

Q&A - Consideration of Actual Field Conditions in Determination of Facility Ratings (1/14/2011)

Introduction

On October 7, 2010, NERC issued a Recommendation to Industry entitled “Consideration of Actual Field Conditions in Determination of Facility Ratings” that was updated on November 30, 2010. Subsequently, NERC has received numerous questions, hosted two webinars, developed a draft Compliance Application Notice, and provided a letter from President and CEO Gerry Cauley regarding the alert. This document provides answers to many of the questions NERC has received.

Administrative

1. When is the Gerry Cauley letter to CEOs expected to be released? Where can I find a copy of the letter?

Gerry Cauley’s letter, the draft Compliance Application Notice, and the updated alert containing the revised reporting dates were issued on Tuesday, November 30, 2010. Links to these documents are found on the following NERC Web page:

http://www.nerc.com/filez/facility_ratings_alert.html.

2. Will Alert be re-issued based on the letter?

The alert, originally issued on October 7, 2010, was updated with new reporting dates and made available on November 30, 2010.

3. Where can I find the question and answer document, the slides from the webinar, the streaming broadcast from the webinars, and the draft compliance application notice?

All supporting materials regarding the Facility Ratings alert are located at the following link:

http://www.nerc.com/filez/facility_ratings_alert.html.

4. This approach seems to suggest significant work and discretion on the part of the Regional Entities. Have estimates been made on the workload and how they will maintain consistency?

While we understand the effort that will be necessary to support this activity, no specific estimate has been developed. NERC and the Regional Entities will maintain ongoing dialogue regarding the expectations for the alert, establishing general guideposts to facilitate

consistent implementation of those expectations, and then routine ongoing assessments to identify anomalies that require adjustment.

5. Where do we direct comments on the letter and CAN?

NERC issued the CAN in draft format in order to utilize the standard CAN input process. Refer to the following Webpage for submitting comments:

<http://www.nerc.com/page.php?cid=3/22/354>. Comments on other Facility Ratings alert documents or issues surrounding the alert should be directed to Gerry.Adamski@nerc.net.

6. Has the NERC Board been involved in the development of the CEO letter and the FERC discussions?

The NERC Board has been advised regarding the CEO letter and the FERC discussions but not directly involved, except for Gerry Cauley. However, at the NERC BOT and MRC meetings in early November, Board members did participate in discussions with industry representatives regarding their alert concerns. The BOT will be kept apprised of developments related to this Alert through briefings in various forums.

7. Recommendation for future alerts: apply a designation (name, number, etc) to them so they can be discussed easier.

Alerts are given a unique identifier, located at the end of the alert document. The Facility Ratings alert is designated R-2010-10-07-01. NERC staff will ensure this unique identifier is included in related discussions.

Alert Classification

8. Although the alert is classified as a recommendation, NERC is expecting field measurements and mitigation that will involve considerable time and expense. The alert also states that no remediation plan may extend beyond one year from identification without submitting the plan to the Regional Entity for approval. This sounds like required actions, not required reporting. Why isn't this alert considered an essential action that also requires NERC board approval? Are we required to perform the actions contained within this NERC recommendation? Is this authority vested in NERC's Rules of Procedure?

The Facility Ratings alert is properly classified as a "recommendation". Recipients of the alert are required, per NERC's Rules of Procedure, to report to NERC the status of their actions taken in response to the recommendation. NERC cannot compel specific actions to be taken using a recommendation. However, NERC strongly encourages and expects that entities will give due consideration to the significance of the concern expressed in the alert and take the recommended action to mitigate any issues identified as a result.

NERC Alerts System

9. Will it be possible to modify the Alerts System such that the user can specify the officer to whom an alert response should be directed for approval?

NERC will evaluate this opportunity for improvement with its alert system vendor.

Assessment

10. Re-confirmation of design and as build with field conditions can be a huge undertaking. It may not be possible to perform a LiDAR survey, process data, create a model in PLS-CADD, and analyze the model for potential clearance issues in the timeframes given. Plus, a large part of the country is just a few weeks away from snow season, making it difficult if not impossible to conduct surveys and/or assessments.

