

The background of the slide features a large, semi-transparent image of a high-voltage power transmission tower on the right side. The tower is a lattice structure with multiple cross-arms. The overall color scheme is light blue and white, with a dark blue curved shape in the top right corner. A thick orange horizontal bar runs across the middle of the slide, separating the header from the main title.

NERC

NORTH AMERICAN ELECTRIC
RELIABILITY CORPORATION

Standards Committee Process for Standards Project Identification, Prioritization, and Monitoring

Draft for Comment

to ensure
the reliability of the
bulk power system

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Objective

This document presents a Standards Committee process for identifying, prioritizing, and monitoring NERC standards development projects, taking into account the various drivers for project initiation and the industry's resource constraints. The process provides the flexibility to accommodate new projects and to adjust project priority and completion schedule in response to changing conditions.

Background

Since the startup of the ERO, the number of standards development projects has grown significantly. Coupled with the increasing number of requests for interpretations and directives issued by regulatory authorities, the industry has experienced a rapid and sustained increase in standards development related workload. The standards development process allows for any individual to propose a new project or request an interpretation. While the Standards Committee can exercise its discretion to delay the start of any project to cope with increased workload and to better manage standard projects to achieve timely completion, additional flexibility beyond just withholding the start of a project is needed.

At its April 2010 meeting, the NERC Standards Committee endorsed a proposal to develop a structured process to assist in managing standards development projects from the project planning stage through submission of a completed standard to the NERC Board of Trustees. The process outlined in this document takes into account industry resource constraints and changing conditions as new projects emerge and as issues are encountered during the course of standard development.

1. Identifying the List of Standards Projects

In general, standard projects may be initiated for a variety of reasons, including:

- a. **Periodic Review** — To meet the five-year standard revision cycle requirement
- b. **Reliability Need** — Industry participants, NERC staff or the Board of Trustees identify the need for a new standard or revision to an existing standard to meet reliability need or fill a reliability gap
- c. **Clarity, Quality and Coordination**— Industry participants, NERC and Regional Entity staff identify quality and clarity gaps in NERC's existing reliability standards that need to be remedied to ensure consistent industry compliance. Regional Entities and stakeholders may propose continent-wide NERC standards that will avoid the need to develop regional standards which will be phased out when the NERC standards are put in place
- d. **Interpretations** — Industry participants submit formal requests for interpretation that may identify a gap or deficiency in an existing standard
- e. **Regulatory Directives** — FERC or Canadian regulatory authorities may direct the ERO to make changes to standards, to incorporate suggested improvements, address deficiencies in existing NERC standards, or respond to new energy policies.

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Plans for developing standards to take care of the periodic review requirement (Driver (a), above) can be developed with some degree of accuracy. However, the scope and complexity of project plans for standards initiated in response to the other four drivers are much harder to predict. It is therefore very difficult to develop a standards development work plan that accounts for all new projects to be initiated in a future year with any degree of accuracy. However, for planning purposes, a baseline list of projects can be developed for a future year based on:

- a. Current projects expected to continue into the next year
- b. New projects to address the five-year periodic review requirement expected within the next year.

As a first pass, a baseline list of standard projects can be developed and prioritized without regard to resource constraints. A cutoff line will then apply to the baseline list using the resource constraint assumptions presented in Section C, below.

2. Listing and Prioritizing Baseline Projects

Some standard projects need to be placed at a higher priority than the others due to the urgency or significance of the associated drivers for development or revision. For example, revising a standard to fill a reliability gap should normally have a higher priority than revising a standard to improve quality or clarity. Similarly, removing ambiguity (which itself may be a form of reliability gap) from a standard that has a large number of violations would normally have a higher priority than combining two or more standards to remove overlaps and consolidate similar or related requirements.

However, the rationale presented in the above two examples only represents a general principle, which cannot be applied objectively to develop a standard project priority list that balances all interests, unless a systematic approach is developed to provide a balanced weighting of each of the development drivers outlined above. The Standards Committee, in trying to prioritize projects in the Standards Development Work Plan for 2011-2013, adopted the concept of using a project prioritization tool to develop standard project priorities for the coming year. (See Appendix A)

The use of a “*prioritization tool*” is essential to ensuring all the drivers for new projects are fully considered in the allocation of NERC and industry resources between each of the projects in NERC’s Reliability Standards Development Plan. With prior inputs from all concerned parties on the prioritization criteria and associated weighting of these criteria, the tool will establish a relative priority score for each project, irrespective of who and why the project is proposed. This is particularly important to avoid arbitrary or highly subjective decisions on which projects should be placed at a higher priority than the others.

Ultimately the prioritization tool described below is just that – a tool to guide informed decision making by the NERC Standards Committee and the NERC Board of Trustees on the relative priority of proposed and ongoing standards development projects.

