

Consideration of Comments on Question 7 from Informal Comment Period Conducted May 5 – June 4, 2010

7. CIP-010-1 Attachment II contains criteria for categorization of BES Cyber Systems for High, Medium and Low impact categories. The criteria were originally developed in collaboration with representatives of the Operating and Planning Committees, some of whom continued to provide input during the drafting of Attachment II. Do you have any suggestions that would improve the proposed criteria? If so, please explain and provide specific suggestions for improvement.

(Note that information from Attachment II in CIP-010 was used to develop the ‘bright line’ criteria in Attachment 1 in CIP-002-4.)

Summary Consideration: The primary comments from Attachment II concerned the High Impact categorization of all generation Facilities designated as Blackstart Resources and Facilities required to support a primary Cranking Path. Commenters indicated that not all of the Blackstart resources or Cranking Paths identified in an Entity’s restoration plan are material to the restoration of the BES, suggested creating the definition of the “Primary Cranking Path”, and including Blackstart Resources and Cranking Path Facilities under multiple impact categories. Due to development of the interim CIP 002 4 asset identification standard, there is insufficient time for the development and approval of a “Primary Cranking Path” definition. A “Primary Cranking Path” definition may also be beyond the scope of this drafting team. They also expressed concern that categorizing all Blackstart Resources as High Impact may cause Entities to reconsider and reduce the number of units identified as Blackstart resources. This criterion designates only those generation Blackstart Resources that have been designated as Blackstart Resources in the Transmission Operator’s restoration plan. The Cranking Path Facilities have been further refined to only include those Facilities required for initial switching, up to the point where multiple path options exist.

Entities responded that the criterion using the contingency reserve to categorize High Impact generation was confusing. The contingency reserve requirement varies, and may be significantly smaller value than 2000MW. The approach to use the contingency reserve requirement or a fixed threshold was discussed extensively by the team and industry volunteers. To simplify the criterion, a fixed numeric threshold will be used. Some commenters suggested that the categorization should also be based on the unit service factor or capacity factor. These factors are largely determined by market forces, and may not be suitable for addressing reliability issues.

Commenters disagreed with the term “must run”. The term “must run” is not defined term in the Glossary of Terms Used in NERC Reliability Standards, has more relevance to the market function, and is not uniformly applied or understood in the electric industry. The term has been removed from the criterion.

Entities indicated that the Low Impact category was too broad, and included assets which have no impact on the BES. Respondents suggested a “None” category, a lower threshold below which the standards are not applicable, specific criteria for

categorizing Low Impact assets, or the allowance for an engineering assessment to determine impact. The intent of the drafting team is to develop appropriate minimal cyber security requirements for Low Impact assets.

Organization	Yes or No	Question 7 Comment
Platte River Power Authority		1.1 is confusing. Consider revising:For the preceding 12 months did the Generation Facility’s net Real Power capability (rated net) exceeds the largest value of either the Contingency Reserve or the Reserve Sharing Group’s total reserve sharing obligation. In the case where no Contingency Reserve or total reserve sharing obligations have been established, Generation Facilities, singularly or in combination (if using a shared BES Cyber System), with aggregate higher of the most current and prior to the most current rated net Real Power capability of 2,000 MW. 2.7. “switching stations operated at 200kV or above” should read “switching stations operated between 200kV and 299kV”
National Rural Electric Cooperative Association (NRECA)		In 1.1, "must run" must be more clearly defined and there needs to be language to make clear how Generation Facilities are labeled "must run" -- i.e., who determines the "must run" status?In 1.5 and other places in this document, the term Transmission lines is used. What does "lines" mean? One wire? One three-phase circuit? One single phase of a three phase circuit? Please make this clear so there is no confusion for registered entities when determining High, Medium or Low.In 1.10, please provide an explanation of what "impact" and "local area" means in the phrase "have impact beyond the local area." Add language to 1.10 as needed to make this more clear.
Emerson Process Management		It is only uncertain how the criteria of 2000MW and 1000MW were chosen for generation facilities.
Arizona Public Service Company		These criteria are closely related to the definition of a BES Cyber System and the feedback for question #2. If the intent is to categorize the majority of BES Cyber Systems into the Low, Medium and High Impact Categories, with the current timeline specified in the definition of a BES Cyber System, it may lead Entities to exclude from Impact Categorization (by the Definition) Cyber System Components that the drafting team did not intend. A preferred approach may be to eliminate the time windows from the definition, causing all BES Cyber Systems to be inventoried, and enhancing the Impact Categories with additional time window criteria. For example, a High category may be further refined by specifying an impact window of 0-15 minutes, a Medium of 16-240 minutes, a Low of 241-1440 minutes (24 hours), etc. Additionally, a further Impact Category of 'None' may be beneficial if the 15-minute time windows is removed from the definition. This would allow a floor to be utilized in the Impact Categorization of 'Low' so that it would not result in unintended consequences of including undesired BES Cyber System Components in a category with Standard

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		<p>applicability. Further comments regarding the (as-of-yet undefined) implementation schedule include concerns that a long implementation schedule or different implementation schedules for High, Medium and Low both raise the risk of confusion as well as the risk or FERC disapproval. An alternate method, in conjunction with the definition and Impact Category adjustments mentioned, of creating a phased implementation schedule, by time period (12 months, 24 months, 36 months, for example) would allow the applicable standards to increase over time for the lower categories. This would also allow for some Standards to be applied earlier than other Standards in the same Impact Category.</p>
ISO New England Inc	No	<p>“Must run” in 1.3 and 2.3 is a phrase should not be used, even if quotations are around it, because it is a regulatory mechanism, used in some areas of the country, to ensure generators receive adequate payments. Other generators - that are equally important to grid operation - may not have reliability must-run agreements. In short, these agreements are established simply as a function of market payments and current grid operations, and are therefore inappropriate for establishing criteria around determining which generators are impactful on the bulk electric system. If the Standard Drafting Team insists on using the term, it must, at a minimum, define what it means by this phrase.</p>
Madison Gas and Electric Company	No	<p>1.3 and 2.3 utilize the words “must run”. Must run is used in many markets whereby a GO may designate a unit to be online outside the need for reliable operations of the BES. Since “must run” is not defined, it is recommend that the SDT remove the term “must run”.</p>
Progress Energy (non-Nuclear)	No	<p>All T/D substation capacitor banks that provide system reactive support are controlled through a capacitor bank control program residing on the substation gateway device. However the DSCADA master may be included in 1.2 (more than 1000 MVAR). 2.4 will bring many T/T substations into consideration with the four or more lines >200kV. Also see comment 4. Attachment II defines "Each Cyber System that can affect operations for..." as it relates to Impact Rating on BES. For new combined cycle facilities which will include diverter dampers to allow simple cycle operation can we designate separate Cyber systems for simple cycle operation (approximately 70% of total plant output) and combined cycle operation (approximately 30% of total plant output). Potentially that would define each system as a "Low " impact versus a combined Medium to High. The plants are being designed to go from combined cycle to simple cycle operation in less than 15 minutes. We will need to know whether this designation is allowed and then design the cyber system(s) architectures appropriately.</p>
Consultant	No	<p>Attachment II - Section 1.1 & 1.2 To avoid confusion, suggest consistent wording in the parenthetical phrases following the words "singularly or in combination" in these sections. Section 1.2 - Similar to section 1.1, should there be a 12 month component to the Reactive Power criteria in addition to the 1,000 MVAR. Section 1.3 & 2.3 - The term "pre-designated" doesn't make sense. A facility is not in the "must run" status unless it is</p>