Recognizing these issues, NERC recently revised its expectations for performing the assessments and mitigating identified issues. The plan for performing the assessments is now due January 18, 2011. Reports describing the assessments are due at the end of 2011, 2012, and 2013 reflecting transmission facilities that are considered high, medium, and lower priority, respectively.

11. EEI estimates that it will cost about \$1,000/mile, and \$450 million across the country to just do the analysis and companies are not sure if this can be done within the time limit provided. Can this process be extended and prioritized, such as 345 kV and up transmission lines first to be followed by 230 kV and 138 kV lines, etc?

On November 30, 2010, NERC modified its expectations for reporting on the assessments that addresses this concern.

12. How did NERC determine the assessment and mitigation deadlines, especially considering that Duke Energy had a three year mitigation program and only analyzed and upgraded 230 kV and 345 kV lines?

NERC became increasingly concerned as it received feedback from multiple entities regarding the large number of issues being identified during the assessment. This heightened level of concern amplified the need to better scope and address the issue in a shorter time frame than that identified in the Duke situation, initially thought to have been an isolated issue.

Basis

13. NERC notes significant concern with respect to the issues outlined in the alert, yet only one specific example is cited. Can NERC provide additional insight regarding the basis for the concern?

NERC cites one example in the alert but has first-hand information from multiple entities who have undertaken assessments and providers of those services such as those recommended in the alert. This feedback routinely characterizes the issues identified to

number in the hundreds for individual entities, which led NERC to issue the recommendation.

14. If NERC wants the industry to assess reliability in a new fashion, why have they not approached this in reasonable timelines (i.e. 5 year timeline with annual reporting)

Considering the potential scope and impact of this issue on facility ratings, NERC believes it modified dates present a reasonable timeframe.

Compliance

15. Does NERC expect that entities will need to self-report potential compliance violations resulting from this Alert?

Yes. Please refer to the Gerry Cauley letter for general and the draft CAN for specific guidance on managing the compliance aspects associated with the alert.

16. If clearance violations are found from field inspections that would result in a reduction in the facility rating, what NERC standards should be self reported as a potential violation? Is the expectation that every NESC clearance violation identified by the assessment be self reported?

The answer depends on the level of detail contained in the Facility Ratings methodology per FAC-008 and FAC-009 and whether it contains the inclusion of actual clearances or the physical application of design criteria in the field. NERC believes the inclusion of these detailed aspects in an entity's Facility Ratings Methodology is very favorable and encourages its continued use. As discussed in the posted CAN (specified in the next question), an entity will receive highly favorable treatment in compliance space for its proactive approach to reliability and support of this recommendation. Refer to the draft CAN where various scenarios are described.

17. Can you please repeat the discussion on positive action? Wouldn't NERC wait until assessment and mitigation take place before taking any compliance action?

The following excerpt is included in the draft CAN:

Registered entities that included the actual physical application of its design criteria in the field for individual Facilities and/or actual clearances for individual Facilities in its FRM have exhibited an attention to detail and a concern for reliability. In the event a registered entity discovers a noncompliance as a result of this Recommendation, the registered entity's continuation of its robust FRM; timely and thorough evaluations of its system using accurate measurement methods and technologies; timely self-disclosure of any compliance gaps; prompt corrective actions and consistent completion of its Mitigation Plan milestones will be strong considerations in the determination of a zero-dollar penalty.

Further, NERC and Regional Entity staff will exercise enforcement discretion to hold the processing of all possible violations reported as a result of the assessments until the entity's assessments are complete, as long as the registered entity reporting such possible violations is proceeding in good faith to complete the assessments."

With respect to waiting until mitigation actions are taken until processing possible violations, NERC expects compensatory actions to be taken in the interim when an issue is identified. These actions will be faithfully considered in assessing the entity's good faith efforts to respond to the recommendation.