3. Developing the Project Cut-off Line Based on Resource Constraints

The baseline project list represents a snapshot of the projects that the Standards Committee needs to manage in the current year. Recognizing that the resources needed at NERC and in the industry for standards development are not unlimited, the Standards Committee must determine which ongoing projects should be directed to continue development work to ensure timely completion, which new projects must be initiated to address NERC reliability objectives and meet regulatory deadlines, and when necessary, which standard development projects should be placed on hold until additional NERC and industry resources become available.

NERC has a finite annual budget and the industry has finite resources; together these factors limit the number of standards development projects that can be worked on concurrently. While an increase in NERC staff resources may address certain development bottlenecks, there is no clear indication or assurance that a corresponding increase in industry resources to participate in the drafting, reviewing, commenting and balloting the standards is forthcoming. The Standards Committee must consider these resource constraints when planning for the number of projects that can be effectively managed in any given time period.

There are no fixed rules or formulas with which to estimate staff and industry resource requirements or constraints for standards development. For a baseline estimate, past experience is the best source of information. Recent Standards Committee and NERC staff experience generally supports the conclusion that NERC and the industry can manage the development of no more than ten to twelve standards projects under active development at any one time. This judgment of course depends on the complexity of these projects and considerations as to whether projects draw upon the same subject matter expert (“SME”) resource pool during the same period. Nonetheless, our informed judgment is that attempts to develop more than ten or twelve projects during the same period will result in an actual loss of throughput and/or a reduction in standards quality.

4. Adding New Projects and Adjusting Project Priority

The baseline list does not factor in new projects that may emerge during a given project development year due to the other four drivers (b) through (e) in Section A. This uncertainty is particularly difficult to address with respect to regulatory directives. When new projects emerge and are evaluated, the Prioritization Tool is designed to score each new project on a stand-alone basis. The resulting point scores may indicate that some new projects should have priorities higher than other projects on the baseline list that are currently under active development. It is generally assumed that ongoing projects should have highest priority and should continue development work regardless of other projects’ emergence. Unfortunately, both emerging reliability issues and regulatory directives may lead the Standards Committee to direct that one or more projects that are currently above the cutoff line must now be put on hold until resources become available and development work can be restarted.

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The Standards Committee will decide if any of the ongoing projects should be stopped or deferred and advise the respective Standard Drafting Teams (SDTs) accordingly, or develop other remedial actions to launch the new projects and continue with all ongoing projects. If in its judgment that none of the ongoing projects should be stopped and the new projects should be launched but no resource relief can be provided, the Standards Committee will bring the situation along with options and recommendations to the Board of Trustees for its attention and direction.

5. Developing Projects Schedules

The time required to complete a standard development project varies from one project to another depending on the scope of work and the complexity of the issues to be addressed. While the SAR proponents generally have a good grasp of the time required to complete a standard project from the formation of the SDT to balloting, the SDT itself may have more intimate knowledge of the technical issues involved and hence a better feel of the time needed to complete its assigned project. Further, since SDT members are industry volunteers that are committed to their projects, it is desirable and appropriate that the SDTs provide inputs into their project schedules and milestone events.

In general, NERC staff together with the Standards Committee will develop an initial project schedule based on past experience, complexity of the standards and other considerations such as available expertise, compliance deadlines, etc. To the extent possible, the SDT should be given the opportunity to review and adjust the project schedule at its initial meetings, and present a revised schedule, where appropriate, to the Standards Committee for consideration. Once approved by the Standards Committee, the SDT will take ownership of the project and its schedule, and monitor and report project progress to the Standards Committee on an as-needed basis.

6. Monitoring Projects

The SDTs are responsible for monitoring all milestone events and completion schedules for their assigned projects. If at any time the milestone dates for a project are expected to be missed, the responsible SDT should report to the Standards Committee, and present options to put the project back on schedule or request accepting delays with supporting rationale. Where necessary, the SDT may seek the Standards Committee's endorsement or advice for other remedial actions including additional resource support, resolution of contentious issues, accepting an extension of the project schedule, or other actions deemed appropriate.

Such reporting should be made at least two months prior to a milestone date in danger of being missed, and at least four months prior to the scheduled completion date (end of re-circulation balloting) that is in danger of being missed. The Standards Committee will act upon receiving a report from the SDT of potential slippage. In its deliberation, it will assess impacts of implementing any remedial actions on the status of other ongoing or pending projects.

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From time to time, the Standards Committee may request the Chair or a representative of an SDT to report on the progress of a project even there is no indication of a potential slippage.

7. Project Identification, Prioritization and Management Flow Diagram

A flow diagram showing the process described in A to F, above, is shown in Figure 1, attached.