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		<p>"designated". Additionally, the statement has "must run" units both "designated" and "assigned", and semantically these are two different conditions. Section 1.3 & 2.3 - Further, the reliability "must run" status is an economic and contractual condition rather than a BES operational condition. It would seem that the plants that would be designated as reliability "must run" should have a BES operational or reliability criteria, independent of their "must run" status, which should be the criteria used to include or exclude these facilities. Section 1.6 - suggest including the title of EOP-005 in the statement as a complete reference citation. Section 1.9 - suggest including the title of NUC-001 in the statement as a complete reference citation. Section 1.10 - suggest clarifying which entity makes the determination that a RAS has "impact beyond the local area." - RAS Owner, RAS Operator, or appropriate regional entity. Section 1.11 (& throughout CIP-011) - BES Elements, BES elements, and elements are used throughout this standard. It is not clear if all are intended to be the glossary definition of 'Elements', or if 'BES elements' or 'BES Elements' are new definitions or incorrect application of the glossary term 'Elements'. Please clarify the usage. Sections 1.8, 1.13, 2.5 - These sections include the words "singularly or in combination" without a subsequent parenthetical qualifier. Suggest consistency with sections 1.1 & 1.2 as discussed above. Section 2.1 - See comments on sections 1.1 and 1.2 regarding consistency of parenthetical statement. Section 1.1, 1.3, 1.4, 1.5, 1.7, 2.1, etc. - Multiple sections use the terms Generation Facilities or Transmission Facilities with capitalization that should indicate a defined term, either by this standard or in the current glossary. These terms are not defined in the current glossary. Suggest consistency of using defined terms throughout the standard. Section 2.1 - The criteria in this section are not parallel to the criteria in section 1.1 with a 'downsized' value. The term "most current and prior to most current rated" is not defined, or included in the glossary. Suggest clarifying this section, and defining or referencing the terminology.</p>
E.ON U.S.	No	<p>CIP-010-1 Attachment II - Impact Categorization of BES Cyber Systems currently lists 14 "High Impact Ratings" of the categorization of the BES Cyber Systems. E ON U.S. proposes that only Control Centers and Backup Control Centers fall into the High Impact Rating category. All other points listed in the High Impact Rating category should be moved to the Medium Impact Rating category, and all points currently listed in the Medium Impact Rating category should be moved to the Low Impact Rating category. More generally, "reliable operation" of the interconnected BES is defined in Section 215(a)(4) as: ". . . operating the elements of the bulk-power system within equipment and electric system thermal, voltage, and stability limits so that instability, uncontrolled separation, or cascading failures of such system will not occur as a result of a sudden disturbance, including a cyber security incident, or unanticipated failure of system elements." Attachment II's low impact category appears completely untethered to the statutory definition of reliable operation of the bulk power system. Attachment II also appears to introduce an ill-defined set of multiple contingencies or sequence of events that needs more definition and boundaries to be of any practical use and to provide a reasonable means for compliance cost quantification.</p>

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Kansas City Power & Light	No	Do not agree with several of the items listed in Attachment II. Items 1.7 & 1.8 are too broad. There are any number of combinations of transmission facilities that can be removed from service such that the undesirable effect of exceeding an IROL limit or the loss or reduction of generation would occur. Recommend their removal as the remaining items left in Attachment II are sufficient to capture the HIGH impact areas. Item 1.10 regarding SPS is too broad. SPS systems are in place for a number of different reasons, including the protection of facilities from damage. The SPS that should be considered here are only the SPS that are intended to prevent cascading, uncontrolled separation, or instability. Item 1.14 is too broad and would include facilities that are unnecessary. Recommend tying Control Centers in where facilities are identified in 1.5. Recommend the following language for consideration: Transmission Operator functions performed by primary or backup Control Centers that remotely control two or more Transmission substations or switching stations for transmission facilities identified by 1.5.
FirstEnergy Corporation	No	FE suggests that item 1.5 be removed such that it is effectively reclassified as a medium impact and covered by item 2.4. Within the High Impact category, items 1.6, 1.7 and 1.8 appropriately cover those situations where Transmission Facilities should rise to a High Impact level. Consider removing item 1.9. This delves into a nuclear plant safety concern that is covered by the NUC-001 standard and not directly associated with BES reliability. If in item 1.1 a 2000MW level adequately depicts a High Impact generation facility hurdle then transmission facilities associated with a 900MW nuclear plant should not be deemed High Impact for BES reliability. In item 1.10 the term “local area” is vague and open to interpretation. Its suggested to simplify such that all SPS and RAS systems would be treated as High Impact. If the intent is to exclude SPS or RAS associated with limiting generation output under contingency loss of certain Transmission Facilities then consider a separate Medium Impact SPS or RAS describing those instances and rewrite 1.10 to say “Special Protection Schemes, Remedial Action Schemes (RAS) or automated switching of BES elements not include in Section 2, item 2.x” However, the preference is to keep it simple and just treat all SPS and RAS items as High Impact. Suggest adding thresholds below which no measures need to be taken. The low impact rating as written could require significant effort for negligible security and reliability improvement.
National Grid	No	In lieu of the BES NOPR and the exemption process currently proposed, if facilities above 100 kV are exempted by NERC and FERC, will those facilities automatically be exempted from CIP standards? Currently, as per the standards, all the BES systems which are not categorized high impact or medium impact will be defaulted to LOW IMPACT category regardless of how the facility is impacting the Bulk power system. There are facilities >100kV having very localized impact and minimal impact to the reliability of the BES system for which entities will request for exemption. National Grid requests the SDT to clarify this issue. National Grid recommends a tabular format similar to the tables in CIP-011-1 with various criteria listed under Low Impact, Medium Impact, and High Impact. This will help in understanding the key differences among the three categories efficiently. “Must run” in 1.3 and 2.3 is a phase should not be used, even if quotations are around it,