18. If the ratings methodology (under FAC-008) is consistently applied as written today and the overall rating (FAC-009) is maintained, would there be any compliance issue?

Potentially not. The issue depends on the level of detail contained in the facility ratings methodology. However, entities that have and continue to include the actual physical application of its design criteria in the field for individual Facilities and/or actual clearances for individual Facilities in its FRM will receive very favorable treatment in any resultant compliance activity. This approach is an indicator of a very supportive reliability culture and will be acknowledged and considered significantly in compliance space.

19. If a company transitions to a LIDAR-based approach, how should it revise its methodology required for FAC-008 and FAC-009 in order to maintain compliance throughout the transition?

An entity that transitions its ratings methodology to incorporate advanced technologies to improve accuracy would be viewed highly favorably in any possible compliance activities. These actions demonstrate positive steps to ensure continued reliability. One suggestion to potentially avoid compliance issues might be to outline the transition plan in the facility ratings methodology itself, and then finalize the plan when the transition is completed.

20. Compliance discretion can be a problem in compliance. What instruction/guidance will NERC provide to the Regional Entities as to the discretion the industry has in this matter?

NERC and the Regional Entities will maintain ongoing dialogue regarding the expectations for the alert, establishing general guideposts to facilitate consistent implementation of those expectations, and then routine ongoing assessments to identify anomalies that require adjustment.

21. If a company changes its ratings based on actual field conditions, but the documented methodology per FAC-008 refers to the design as the basis, will the company be in violation of its Rating Methodology? Or does this alert require all TOs and GOs to change their rating methodology to include actual field conditions?

This scenario could potentially result in a possible compliance violation. However, this alert does not "require" entities to change their methodology. That being said, NERC

highly recommends that methodologies identify that facility ratings should be predicated upon actual in-field conditions.

22. Can we be audited based on the answers provided to the NERC Alert?

Strictly speaking, yes, as the alert process falls within the realm of NERC's ERO activities. However, NERC has attempted to focus the industry's efforts toward the reliability implications of the facility ratings issue and defer any compliance issues until after the scope of the reliability concern is understood.

23. Does NERC anticipate compliance CVIs as a result of registered entities' submittals?

NERC expects that any possible violations will be self-reported and that actions to investigate these issues will be processed as would any possible violation.

24. Does the reference to a mitigation plan imply a "violation" of a NERC standard?

Not in the context of the alert. If there is a discrepancy in a facility ratings based on in-field conditions that differ from design, the entity is recommended to mitigate the issue. This does not imply a violation of the standard, but is a recognition of an issue that should be remedied.

25. How do you differentiate this alert from compliance with FAC-008?

The issue of possible compliance with FAC-008 and FAC-009 is predicated upon the detail of the entity's facility ratings methodology. Implementing the recommendation may or may not result in compliance issues as discussed in the draft CAN.

26. What are consequences if entities choose not to comply or meet the deadlines in the alert?

NERC has no formalized penalty mechanism included in its Rules of Procedure for violations therein. However, NERC reports to US and Canadian regulatory authorities the results of the recommendation and the industry response. Failures to report or failures to act will be included in this report. Moreover, NERC will consider an entity's response to alerts as a factor in any subsequent compliance matters involving those identified issues.

27. Transmission line clearances are based on safety requirements to eliminate electrocution, which are much more tolerant than vegetation management expectations. Why isn't compliance with FAC-003 sufficient evidence to address this issue?

FAC-003 only addresses the issues of vegetation and their impact on transmission facilities 200 kV and above. It does not specify clearances of conductors to other structures or to the ground, nor does it address any changes in topography that may have occurred since the lines were built. In addition, the scope of the recommendation includes all BES facilities.