8. Project Prioritization Tool Description

The intent of the Prioritization Tool is to allow for a consistent relative ranking of projects based upon inputs from a variety of sources. An example of the tool is contained in Attachment A of this document. The working version of the tool is maintained by the Standards Committee Process Subcommittee. The tool is a spreadsheet containing information and parameters described as follows:

Rows

- Row 1 Contains general information and macro buttons.
- The *Click Here to Sort Projects by Priority* macro button simply sorts rows 3 through 250 in descending order of column E (Overall Priority Ranking) and re-establishes the priority number listed in column B (Priority Number).
- The *Click Here to Insert a Row* macro button shifts all existing data down one row to insert a blank row in row 3. Data will then need to be entered into the new row.
- Row 2 Contains the column headers.

Columns

- Column A Blank.
- Column B **Priority Number:** The relative ranking of each project as a result of the data input and summed in Column E (**Overall Priority Rating**).
- Column C **Project Number and Name**
- Column D **Short Description** (of the Project)
- Column E **Overall Priority Rating** – The result of summing the inputs in columns F through O. If column N (**Project Percent Complete**) = 100, then E = 0 so that all completed projects fall to the bottom of the priority list.
- Column F **Meet a time-constrained regulatory directive** due in:
- Less than 12 months = 100
- 13 to 18 months = 75
- Greater than 18 months = 50
- Column G **Address regulatory directives without a time-constraint:**
- Directive Index Sum for Project times two, range 0 to 50

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Directive Index Calculation:

Q1 - The directive relates to which of the following (choose one or more)?

- Bulk electric system instability – 10 points
- Separation/Islanding – 10 points
- cascading sequence of failures – 10 points
- Items from the Blackout Report – 9 points
- Regulator Critical – 9 points
- Other operational or planning issues – 4 points
- Administrative issues – 0 points

Q2 - What kind of improvement to BPS reliability will the directive, if addressed, provide?

- Significant – 10 points
- Moderate – 8 points
- Incremental – 6 points
- Minimal – 4 points
- None – 0 points

Take the sum of the Q1 responses, up to a maximum of 20. Add the Q2 response. Then divide by 30. The result is the Individual Directive Index.

$$IDI = (\text{MIN}(20, \text{SUM}(Q1)) + Q2)/30$$

To determine the Project Directive Index, add all the IDIs for the directives assigned to a specific project. Multiply it by two, up to a maximum of 50.

$$PDI = \text{MIN}(50, \text{SUM}(IDI_1 \dots IDI_n))$$

Column H ***Fill an identified gap in reliability:***

Severe or widespread risk to reliability = 100

Moderate and widespread = 50

Moderate risk or scope = 25

Small risk = 0

Column I ***Improves existing reliability standards:*** The project includes changes to existing reliability standards or includes new requirements that would improve the overall reliability of the Bulk Electric System.

Significantly = 100

Moderately = 75

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Incrementally = 50

Minimally = 25

None = 0

Column J ***Coordinate changes with another project:*** Each project that is working in coordination with another project is assigned the same value in the prioritization tool. Coordination is occurring or is needed with another project:

Immediately = 50

In 1 to 2 years = 40

In more than 2 years = 30

None needed = 0

Column K ***Scheduled for its 5 year review in:***

1 year or less = 50

1 to 2 years = 25

2 to 3 years = 15

Over 3 years = 0

Column L ***Address compliance issues:*** Value assigned based upon NERC audit team experience during audits. Consideration also giving to the number of registered entity complaints about the standards addressed in this project. range 0 to 50

Column M ***Address failed interpretation or SDT inability to develop and interpretation:***