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		because it is a regulatory mechanism, used in some areas of the country, to ensure generators receive adequate payments. Other generators - that are equally important to grid operation - may not have reliability must-run agreements. In short, these agreements are established simply as a function of market payments and current grid operations, and are therefore inappropriate for establishing criteria around determining which generators are impactful on the bulk electric system. If the Standard Drafting Team insists on using the term, it must, at a minimum, define what it means by this phrase.
Green Country Energy	No	No comment
American Electric Power	No	Overall we like the concept of these gradients, but need more time to fully ascertain the validity of the breakpoints. It is uncertain what engineering analysis drove these specific categorization levels. We assume that there could be a significant difference from region to region, and the SDT should consider regional impacts for the categorization.
Regulatory Compliance	No	Qualifier should include capacity factors averaged over the last five years - otherwise it will require some large plants that are only on-line several days a year to remediate to the "High Impact" category
Manitoba Hydro	No	Regarding criterion 1.1, the phrase "with aggregate higher of the most current and prior to the most current rated net Real Power capability of 2,000 MW" is difficult to understand. For some utilities, the required reserve obligations could be a small value which would not compare very well to the proposed 2000 MW limit for utilities with NO reserve obligations (such as small utilities). A related minimum value for utilities with reserve obligations should be provided, or the greater value of the required reserve obligations and 2000 MW should be used .Regarding criteria 1.5 and 2.4, clarify the requirements through the appropriate use of colons, semi-colons and numbers. It is not clear as drafted whether phrase "with four or more transmission lines" applies to Texas and Quebec.
Seattle City Light	No	see prior comments
Indeck Energy Services, Inc	No	The system of 3 categories oversimplifies the BES. 1) The grouping of, for example, all generators of capacity less than 1,000 MW (except for special cases like Must Run units) as LOW needs to be further subdivided. The categorization ignores the Functions in Attachment I. Not all generators have the same impact on the BES ALR for all functions. Different types of generators have different effects on the BES ALR. This isn't to say that all generators should not be categorized, but not all require the same LOW level of requirements. Choosing only 3 categories was highly arbitrary. The LOW category should be subdivided into 3 or more groups reflecting the relative impact on BES ALR that was used to differentiate the HIGH and MEDIUM groups. 2) Additionally, the standards ignore the fact that access to BES cyber facilities can be

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		<p>controlled at either end of a communications path. If it is adequately controlled at one end, then controlling the other end or the middle is less important, if not unimportant. For example, an RTU at a small generator that is a window to the BES cyber facilities at the control center is a bigger risk for BES ALR at the control center than it is at the generator. Any effect on the generator may be insignificant, whereas, access to the control center could be critical. Applying controls at the control center takes away the need to control all of the insignificant RTU's, but not the ones affecting other parts of the BES. 3) Nowhere in the categorization process is the potential impact on BES ALR assessed by Function. Attachment II makes arbitrary categories that may be appropriate for the HIGH and MEDIUM categories, but has not been done for the remainder that are lumped in the LOW category. The concept of impact to the BES ALR is missing from the categorization process. The impact on the BES ALR of, for example a 999 MW generator versus a 499 MW generator versus a 299 MW generator are very different and different by Function as well. The impact on the BES ALR should be assessed for all facilities in the LOW category to differentiate them. All of the facilities should be categorized as to the impact on the BES ALR by function. [suggestion] There should be 5 categories: VERY HIGH, HIGH, MEDIUM, LOW and VERY LOW based upon the relative impact on the BES ALR, with various combinations of facility types and functions from Attachment I.</p>
Reliability & Compliance Group	No	These criteria do now however, exclude many systems that were previously identified as CCA's. However they also include many systems that registered entities eliminated using the RBAM.
BCTC	No	This looked very thorough. Great job!
Xcel Energy	No	While the draft provides guidance in Attachment II as to which BES elements are classified as High, Medium, and Low impact, no criteria is provided for why each element was assigned into the specific impact category. The decision to place each element into a category is not based on any identified objective criteria. The SDT should publish the criteria used to place each item under the assigned category.
Alberta Electric System Operator	No	
American Municipal Power	No	
Black Hills Corporation	No	
ERCOT ISO	No	

Organization	Yes or No	Question 7 Comment
GE Energy	No	
Idaho Power Company	No	
LADWP	No	
Liberty Electric Power, LLC	No	
Michigan Public Power Agency	No	
Network & Security Technologies Inc	No	
Northeast Utilities System	No	
Old Dominion Electric Cooperative	No	
PNM Resources, Inc.	No	
Progress Energy - Nuclear Generation	No	
SPS Consulting Group Inc.	No	
Tenaska	No	
The United Illuminating Co	No	
Western Area Power Administration	No	
CWLP Electric Transmission,	Yes	

Organization	Yes or No	Question 7 Comment
Distribution and Operations Department		
Independent Electricity System Operator	Yes	<p>(1) We support explicitly including Restoration of BES as a critical function. However, in the proposed standard it is limited to blackstart generation and transmission subsystem cranking paths (impact level H, items 1.4 and 1.6 in Attachment II). The impact criteria do not include a requirement to protect sufficient generation capacity to allow restoration to proceed to a point of relative assurance of stability and resiliency (not necessarily all load served). With these criteria, in Ontario we would drop 6 generating stations (a total of over 3000 MW capacity) from a High impact (current Critical Assets) to a Low impact category. We suggest to add a requirement in the High category for generation essential to facilitate restoration as determined by the RC.(2) 1.3 “Generator pre-designated as must run”: In some developed markets, must run generators change from time to time and often are not determined (designated) until week/day ahead of real time. We do not believe facilities of this dynamic nature should be included. If we want to include generators having a significant impact on reliability in this category, we need only to say: “Generation Facilities that have Wide Area reliability impacts when removed from service”. (3) 1.7: Violating IROL does not result in instability, uncontrolled separation or cascading. In everyday operations, IROLs are exceeded from time to time due to changing system conditions and external impacts. For so long as such exceedances are corrected within Tv, the BES is deemed to be reliable. We suggest the first part of this category be removed. Keeping the second part “Transmission Facilities, including FACTS, that, if destroyed, degraded, misused, or otherwise rendered unavailable, would result in instability, uncontrolled separation or Cascading would suffice.(4) 1.13: BA does not operates transmission facilities or generators; it only balances load/generation/interchange and maintain frequency by entering schedules onto the EMS. If the intent of R1.13 is to stipulate the primary and backup control centres of a BA that balances load and generation for a BA Area of the MW size as noted in 1.13, then simply say so. (5) 2.3: See our comments on 1.3. We do not see the need for this category.(6) 2.8: See our comments on 1.13. The BA does not operate transmission facilities or generators. Suggest to reword it in a similar fashion.</p>
IRC Standards Review Committee	Yes	<p>(i) There are “bright-line” cutoffs for the range of violations for MW of generation (1.1, 2.1) and voltage levels (1.5, 2.4). Although these cutoffs are appropriate for most of the Interconnection(s), there may be local configurations that warrant that BES Cyber System to be rated other than what is defined with the “bright-line” cutoff. CIP-010-1 should either allow for a documented alternative rating or waivers be allowed to diverge from the cutoff limits.(ii) 1.3: “Generator pre-designated as must run”: In some developed markets, must run generators change from time to time and often are not determined (designated) until week/day ahead of real time. We do not believe facilities of this dynamic nature should be included. If we want to include generators having a significant impact on reliability in this category, we need only to say: “Generation Facilities that have Wide Area reliability impacts when removed from service”.(iii) 1.7: Violating IROL does not result in instability,</p>