Generation Owner

28. What are the Generator Owner expectations for responding to the recommendation?

If you are a generator owner registered in NERC's compliance registry as having facilities meeting the definition for inclusion therein, you are subject to the recommendation. The facilities that are in scope for the alert are the generator tie-lines (or portions thereof) owned by the entity that connect the plant to the grid. Specifically, these are the lines from the high voltage side of the generator step-up transformer that connect the generating units to the transmission grid. If you own such facilities, you are required to report on the status of assessment and mitigation activities per the recommendation. However, the focus is on the transmission lines that access rights-of-ways to connect the units to the grid, not necessarily in-plant facilities.

29. We are a GO/GOP and we conduct annual performance testing on each unit to achieve accurate maximum power output for each unit. If we submit this annual testing data does this meet the reporting protocol requirements?

Not necessarily as this information provides no insight on the state of the lines that connect the unit to the grid.

30. Can you comment on how a generating plant should set priorities?

Generally, entities are expected to establish priorities for their facilities based on reliability impacts using general guidance in Gerry Cauley's letter. For generators, reliability impacts would be considered greater for units that are: labeled as must run units, needed for voltage support, part of a special protection scheme for automated runback or ramp-up, identified specifically as a primary action to mitigate an IROL violation, or blackstart units for example. Other considerations would include aggregate plant output across the generator tie-lines with greater importance given to higher values. For certain of these, the Generator Owner may need to coordinate with its Transmission Owner/Operator to determine if a particular plant or unit is involved.

31. Does the alert apply to generation interconnection tie lines that are radial only and do not serve load?

Yes if the generator is considered part of the bulk electric system.

32. As a GO/GOP, without lines, would it be appropriate then, to respond that we are aware of the alert, but do not own or operate BES transmission facilities, so we consider our obligation relative to this specific Alert complete?

Yes, this would be an appropriate response. But please provide an approved response so NERC can track your submission.

33. How would GO/GOP learn about the transmission line ratings? Is there a coordination need between GO/GO and TO/TOP?

If you are a Generator Owner that is subject to the NERC standards, you are obligated to have a facility ratings methodology per FAC-008 for owned facilities.

34. For a generation facility with a point of interconnection being a substation located at the plant, what constitutes a "transmission circuit" for the purposes of the count?

The line connecting from the high side of the step-up transformer to the substation. Whereas the primary concern is on rights-of-way whose topography may have changed or otherwise is inconsistent with the design basis, generator owners should also validate that in-plant conditions haven't been modified that would potentially affect the appropriateness of line ratings. However, this is ancillary to the primary concerns that prompted the alert.

35. The total length of the line from the tap on the HV transformer bushing to the air switch located on a support structure adjacent to the GSU is approximately 20'. The plant has been in operation for over 23 years and during the construction period the utility engineering department was involved with and approved the installation. Can we just take measurements and attest that we are in compliance?

NERC is not prescribing exactly how an entity should validate the conditions. You will need to determine if your approach validates that the conditions under which the line was originally design match with a reasonable tolerance those actual in-field conditions.

36. ANSI Standard A300 Part 7 IVM and NERC Standard FAC-003-1 pertain to Transmission Vegetation Program guidelines. What are the standards Generator Owners can follow for OHL generator ties?

NERC cannot prescribe in this instance those reference materials other than to refer you to the contents within your facility ratings methodology for determining ratings.

Other

37. If Results-Based Standards are the goal of NERC, how do you justify this approach in the absence of actual experience of insufficient reliability from this cause?

Actual experience indicates numerous instances of discrepancies when assessments have been performed.

Priority

38. How are "High", "Medium" and "Low" priority facilities defined?

There are suggested criteria in the Gerry Cauley letter, but each entity should determine what its priorities are based on impact to reliability. NERC and the Regional Entities will review for reasonableness.

Process

39. Will NERC provide a formal acknowledgement or response to each submittal? If so in what time frame?

NERC will not individually provide a response. However, in the NERC Alerts system, the entity will identify that its approved response has been submitted by the updated change in state on the entity's alert screen.

40. After the initial submission (January 18th), will there be a response to the Registered Entity if the approach is deemed inadequate by NERC? Will the approach be formally evaluated? If so, how? What criteria will NERC/others use to determine if the adequacy of an operator's determination or if their methodology is "susceptible to these conditions"?