Major gap = 50

Moderate gap = 40

Administrative issues = 10

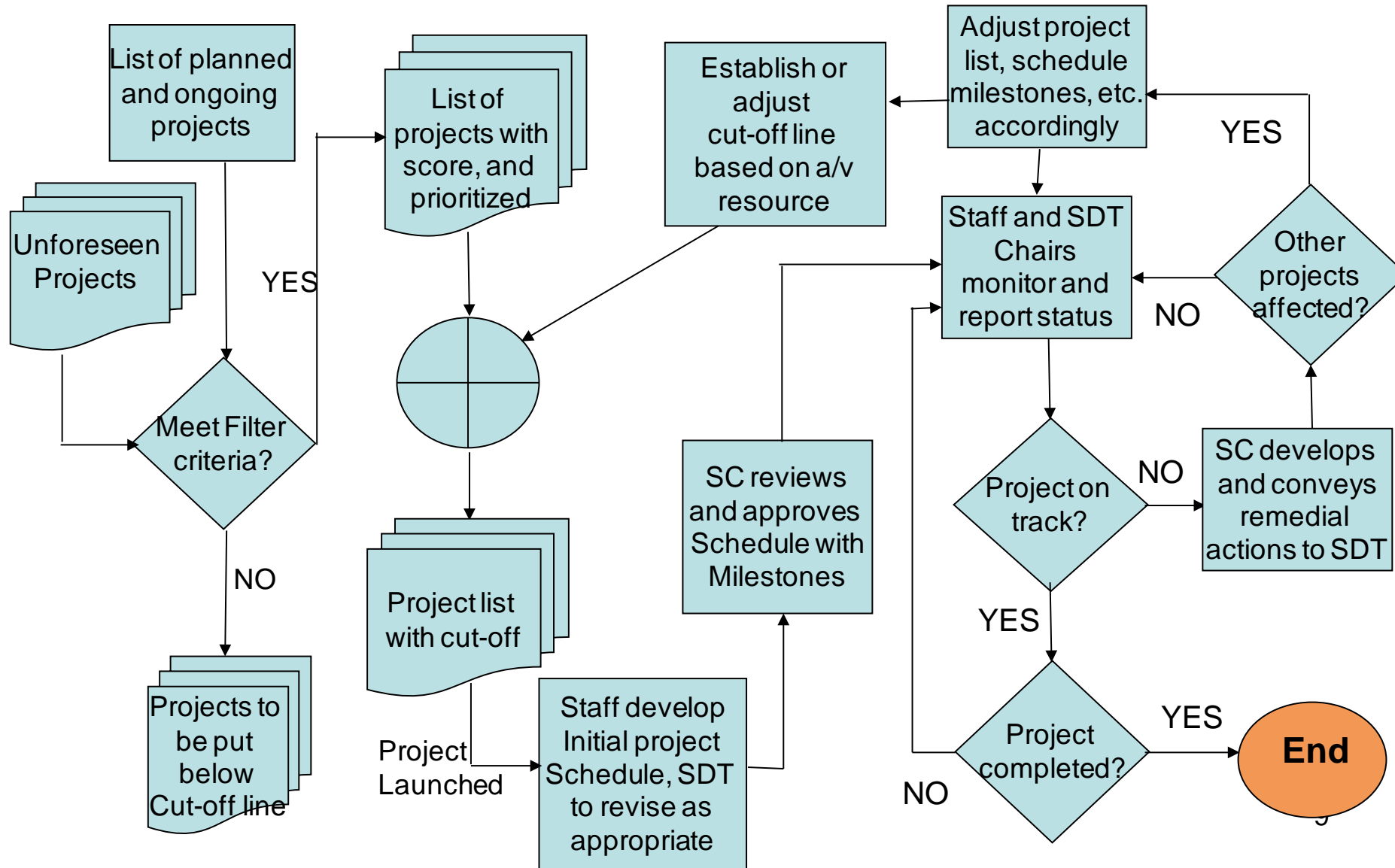
None = 0

Column N ***Project Percent Complete:*** The percentage complete of the project per the NERC @Task software ranging from 0 to 100.

Column O ***Other Factor:*** Value assigned by the Standards Committee and must be accompanied by an explanation of the relative value provided in Column P.

Column P Explanation: the explanation of the value set in column O: Other Factor.

Figure 1: Project Identification, Prioritization and Monitoring Flow Chart



Attachment A: Prioritization Tool

NERC Standards Committee
Project Prioritization Worksheet

STANDARDS COMMITTEE Reliability Standard Project Prioritization				(f)	(g)	(h)	(i)	(j)	(k)	(l)	(m)	(n)	(o)	(p)
						Click Here to Sort Projects by Priority		Click Here to Insert a Row	Cells with this color are blank and need a value entered.					
Priority Number	Project Number and Name	Short Description	Overall Priority Rating	Meet a time-constrained regulatory directive due in: (100) < 12 mo. (75) < 18 mo. (50) > 18 mo.	Address regulatory directives without a time-constraint (Directive Index for Project times two, with 0 to 50 range)	Fill an identified gap in reliability 100 = severe and widespread risk to reliability 75 = moderate and widespread 50 = moderate risk or scope 25 = small risk 0 = none	Improves existing reliability standards: 100 = Significantly 75 = Moderately 50 = Incrementally 25 = Minimally 0 = none	Coordinate changes with another project: 50 = Immediately 40 = in 1 to 2 years 30 = in more than 2 years 0 = none needed	Scheduled for its 5 year review in: 50 = 1 year or less 25 = 1 to 2 years 15 = 2 to 3 years 0 = over 3 years	Address compliance issues (0 to 50)	Address failed interpretation or SDT inability to develop an interpretation 50 = major gap 25 = moderate 10 = admin 0 = none	Project Percent Complete per NERC @Task Software (0 to 100)	OTHER FACTOR (Explanation for the rating must be indicated in the column to the right) (0 to 100)	Explanation
1	Project x	Description of Project X	371	0	50	75	100	0	25	0	50	71	0	
2	Project Y	Description of Project Y	363	0	8	50	100	0	25	50	50	55	25	