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		<p>uncontrolled separation or cascading. In everyday operations, IROLs are exceeded from time to time due to changing system conditions and external impacts. For so long as such exceedances are corrected within Tv, the BES is deemed to be reliable. We suggest the first part of this category be removed. Keeping the second part “Transmission Facilities, including FACTS, that, if destroyed, degraded, misused, or otherwise rendered unavailable, would result in instability, uncontrolled separation or Cascading would suffice.(iv) 1.13: A BA does not operates transmission facilities or generators; it only balances load/generation/interchange and maintain frequency by entering schedules onto the EMS. If the intent of R1.13 is to stipulate the primary and backup control centres of a BA that balances load and generation for a BA Area of the MW size as noted in 1.13, then simply say so.(v) 2.3: See our comments on 1.3. We do not see the need for this category.(vi) 2.8: See our comments on 1.13. The BA does not operate transmission facilities or generators. Suggest to reword it in a similar fashion.</p>
FEUS	Yes	<p>*1.1; clarify ‘if the Generation Facilities capability exceeds the largest value of the Contingency Reserve or reserve sharing obligations for the Reserve Sharing Group’ the Contingency Reserve is also relative to the Reserve Sharing Group. *1.10: The drafting team should consider allowing for voltage differentiations for High and Medium SPS, RAS, or automated switching stations similar to that used in 1.5 and 1.14</p>
Hydro One	Yes	<p>“Must run” in 1.3 and 2.3 is a phrase that we strongly disagree with, and should not be used, because it is a regulatory mechanism, and used in some areas of the country to ensure generators receive adequate payments. Other generators - that are equally important to grid operation - may not have reliability must run agreements. These agreements are established as a function of market payments and current grid operations, and are therefore inappropriate for establishing criteria around determining which generators impact the bulk electric system. If the Standard Drafting Team insists on using the term it must, at a minimum, define what it means by this phrase.We strongly suggest that a fourth category of NO IMPACT is included as follows: No Impact contains all other documented BES Cyber Systems that have no affect on operation and are not categorized as having either High, Medium or Low Impact rating.</p>
Northeast Power Coordinating Council	Yes	<p>“Must run” in 1.3 and 2.3 is a phrase that we strongly disagree with, and should not be used, because it is a regulatory mechanism, and used in some areas of the country to ensure generators receive adequate payments. Other generators - that are equally important to grid operation - may not have reliability must run agreements. These agreements are established as a function of market payments and current grid operations, and are therefore inappropriate for establishing criteria around determining which generators impact the bulk electric system. If the Standard Drafting Team insists on using the term it must, at a minimum, define what it means by this phrase.</p>

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Florida Municipal Power Agency	Yes	<p>1.1, 1.8, 1.11 and 1.13 ought to be combined into a single supply-demand mismatch metric. Also, in 1.1, 2000 MW is arbitrary and in 1.13 4000 MW is arbitrary. And in 1.11, 300 MW is arbitrary and seems to coincide with DOE reporting requirements associated with EOP-004 which has nothing to do with BES Reliability. FMPA suggests: "Facilities, singularly or in combination (if a singular BES Cyber System that affects multiple Facilities) or Control Centers that if destroyed, degraded, misused, or otherwise rendered unavailable, can cause a supply-demand mismatch exceeding the largest value, for the 12 months preceding the categorization, of the Contingency Reserve or total of reserve sharing obligations for the Reserve Sharing Group. Net Winter Real Power capabilities of generators are to be used in determining the supply side of determining the mismatch. The greater of actual coincident peak load, or forecasted peak load for the next year, of the Reliability Coordinator is to be used for the demand side of the equation. In the case where no Contingency Reserve or total reserve sharing obligations have been established, the supply-demand mismatch metric shall be equal to the largest loss of source plus 50% of the next largest loss of source for the Reliability Coordinator area." Such language addresses situations where a DC tie line may be the largest loss of source contingency for a region that is left as a gap in the existing definition, clarifies whether winter or summer generator capabilities are to be used, and used reliability related metrics instead of arbitrary targets. Similarly, the 1000 MW of 2.1 is arbitrary. A more appropriate metric would be the lowest expected value for a single contingency loss of source in the Reliability Coordinator area. For instance, assuming a 7% average forced outage rate for generators, using a metric of the second largest loss of source contingency in the Reliability Coordinator area for a supply-demand mismatch metric would give a greater than 99% confidence that the largest loss of source contingency at any given time is greater than that metric. Since the system is always operated to the worst case single contingency at any moment, then, we would be quite confident in using the metric of the second largest loss of source contingency for Medium Impact. Hence, FMPA suggests that 2.1, 2.5 and 2.8 be combined using similar language to that which FMPA suggests for 1.1 using the second largest loss of source contingency in place of the reserve sharing obligation used in 1.1. that is: "Facilities, singularly or in combination (if a singular BES Cyber System that affects multiple Facilities) or Control Centers that can cause a supply-demand mismatch exceeding the second largest loss of source contingency in the Reliability Coordinator Area." In 1.2, the 1000 MVARs is arbitrary. Additionally 1.2, 1.3, 1.7 and 1.10 ought to be combined using the same concept of exceeding IROLs. FMPA suggests: "Transmission Facilities, active compensation devices (such as synchronous condensers and SVCs), reliability must-run generation, or Special Protection Systems, that, if destroyed, degraded, misused, or otherwise rendered unavailable, results in exceeding an IROL and/or an Adverse Reliability Impact" Similarly, the 500 MVAR in 2.2 is arbitrary. FMPA suggests combining 2.2 with 2.3 and 2.5 in a similar fashion: "Transmission Facilities, active compensation devices (such as synchronous condensers and SVCs), reliability must-run generation, or Special Protection Systems, that, if destroyed, degraded, misused, or otherwise rendered unavailable, results in exceeding a SOL." Radial Facilities serving only load should not be included in 1.5 or 2.4. The term "Facilities" in these bullets is misused; a substation is NOT a Facility, but rather an interconnection point for</p>