NERC and the Regional Entities will collaborate to review the reasonableness of the assessment plan and engage the entity if particular concerns are identified. This guidance is in the process of being developed.

41. How do entities submit future assessment reports and mitigation plans, if any, in December of 2011, 2012 & 2013, along with subsequent updates?

NERC will provide further guidance on reporting expectations in the first quarter 2011.

42. If an entity discovers an anomaly during the assessment, should the entity self-report then, and at each subsequent discrepancy discovered? Or just submit one self-report and mitigation plan that would cover any future discrepancies discovered during the overall response to this alert?

If an entity identifies a condition for which a self-report is believed necessary, the entity should submit the self-report in a fashion that preserves the ability to add additional occurrences and mitigation strategies to the same report as the need arises, which would be filed on a periodic basis. NERC will provide further guidance on this issue in early 2011.

43. Why wasn't a formal data request used in lieu of a NERC Alert?

The core of the alert is the recommended action to assess and mitigate issues on the system. It is not to merely collect data. Had that been the intent, NERC would have employed its Section 1600 data gathering protocol in its Rules of Procedure.

44. What evidence does NERC expect to receive to demonstrate that the assessment has been completed?

NERC will reply on the entity reports that are required at the conclusion of 2011, 2012, and 2013 as evidence of completion.

45. What level of review did FERC provide to this alert?

NERC forwarded the draft of the alert to FERC and Canadian regulatory authorities as required per its Rules of Procedure prior to issuance. In addition, senior level NERC and FERC staff also discussed the alert and the expectations therein. Gerry Cauley also engaged in direct dialogue with the FERC Commissioners regarding the alert.

46. The Facility Ratings Recommendation Questionnaire is no longer available as an attachment in the NERC Alert. Are there plans to make this questionnaire available again or are there other plans in the works for a new questionnaire?

No. The questionnaire was replaced with a series of survey questions within the NERC Alerts system. The questions are the same as were provided in the questionnaire. This modified approach will permit NERC a much more efficient processing of the data once the response date is reached.

Remediation

47. With respect to remediation, is the one-year period from the date of the field identification, or the date the assessment report is submitted?

The remediation timeframe is from the date of field identification.

48. If an entity assesses their entire system by December, 2011, how long would they have to remediate issues they find? The new deadlines appear to suggest a one year time to fix all issues?

The expectations for remediation would be consistent with the prioritization of the facilities as contemplated in the alert. However, in the case described where the entire assessment was completed in the first year, remediation would be expected over the next three years using the prioritized facilities list. That is, high priority facilities would be expected to be addressed in the first year from identification, medium priority in the next year, and so on.

49. Is there a timeline for correcting the rating in the interim to match the field conditions until the permanent correction is in place? How involved will the Reliability Coordinator be in determining appropriate mitigation measures?

There is no defined timeline for developing an interim strategy. However, NERC expects that each Reliability Coordinator would assess the overall impact of identified issues within its footprint and provide insight to the owning entity as to the urgency of mitigating the issue, and in helping identify an interim strategy. This approach recognizes that the issues have evolved over many, many years and NERC's intent is not for entities to make impulsive decisions that will ultimately detract from maintaining overall reliability, such as globally reducing line ratings for all noted discrepancies.

50. Does an entity need to derate a line that doesn't meet the clearance requirements in the interim or just mitigate the issue in one year?

NERC is not recommending a specific interim strategy to address issues, but is recommending that the issues be mitigated within one year from identification.

51. If an entity finds discrepancy on a 138 kV line and decides to permanently derate the line because line loadings do not justify the cost to remedy back to the initial design rating, is this acceptable?

This is an entity determination. NERC does not have an opinion on the appropriateness of this general approach to address specific issues.

52. Will dynamic rating be an acceptable mitigation strategy?

NERC has no opinion on the application of dynamic ratings to address specific issues. This is a decision of the entity.

