRC-004 if a protection system misoperation caused the outage. Each misoperation requires a corresponding TADS ID#, if the outage is TADS reportable. So the issue of whether these outages are TADS reportable will also affect PRC-004 compliance submittals.	Thank you for your comment. If no TADS Elements are placed in a not in-service state, the outage would not be reportable in webTADS.
New York Power Authority Approximately 256 Man hours = (16 man hours per month x 12, 16 man hours per quarter X 4)	Thank you for your comment.
Kansas City Power & Light All misoperations is already reported with each outage based on our data.	Thank you for your comment.
LCRA Transmission Services Corporation NA	Thank you for your comment.
Idaho Power Company A: The incremental cost is mostly additional labor hours for analysis and reporting, so the cost will also triple.	Thank you for your comment.
Consolidated Edison There would be no additional cost.	Thank you for your comment.
Duke Energy Corporation Response: The cost of this TADS proposal is not incremental. It is a stand-alone effort because we don't have to develop this inventory to satisfy the PRC and EOP requirements.	Thank you for your comment.
Public Service Electric and Gas Company 100-199kV elements are already included in the BES.	Thank you for your comment.
American Transmission Co. LLC N/A	Thank you for your comment.
Xcel Energy N/A	Thank you for your comment.

Table 9: For Transmission Owners with less than 100kV or 100-199kV TADS Elements in the BES, assuming you will have to develop a system to export misoperations for the PRC Reliability Standards and events under EOP Reliability Standards, what is the incremental cost of this TADS proposal beyond the cost necessary to implement the standards?	
Organization and Comment	**Comment Response**
CenterPoint Energy CenterPoint Energy estimates a one-time cost to implement data collection and reporting system changes to be $10,000. An incremental, annual O&M cost of $100,000 is estimated to review and report 100-199 kV Outages as proposed, driven mostly by the need to perform data validation on all 100-199 kV Non-Automatic outages in order to provide a dataset for consistent determination of the Non-Automatic "Operational" cause code. There will be additional costs for the including the <100 kV BES Elements, when identified, and may increase these estimates by as much as 50%.	Thank you for your comment.
Associated Electric Cooperative, Inc. It is approximated that after including wages/benefits for additional personnel required, the cost would be at least $500,000 annually. The TPL-001, TPL-002, TPL-003, & TPL-004 studies are completed annually for every AECI element. These studies have not identified any scenarios that cause a cascading event. The burden of dedicating additional personnel & resources to reporting outages on transmission elements that have been identified to not have an adverse impact on reliability the eastern interconnection displays minimal benefit and should have zero resources allocated to it.	Thank you for your comment.
Georgia Transmission Corporation Misoperations are already reported down to the 100 kV and above level; though misoperations are not reported in the < 100 kV voltage class. GTC will need to link the misoperations data systems to our TADS data systems. Since the PRC and EOP standards are already in place, all the 2012 TADS phase three work is over and beyond the cost to implement those standards. We estimate this phase of TADS will cost ~$80,000 of IT time: an initial one-time cost. Additionally, we expect the incremental work to be 200+ hours a year (annually) for collecting, verifying, translating, and submitting the data. There will be another 50+ hours (annually) of IT support required	Thank you for your comment.

Table 9: For Transmission Owners with less than 100kV or 100-199kV TADS Elements in the BES, assuming you will have to develop a system to export misoperations for the PRC Reliability Standards and events under EOP Reliability Standards, what is the incremental cost of this TADS proposal beyond the cost necessary to implement the standards?	
Organization and Comment	**Comment Response**
for the effort. This is the estimated recurring annual cost. Inclusion of the < 100 kV voltage class would add to the aforementioned IT initial setup cost; IT support cost; cost to collect, verify, translate and submit data; along with misoperation investigations for our 46 and 69 kV systems.	
LG&E and KU Due to daily monitoring requirements for accurate reporting, additional time and employee resources will be required. The number of monitored elements will be increasing 600% and even though only sustained automatic outages will be required these elements are operated at a much higher frequency than 200-700 kV elements. This will increase the workload roughly 8-10 times what is required based on our current voltage reporting range and based on our current processes. Based on these changes the current workload of 4 hours per week on average could increase to as much as 40 hours per week. Additional projects to simplify the tracking of elements will also be required in the future due to the increased number of monitored elements.	Thank you for your comment.
Bonneville Power Administration Although they both originate from the operation of system elements, the information used to satisfy the PRC Misoperation Standard is different from that needed to satisfy the TADS outage data reporting. The requirement to report misoperations under the PRC Standards will not offset any of the costs of reporting the TADS outage data.	Thank you for your comment.

Table 9: For Transmission Owners with less than 100kV or 100-199kV TADS Elements in the BES, assuming you will have to develop a system to export misoperations for the PRC Reliability Standards and events under EOP Reliability Standards, what is the incremental cost of this TADS proposal beyond the cost necessary to implement the standards?	
Organization and Comment	**Comment Response**
Southern California Edison The incremental costs are severe, as this TADS proposal will require the development of an entire data processing program under SCE's SAP computer system. SCE's IT Department will need to perform research to design and create appropriate software and to implement the software in the three impacted business lines. The comprehensive outage database will require significant capital funding and approval from our regulators. As SCE is currently required to report only a fraction of the proposed information on an annual basis, the speed with which SCE would be required to process and report under the new guidelines would be unprecedented and difficult to achieve.	Thank you for your comment.