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		<p>multiple Facilities. Large auto-transformers and GSUs should not be excluded from the count. And, the distinction between the Interconnects is arbitrary and meaningless. FMPA suggests:”1.5 Transmission substations or switching stations with four or more Transmission Facilities operated at 300 kV or higher (for transformers, both primary or secondary winding > 300 kV, or a GSU of a registered generator).”By using the term Facilities, which by definition is a “... single BES Element”, we also exclude radial serving only load Elements since those Elements are not Facilities.2.4 would then be identical except using the 200 kV metric instead of 300 kV.In 2.6, the distinction between the Interconnects is arbitrary and meaningless. The 300 kV metric should be used for all Interconnects.Black start and cranking paths should not be High Impact at all. High impact would be the system going black, a delay in restoring the system is a Medium Impact since the damage has already been done. Hence, 1.4 and 1.6 should be combined and made a Medium Impact.1.14 is ambiguous. Is a tapped substation included in the count? Or a station on the end of a radial line? FMPA suggests associated the count of substations with 2.4, i.e.:”Transmission Operator functions performed by primary or backup Control Centers that remotely control two or more Transmission substations or switching stations identified in 2.4, or functionality that remotely controls a BES Cyber System with a High Impact Rating.”</p>
Southwest Power Pool Regional Entity	Yes	<p>1.1: The criteria to include as High only the generation that exceeds the Contingency Reserve or reserve sharing obligation effectively removes nearly all generation resources from this impact category. 1.3: “Wide Area reliability impacts” as defined by the NERC Glossary of Terms (April 20, 2010) may be far too broad. If the unit is designated as RMR, it should be High impact regardless of the wide area consideration. 1.10: Please define the term “local area.” 1.12 and 1.13: The Reliability Coordinator, and in the instance of a consolidated Balancing Authority, the Balancing Authority functions afforded a High impact categorization are fed real-time operational data from smaller, lower impact BES Cyber Systems owned and operated by other entities. Because of the criticality of the Reliability Coordinator and Consolidated Balancing Authority’s near total reliance upon external real-time data sources, those sources need to also be afforded a High impact category. In particular, these BES Cyber Systems would include the EMS/SCADA and ICCP subsystems found in an entity’s control center. 2.1: The 1000 MW criteria defining a Medium Impact generation asset will likely place most generation into a Low Impact category.</p>
Oncor Electric Delivery LLC	Yes	<p>1.10 needs to better define “local area” (eg. 3 busses) Need criteria for “Low” such that “None” is the lowest level of protection required. Also, there is a need to have categories for systems with no IP communication or dial-up only communications.</p>
LCEC	Yes	<p>2.4 Replace transmission facilities with “Substations and/or switching stations and two or more non-radial transmission lines”. or”Transmission Facilities with four or more non-radial transmission lines operated at 200 kV or above in the Eastern and Western Interconnections, or 100 kV or above in the Texas and Quebec</p>

Organization	Yes or No	Question 7 Comment
		Interconnections, not included in Section 1."2.7 change to "non-radial" Transmission substations or switching stations or"Primary or Backup Control Centers that remotely control two or more Transmission substations or switching stations, each with four or more non-radial transmission lines, operated at 200 kV or above in the Eastern and Western Interconnections and 100kV or above in the Texas and Quebec Interconnections, or functionality that remotely controls a BES Cyber System with a Medium Impact Rating, not included in Section 1."
Turlock Irrigation District	Yes	Attachment II criterion #1.4 states that BES Cyber Systems that can affect operations for Blackstart Resources in the Transmission Operator's restoration plan shall be categorized as High Impact. This should be changed to include only the Blackstart Resources in a region's Blackstart Capability Plan because Transmission Operator's restoration plans typically include Blackstart Resources that are not material to the restoration of the BES. Blackstart Resources that are material to the restoration of the BES are designated by each Regional Entity in accordance with NERC Standard EOP-007-0 titled "Establish, Maintain, and Document a Regional Blackstart Capability Plan". We suggest that the wording of criterion #1.4 be changed to "Generation Facilities designated as Blackstart Resources in the Regional Blackstart Capability Plan". Making this change would maintain consistency between the Standards and would also be consistent with the Purpose section of CIP-010-1 which states that the categorization of BES Cyber Systems should be "commensurate with the adverse impact... on the reliability of the BES.Attachment II criterion #1.6 uses the term "primary Cranking Path". What is the meaning of the word "primary" as used in this context? We suggest that the wording be changed to "Facilities required to support Cranking Path(s) that are material to the restoration of the BES as used in a Transmission Operator's restoration plan per EOP-005".
Garland Power and Light	Yes	Attachment II 1.4 Should state that it is the Primary Black Start Unit and does not include the Next Start Unit.1.5 Multiple circuits between two substations should count as a single transmission line.General CommentNeed to add "scoping filter" as described on slide 31 of the NERC Workshop (May 19-20) Presentation on CIP 10 as presented by Jackie Collett. There already has been a Regional Entity Auditor make a presentation that he intended to audit beyond the scope of what is in the current standard - he (the auditor) may apply the same approach to the new standard if the filter is not stated with the definition - not adding the clarification (scoping filter) just adds the potential for alleged violations and all the baggage that goes with that until one can hopefully get resolved - If you add the filter which states "typically excludes business, market function systems, and non real-time systems", then it is a good scope and we would agree
Powersouth Energy Cooperative	Yes	CIP-010 Attachment II1.1 As drafted, if reserve requirements have not been established for an entity, generation facilities are considered High Impact if singularly or in combination exceed 2,000 MW. It seems to be reasonable to apply the 2,000 MW limit to reserves as well with reserve requirements only greater than 2,000 MW being considered as High Impact. 1.4 Additional consideration should be given to categorizing