Response Timeframe

53. Is it correct that the date to respond to the NERC Alert has been moved from December 15, 2010 to January 18, 2011?

Correct.

Response Expectations

54. Will NERC prescribe a format they would like for plan submittals in January?

No. NERC has established the survey contained in the alert system to capture entity responses that contemplates response format. NERC and the Regional Entities will review the response submittals and determine if further detail or clarity is needed. If an entity wishes to submit further detail, the alert system provides the ability to add supporting documents.

55. For the assessment submittals due at the end of 2011, 2012, and 2013, what specific information must be provided (i.e., the number of transmission lines with discrepancies or

the new line rating, dates inspections performed, etc.)?

NERC will provide guidance on assessment submittals in the first quarter 2011.

56. What would happen if unforeseen circumstances (i.e. permitting process) delay a proposed mitigation effort beyond the timeline intended or beyond the one-year mitigation timeframe?

An entity should file an updated mitigation plan with the Regional Entity for approval, indicating the nature of the issue and the expected timeframe for completion.

57. With regard to the dates inspections were performed, to what level of detail does NERC expect the entity to provide?

NERC anticipates the submittal would include the identifier for each transmission line and the date of the inspection.

58. Is it expected that every NERC Alert that requires a submittal be approved by an officer?

Yes. The two types of alerts requiring an officer-approved entity response are recommendations and essential actions.

59. NPCC has developed a Criteria Document A-10 titled Classification of Bulk Power System Elements to identify the BPS elements within the interconnected NPCC Region. Entities within NPCC would expect to use these criteria to respond to the questions to provide the total number of BPS circuits on our system and the BPS circuit miles. Would this response be acceptable?

Although NERC believes it would be valuable to assess all interconnected transmission facilities at 100 kV and above per the general bulk electric system definition, the scope of the facilities subject to the alert is established based upon the specific regional entity's definition of bulk electric system.

60. Does the reporting entity need to consider only one of the three categories regarding facilities to include in the report?

The intent is to include facilities that fall in any of the three categories.

Scope

61. Please clarify the scope of facilities to be considered subject to the alert. BES? Non-BES? Radial lines serving only load? Generator tie-line or interconnection facilities? Overhead lines? Underground lines?

The alert is targeted to facilities that are considered bulk electric system facilities and to

entities who own such facilities as described in NERC's compliance registry as implemented by the regional entities. Radial lines serving only load are not included, but the generator tie lines for generator owners that are subject to the NERC standards are included. The focus on the alert is on overhead facilities. Although not in the scope of the alert, NERC suggests that assessing underground facility ratings based on actual as-built conditions would be beneficial, as well as reviewing load serving radial transmission facilities.

62. The Alert did not go to DP/LSEs. What is the reporting requirement for DP/LSEs who are not TOs?

There are no expectations for those not identified as alert recipients, such as DPs and LSEs.

63. If facilities (lines) are excluded from FAC-003 because they are not 200 kV or above, and they are not identified as critical facilities by the Regional Entity, can they be excluded from this alert?

No. All facilities that are considered part of the bulk electric system are in scope for the alert.

64. If an entity does not own transmission lines but is a registered TO because it owns transmission equipment such as breakers, switches, transformers, etc., how would this alert apply?

The entity would not have any expectations in this case, except to submit an approved response to that effect so NERC has record of your response.

Standards

65. FAC-008 does not require a methodology that requires field verification of ratings. The discussion in the first webinar suggests that Facility Rating Methodology should be modified to include a field verification of ratings. Doesn't NERC have to change the standard to require this field verification?

Yes in order to require the field verification, the existing standards need to be modified. NERC is strongly recommending these actions at this time due to the pervasiveness of the issue.

66. Shouldn't this issue be addressed primarily with regard to FAC-003 Requirement R1.2 that stipulates clearances, rather than tie it to FAC-008 and FAC-009?