Organization	Yes or No	Question 7 Comment
		<p>blackstart units in all cases as High Impact. Some units, while identified in a TO's restoration plan, are not part of the Regional Entities Restoration Plan. Some generation that may be used in a restoration effort may be removed from the TO's restoration plan to avoid implementation of High Impact security requirements. Some "middle ground" should be found so that more units can remain available in a restoration plan without being subject to costly security requirements and subsequently an increase in exposure for a utility to be non-compliant. It is recognized that there must be a sufficient number of blackstart critical units that remain protected by High Impact status to ensure restoration following an event. 1.10 Is "local area" meant to be the Balancing area or can the entity define local area.2.1 As drafted, if reserve requirements have not been established for an entity, generation facilities are considered Medium Impact if singularly or in combination exceed 1,000 MW. It seems to be reasonable to apply the 1,000 MW limit to reserves as well with reserve requirements only greater than 1,000 MW being considered as Medium Impact. 3. Some consideration should be given to providing exclusions to exempt assets that in reality have no material impact.</p>
City Utilities of Springfield, Missouri	Yes	City Utilities of Springfield, Missouri supports the comments of the APPA Task Force.
MidAmerican Energy Company	Yes	<p>Clarification is needed for the term "primary Cranking Path" (CIP-010-1 Attachment II item 1.6). Cranking Path is a NERC defined term; however, "primary Cranking Path" is not defined. Item 1.4 includes all generating facilities designated as Blackstart Resources in the Transmission Operator's restoration plan. Larger entities submit multiple plans with many blackstart units and cranking paths. Protecting all blackstart units will divert valuable resources from (better) protecting more valuable facilities. Draft definition of "primary Cranking Path": "Cranking Path and facilities included in the Transmission Operator's restoration plan as the preferred path and facilities for restoring the BES system to a stable condition with sufficient generation capacity synchronized to complete the full restoration of native load". Subsequently, CIP-010-1 Attachment II item 1.4 should be updated to only designate Generation Facilities associated with the "Primary Cranking Path". Also Mr. Scott Mix indicated in the May workshop that there should not be any CIP-002 critical asset systems that map to the CIP-010 low category. Current MW ratings in Attachment II Items 1.1 and 2.1 are set too high and will cause critical generating plants to move to the low impact category. Four critical units at MEC would move to low. Simultaneous loss of the four MEC units would impact the reliability of the BES. Set the MW level in Attachment II Item 1.1 to 500MW and Item 2.1 to 300MW.</p>
PacifiCorp	Yes	<p>Comments: Clarification is needed for the term "primary Cranking Path" (CIP-010-1 Attachment II item 1.6). Cranking Path is a NERC defined term; however, "primary Cranking Path" is not defined. Item 1.4 includes all generating facilities designated as Blackstart Resources in the Transmission Operator's restoration plan. Larger entities submit multiple plans with many blackstart units and cranking paths. Protecting all blackstart units will divert valuable resources from (better) protecting more valuable facilities. Draft definition of "primary</p>

Organization	Yes or No	Question 7 Comment
		<p>Cranking Path": "Cranking Path and facilities included in the Transmission Operator's restoration plan as the preferred path and facilities for restoring the BES system to a stable condition with sufficient generation capacity synchronized to complete the full restoration of native load".ALSO"Wide Area" impacts need to be clarified in Item 1.3 for "Must Run" units. ALSOMr. Scott Mix indicated in the May workshop that there should not be any CIP-002 critical assets that map to the CIP-010 low category. Current MW ratings in Attachment II Items 1.1 and 2.1 are set too high and will cause critical generating plants to move to the low impact category. Set the MW level in Attachment II Item 1.1 to 500MW and Item 2.1 to 300MW.</p>
<p>PNGC-Cowitz-Central Lincoln-Benton-Clallam Group</p>	<p>Yes</p>	<p>Concerning generation facility capability, "rated net Real Power" can produce fictitious numbers that will never be attained. This should be the historical or commissioning test maximum net Real Power continuous output, whichever is greater.Wide Area is a very large area for WECC, as WECC is the RC. We are not sure if there are any generation facilities in WECC that have an impact on the whole of WECC. We are also not sure if generation being "pre-designated as reliability 'must run'" is a practice in all areas. It is possible that some units may be designated using other terminology or have detailed contracts. It may be better to remove the quotes and define Must Run Generation in the Glossary.Not all generation that is designated by the Transmission Operator's restoration plan as Blackstart is critical to the plan. It may be listed as a possible resource, but not a primary first choice. Further, much of the restoration plans are out of date and due for revision; requiring generation owners and operators to upgrade for CIP compliance only to have their plant removed in the new restoration plan in the next year or so would be wasteful. The purpose of a Blackstart resource in an old (pre-mandatory reliability standard compliance) restoration plan may be for local level of service resource for the TOP's local distribution area rather than a resource for BES reliability, i.e. the old plans to not coordinate well with each other. Last of all, should there not be a rating qualifier?</p>
<p>Detroit Edison</p>	<p>Yes</p>	<p>Criteria 1.3 and 2.3 should be removed for the following reasons:1. The term "reliability must run" is not defined.2. There is no generator that is so essential to reliability that it would need to run 100% of the time. 3. A generator could be required to run on a given day to serve load in an area that cannot be otherwise served due to a transmission constraint. This would be a temporary condition and should not warrant a high or medium classification.</p>
<p>Cogeneration Association of California and Energy Producers & Users Coalition</p>	<p>Yes</p>	<p>Criteria 2.4 should be clarified. The criteria states "Transmission Facilities with four or more transmission lines operated at 200kV or above..." Do two transmission lines, each with two circuits that can operate independently for a total of four circuits, count as two transmission lines or four transmission lines?</p>
<p>Exelon Corporation</p>	<p>Yes</p>	<p>Each of the criteria needs to either align with the other existing standard requirements, or have a technical basis or business risk mitigation basis to be defined as criteria. It would be very beneficial to the industry's understanding of each requirement if the basis for each was included in the Attachment. A specific example is</p>

Organization	Yes or No	Question 7 Comment
		<p>the 4 or more Transmission line requirement. The previous draft had a 3 or more Transmission line requirement, so what was the basis for the 3 or more and, moreover, what is the basis for now changing it to 4 or more? The technical basis for generation limits in Attachment II is not provided. That is, the basis for the 2000 MW and 1000 MW thresholds appear arbitrary. Combined losses of greater than these values have occurred without significant impact to the BES. No “reasonable bounds” are allowed. For example, if a common vendor provides a cyber product in multiple generating stations, it appears that the assumption is that this common product, no matter how local its impact, creates a common mode failure for all plants simultaneously, resulting in the determination before the fact that this product will be rated as High Impact. No allowance is made for geographical location. For example, if a common cyber system is used in several large generating stations in different regions of the country, their simultaneous loss may result in no significant impact to the BES. However the deterministic MWe thresholds and simple “in combination” wording will result in virtually all such cyber systems rated as high, deterring use of common vendors, standardization, and economies of scale. Although moving to a more deterministic approach can be seen as increasing consistency in application of the standard, it would appear that a deterministic approach will decrease the flexibility of operation now allowed and may in fact, reduce BES reliability. As a modification to the Attachment, Exelon suggests that the existing deterministic criteria could be used, unless an entity chooses to show by actual historical data or modeling that such losses do not result in significant impact on the BES. This performance-based criteria could be expanded to define high, medium, and low impacts on the BES in terms of stability, voltage swing, etc.</p>
American Transmission Company	Yes	<p>For R1.4, we propose changing text from “designated as Blackstart Resources” to “designated as the primary Blackstart Resources” (similar to primary Cranking Path in 1.6). Add “restoration plan per EOP-005” (similar to 1.6). Note that Transmission Operators can only designate Blackstart Resources that have been volunteered to them by Generation Owners. All GO may choose not to volunteer any Blackstart Resources if they don’t want their associated cyber systems to be subject to this standard. For R1.10, we propose removing SPS from the criteria. SPSs cannot be approved by the Regional Entities unless they have been designed not to be critical to the BES (e.g., not critical if they operate when they should not or do not operate when they should).</p>
SCE&G	Yes	<p>How does the SDT see AGC coming into play in 1.1? Would every generator operated on AGC (if the aggregated total met the contingency reserve commitment) be considered high impact, or just the centralized AGC itself? “Must Run” units needs to be clarified. Who determines if a unit is “must run”? 1.4 This language needs to be clarified to identify resources designated as “Primary” Blackstart resources. 1.5 Transmission lines should be change to Transmission Lines to utilize the NERC Definition 1.8 Is this misusing/destroying one Transmission Facility at a time? SDT should consider defining “Transmission Facility” as a whole instead of utilizing separate NERC Definitions for “Transmission” and “Facility”</p>

Organization	Yes or No	Question 7 Comment
Entergy	Yes	<p>If “size” of an electric facility remains the primary key differentiator for applicability of CIP requirements, which Entergy does not support, the following should be considered:1. High Impact Rating (H)“Each BES Cyber System that can affect operations for:1.1. Generation Facilities, singularly or in combination (if a singular BES Cyber System that affects multiple generation Facilities), whose aggregate rated net Real Power capability exceeds the largest value, for the 12 months preceding the categorization, of the Contingency Reserve or total of reserve sharing obligations for the Reserve Sharing Group . In the case where no Contingency Reserve or total reserve sharing obligations have been established, Generation Facilities , singularly or in combination (if using a shared BES Cyber System), with aggregate higher of the most current and prior to the most current rated net Real Power capability of 2,000 MW.”Attachment II of CIP-010-1 qualifier 1.1 as stated above includes those generation facilities that have the capability to exceed the Contingency Reserve as High Impact to the BES. This is not truly indicative of the impact to the reliability to the BES. Entergy has multiple generation facilities with the capability to exceed the contingency reserve. However, their Service Hours (SH) are less than 900 hours and a Service Factor (SF) is less than 1.0, averaged over the past five years, where:</p> <ul style="list-style-type: none"> - Definitions from GADS Data Reporting Instructions - January 2010- Service Hours - SH is the sum of all Unit Service Hours.- Period Hours - PH is the number of hours in the period being reported that the unit was in the active state.- Service Factor - SF = SH/PH x 100% <p>Entergy proposes that a better representation for how much a generation plant runs, and therewith potential adverse impact on BES reliability, would be better determined by a measurement of the percent of SH, e.g., running at least 80% of the year; SH greater than 7008 hours per year, or, a SF of greater than 80% per year. Therefore, suggested alternative language for 1.1 is:“Generation Facilities, singularly or in combination (if a singular BES Cyber System that affects multiple generation facilities the unit with the highest Service Factor is used to determine applicability), whose Service Factor (Service Factor = Service Hours per Year / Hours per Year X 100%) is equal or greater than 80% for a five year average.”Additionally, extending this logic to the Medium Impact BES Cyber Systems, Entergy suggests replacement of language concerning Medium Impact Rating (M) 2.1 from: “Generation Facilities, singularly or in combination (if using a shared BES Cyber System), with aggregate higher of the most current and prior to most current rated net Real Power capability of 1000 MW or more, not included in Section 1.”To: “Generation Facilities, singularly or in combinations (if using a shared BES Cyber System that affects multiple generation facilities the unit with the highest Service Factor is used to determine applicability) with equal to or greater than 70% for a five year average.”</p>
Edison Mission Marketing and Trading	Yes	<p>If we are going to use the High, Medium, and Low and there is not going to be a does not apply category, then there should be an engineering analysis or study performed by the BA’s, RC’s or an independent firm and it should include which sites/generators are critical and which are not and why. Once completed then and only then do we begin categorizing them into whatever scale the Standard Drafting Team and the included entities agree upon. As it is stands now we not only have to include nominal size generators, but wind sites as</p>

Organization	Yes or No	Question 7 Comment
		well.
Puget Sound Energy	Yes	In 1.6, the restoration plan is linked to EOP-005, shouldn't the restoration plan mentioned in 1.4 be linked to EOP-005 as well? It appears that all BES Cyber Systems must fall into one of three categories. Are there any other criteria that would allow for something not to be categorized as one of these three (i.e., such as non-dispatchable wind generation)? Also Blackstart should only classify as high those needed for primary region wide restoration since some (such as ours) are more secondary paths and there should be some minimum level of generation to be classified low. There is no need to classify as low a 20 MW hydro generator that does not impact BES reliability. We would recommend 300 MW.
Alliant Energy	Yes	In Article 1.3 we believe including "must-run" as listed is problematic. This could fluctuate in response to maintenance outages on lines, etc. The must-run units have to be tied to a long-term study that shows the need for a reliability must-run unit, not short-term analyses to reflect changing conditions. Article 1.4 - By including "All Black-Start Units" the standard is utilizing a "one-size-fits-all" strategy that the industry has recognized does not work for everything, and is working to address. All Black-Start units do not carry the same importance and this should be recognized in the standard. This philosophy may be counter-productive to system reliability as one classification may reduce the number of Black Start units that would be made available to a TOP's restoration plan due to the high initial security cost and the future possible financial risk of strict compliance guidelines with penalties. There should be a recognized hierarchy for the Black-Start resources, similar to the High, Medium, and Low for BES Cyber Systems. This methodology would assure Black Start units could be categorized by attributes in general to support the BES during a blackstart event. Each Balancing Authority Area (BAA) could be required to have a minimum number of high priority Black Start units depending on the BAA size to support the area during a black out. Lower priority units would be used for stabilizing power at generating stations, local area islanded load and used as a backup plan if all other contingency plans would fail. Article 1.6 - This item should reflect the same categorizing as is recommended in the comment to Article 1.4 above. Article 2.1 - Please clarify "with aggregate higher of the most current and prior to most current rated net Real Power capability." We believe it would be clearer if stated as below: "Generation Facilities, singularly or in combination (if using a shared BES Cyber System) with a rated Real Power capability of 1000 MW or more, not included in Section 1." Article 2.3 - we believe including "must-run" as listed is problematic. This could fluctuate in response to maintenance outages on lines, etc. The must-run units have to be tied to a long-term study that shows the need for a reliability must-run unit, not short-term analyses to reflect changing conditions.
Public Service Enterprise Group companies	Yes	In general there is agreement with the R2 text. However, in Attachment II, statement 1.4 entails categorizing all Blackstart Units with a "High Impact Rating", while statement 1.6 requires that only the "primary cranking path" transmission facilities need to be categorized with a "High Impact Rating". Statement 1.6 implies that