FAC-003 stipulates clearances only pertaining to vegetation. FAC-008 and FAC-009 pertain to establishing facility ratings using a documented methodology that identifies the various assumptions used in determining them. As such, these standards provide

comprehensive coverage to the issues that are the subject of the alert.

67. The Recommendation requires entities to review their transmission facility ratings to confirm that any differences observed between design and actual field conditions are within the design tolerances as defined by the Registered Entity's Facility Ratings Methodology. Are the design tolerances determined and set by the entity that has developed their own Facility Ratings Methodology? Can you clarify the design tolerances, as this is currently not a requirement in NERC standard FAC-008 Facility Ratings Methodology?

Design tolerances are established pursuant to the entity's facility ratings methodology, if included. These aspects may be considered in a future modification of the NERC standards.

Technical Implementation

68. What technologies other than LIDAR are to be considered acceptable technologies?

NERC is not prescribing any particular technology including LIDAR. The intent is for the entity to perform an assessment of sufficient accuracy using methods selected by the entity to verify that in-field conditions reasonably match the assumptions upon which the line was rated.

69. On new construction, will field construction data confirming setting depth, framing, dynamometer readings and weather conditions suffice in lieu of a post-energization field survey? If as-built drawings are created once construction is complete, which confirms that design clearances were met, is it necessary to survey/assess that line? Will a formal process have to be implemented to verify the as-built condition of newly-constructed lines?

For new construction, NERC would expect a verification of in-field conditions versus design. If discrepancies were noted, a re-evaluation of the line rating would be appropriate.

70. Sustainability has been mentioned several times on this webinar. How often will a periodic assessment of facilities be required, to identify topology changes, for example?

In order to implement periodic assessments as a requirement, standards changes would be needed. However, NERC hopes that entities will incorporate methods to identify if topographical changes have occurred in the course of routine rights-of-way inspection activities and cycles.

71. Is there any requirement or suggestion to include the cost and man hours needed to meet the plan, as part of the initial response submission?

This information is not being requested at this time.

72. As part of the FAC-003 TVMP, an entity reviews the 200 kV and above ROWs twice a year with fly-overs and, less than every 5 years, walks the rights-of-way. This is from a vegetation perspective but it is not a LIDAR effort. The FAC-003 TVMP works from the ground up not the conductor down (e.g. 10' vegetation above the ground easily meets clearance requirements for 200 kV and above). Anything of non-vegetation significance on the right-of-way would be noted during these assessments. We have already undertaken a rigorous LIDAR effort in an attempt to meet the original timeline. Is our FAC-003 TVMP approach adequate and LIDAR is not needed?

Each entity needs to determine an appropriate approach to evaluate its system to ensure line ratings are properly established reflective of actual field conditions. NERC is not prescribing any one approach or even only one approach be employed to accomplish these objectives. Each entity is encouraged to develop a responsive prioritized strategy for all transmission facilities within the scope of the bulk electric system using whatever methods or practices deemed appropriate to verify in field conditions and their resultant impact on ratings, if any.

73. Given the size difference between systems, would you consider a miles per year approach instead of a three year plan?

NERC believes the approach as modified provides the flexibility intended by the question.

74. We have some data can be used as evidence from a few years ago. How recently data do you consider the data is valid?

The entity will need to determine “how valid” the data is and the likelihood of changes to in-field conditions that would render the data less useful. However, NERC would consider a recent assessment within the last five years as being reasonable provided the data provides the entity assurance that actual ratings are reflective of in-field conditions.

75. Is a spot check of typical spans within a ruling span adequate? Or would you require checking every span?

NERC is not prescribing a specific method or approach to accomplish the objectives of the alert. Each entity is encouraged to develop a responsive prioritized strategy for all transmission facilities within the scope of the bulk electric system using whatever methods or practices deemed appropriate to verify in field conditions and their resultant impact on ratings, if any.

76. What is an acceptable risk in one's facility ratings? Different entities assume different wind speeds - which may or may not apply.

These are factors and assumptions that are typically considered in an entity's facility ratings methodology. Each entity determines the thresholds appropriate for its facilities.

77. Given the low incidence of line-to-ground contacts and the high cost to perform the assessment and mitigation, does NERC consider this to be an effective use of funds, on a cost-benefit basis, to enhance reliability?

Based on the data NERC has reviewed, the number of discrepancies is estimated to be in the thousands. As such, NERC believes there is a basis for significant concern that warrants the assessments in order to ensure the continued reliability of the bulk power system.

78. Using a correct sampling of a population, one can obtain 95% confidence in the results. Is this sufficient for purposes of the alert?

NERC is not prescribing a specific method or approach to accomplish the objectives of the alert. Each entity is encouraged to develop a responsive prioritized strategy for all transmission facilities within the scope of the bulk electric system using whatever methods or practices deemed appropriate to verify in field conditions and their resultant impact on ratings, if any.

79. Can an entity consider as-built drawings from the 1980's, with updates of those drawings as changes occur, and on-going vegetation management activities adequate and not require reevaluation of the lines?

Potentially, if the entity believes it has adequately assessed and validated field conditions against the design assumptions that were used to determine the facility ratings.

80. Do you expect field verification of the substation equipment end of the transmission line, including breakers, bus work, etc.?

The main focus of the alert pertains to in-field clearances relative to the design assumptions used to rate the facilities, mainly on rights-of-ways. NERC is not prescribing the substation equipment as posited in the question.

81. Does this recommendation include confirmation of all design parameters (e.g. structure location, ground clearances, conductor size, structure dimensions, structure material consistent with design, etc.)?

No, the focus of the alert is on conductor clearances relative to in-field topography.

82. If a TO can demonstrate that a circuit has been loaded to its rated value without any problem, is this evidence that the rating reflect current conditions?

No as this approach does not address the primary issue that is the focus of the alert: determining if there are discrepancies in in-field conditions relative to the design assumptions within a reasonable tolerance that would lead to a potentially inaccurate line rating.

83. If a TO has recently done a system wide thermal rate project and can document actual field conditions, can they so state on 1/18/11 questionnaire and be complete?

Yes, if the entity believes it has adequately assessed and validated field conditions, and has addressed any issues that would lead to a discrepancy in established ratings.

84. Our company has been systematically conducting aerial laser surveys (ALS) on our transmission lines. Following the ALS, a spatial model is developed to determine if conductor clearances meet the appropriate governing code. We are finding that about 75% of our initial "negatives" (or those failing to meet the governing code) are later determined by field evaluations to be incorrect. These field verifications are labor intensive and time consuming. At this point, we do not feel it is appropriate to deem a transmission line as not meeting the "as built" condition until this field verification is completed. What are NERC's thoughts?

NERC believes that creating the list of potential discrepancies is important. In developing a mitigation strategy in the circumstances described, a necessary first step might be to verify the discrepancy before pursuing more intensive mitigation activities.

85. Some transmission entities visit and view and evaluate each span of transmission line ROW of every year to evaluate each span. Is this not adequate to prove acceptance of design to present day field conditions?

Yes, if the entity believes it has adequately assessed and validated field conditions, and has addressed any issues that would lead to a discrepancy in established ratings.

86. Research has suggested that the core temperature of a conductor can be substantially hotter than the conductor's surface temperature which is used to determine the conductor's thermal sag. Will the new / upcoming (currently being updated) IEEE 738 methodology be used to determine actual sag values that may be substantially greater than earlier sag assessment methodology predicted?

These aspects drive toward entity-specific assumptions for determining facility ratings and are outside the scope of this alert.

87. What level of accuracy (in feet or %) does NERC consider adequate for actual clearance measurement, and subsequent modeling of clearance under maximum load conditions?

These are assumptions that the entity determines for use in developing its facility ratings. NERC will not establish generic thresholds for acceptability.

88. Will NERC ultimately seek formal certification of ratings based upon actual field conditions rather than as designed?

If this were to be the desired outcome, NERC's standards would need to be modified using the industry development process.