Organization	Yes or No	Question 7 Comment
		some Blackstart Units, although categorized with a “High Impact Rating” would not be afforded transmission facilities with the same risk categorization. We recommend changing statement 1.6 to include only Blackstart Units that are in the primary cranking path.
ReliabilityFirst Staff	Yes	In Part 1.1, the referent for “largest value” does not seem to be appropriate. Suggest changing the wording to “average value.” In Part 1.4, a “Blackstart Resource” is only the first resource that starts in a system restoration. Suggest changing the wording to “Generation Facilities required to support the Cranking Path(s) identified in Part 1.6.” In Part 1.6, a “primary” Cranking Path is not required to be identified in an entity’s restoration plan by EOP-005. Suggest changing the wording to “Facilities required to support at least one Cranking Path.” In Part 1.10 “local area” should be defined. As we are not certain what is meant by this term, we have no suggested wording.
RRI Energy	Yes	Include or add a "No impact category" that is determined by the RC.
MRO’s NERC Standards Review Subcommittee	Yes	<p>Item 1.3 We believe this item may be problematic in nature, as the designation of reliability “must run” units is something that could fluctuate. This would create administrative difficulties for an entity and their RTO as a unit moves between Impact Ratings. We believe this item needs further clarification to indicate its true intent, such as who stipulates the “must run” designation, what constitutes “reliability must run”, etc.</p> <p>Item 1.4 Item 1.4 uniformly identifies all BES Cyber Systems associated with a Generation Facility designated as a Blackstart Resource in the Transmission Operator’s restoration plan as having a High Impact Rating with regards to the Bulk Electric System. Albeit on a smaller scale, this appears to be the same “one size fits all” approach of the current standards that the SDT is working so diligently to address. In reality, all Blackstart Resources do not carry the same importance to even the utility itself, let alone to the Bulk Electric System. Therefore, we believe there should be a hierarchy for Blackstart Resources, similar to nearly all other elements being considered, categorizing their associated BES Cyber Systems as High, Medium, or Low Impact. To implement this approach, we believe it is imperative to consider the Blackstart Resource’s actual role in the restoration plan, not just its simple inclusion. A 10 MW Blackstart Resource that directly supports restoration of a large generating facility is much more important to the Bulk Electric System than a 10 MW Blackstart Resource that simply supplies localized load during an outage. Therefore, we would propose judging the relative importance of a Blackstart Resource by the relative importance of the facilities it directly supports. We would recommend rewording item 1.4 as follows, leveraging the existing language of Item 1.8: “Generation Facilities designated as Blackstart Resources in the Transmission Operator’s restoration plan that directly support the start up of a Generation Facility with aggregate rated capabilities as described in Part 1.1 above.” We believe this approach should provide a better sense of a facility’s true impact on the Bulk Electric System, resulting in High, Medium, and Low Impact Ratings that adequately address system reliability in a practical manner.</p> <p>Item 1.5 We need to clarify the meaning of “Transmission lines”. If a 300 kV substation has a terminal connected to a</p>

Organization	Yes or No	Question 7 Comment
		<p>345/115 kV transformer, which then feeds a 115 kV transmission line leaving the facility, does this constitute a 115 kV or 345 kV “Transmission line” within the context of this item? For this example, we would interpret this to be a 115 kV line, so it would not be included in the Transmission line count for the substation bright line. We also believe the bright line should take higher voltages in to consideration. A substation with three 765 kV lines would not be High Impact, but a substation with four 345 kV lines would be. We propose additional criteria of two or more 500 kV lines, or simply adding to/changing the High Impact criteria along the lines of the Medium Impact criteria (item 2.6), calling out “Transmission Facilities operated at 500 kV or higher...” Item 1.6 We would recommend rewording item 1.6 as follows for consistency in approach with the proposed Item 1.4: “Facilities required by the Transmission Operator’s restoration plan to directly support a primary Cranking Path for a Generation Facility with aggregate rated capabilities as described in Part 1.1 above.” We believe this approach should provide a better sense of a facility’s true impact on the Bulk Electric System, resulting in High, Medium, and Low Impact Ratings that adequately address system reliability in a practical manner. Item 1.14 We would recommend rewording item 1.14 as follows: “Transmission Operator functions performed by primary or backup Control Centers that remotely control two or more BES Cyber Systems with a Medium Impact Rating, or one or more BES Cyber Systems with a High Impact Rating.” We believe this approach should provide a better sense of a control center’s true impact on the Bulk Electric System. Item 2.7 We would recommend rewording item 2.7 as follows: “Transmission Operator functions performed by primary or backup Control Centers that remotely control one or more BES Cyber Systems with a Medium Impact Rating, not included in Section 1.” We believe this approach should provide a better sense of a control center’s true impact on the Bulk Electric System. Section 2 Additions We would recommend adding the following items under section 2, Medium Impact Rating, for consistency in approach with the proposed Items 1.4 and 1.6:</p> <ul style="list-style-type: none"> o “Generation Facilities designated as Blackstart Resources in the Transmission Operator’s restoration plan that directly support the start up of a Generation Facility with aggregate rated capabilities as described in Part 2.1 above, not included in Section 1.” o “Facilities required by the Transmission Operator’s restoration plan to directly support a primary Cranking Path for a Generation Facility with aggregate rated capabilities as described in Part 2.1 above, not included in Section 1.” <p>We believe this approach should provide a better sense of a facility’s true impact on the Bulk Electric System, resulting in High, Medium, and Low Impact Ratings that adequately address system reliability in a practical manner.</p>
Minnesota Power	Yes	<p>Item 1.4: Item 1.4 uniformly identifies all BES Cyber Systems associated with a Generation Facility designated as a Blackstart Resource in the Transmission Operator’s restoration plan as having a High Impact Rating with regards to the Bulk Electric System. In theory, on a smaller scale, this appears to be a “one size fits all” approach, but in reality, all Blackstart Resources do not carry the same importance to even the utility itself, let alone to the Bulk Electric System. Therefore, Minnesota Power believes that there should be a hierarchy for Blackstart Resources, similar to nearly all other elements being considered, categorizing their associated BES Cyber Systems as High, Medium, or Low Impact. To implement this approach, Minnesota Power believes it is</p>

Organization	Yes or No	Question 7 Comment
		<p>imperative to consider the Blackstart Resource’s actual role in the restoration plan, not just the fact that it has been included. For example, a 10 MW Blackstart Resource that directly supports restoration of a large generating facility is much more important to the Bulk Electric System than a 10 MW Blackstart Resource that simply supplies localized load during an outage. Therefore, Minnesota Power proposes that the Standards Drafting Team allow Registered Entities to assess the relative importance of a Blackstart Resource based on the importance of the facilities it directly supports. Minnesota Power recommends rewording item 1.4 as follows utilizing the existing language of Item 1.8: "Generation Facilities designated as Blackstart Resources in the Transmission Operator’s restoration plan that directly support the start up of a Generation Facility with aggregate rated capabilities as described in Part 1.1 above." Minnesota Power believes this approach will provide a better sense of a facility’s true impact on the Bulk Electric System, resulting in High, Medium, and Low Impact Ratings that adequately address system reliability in a practical manner. Item 1.14: Minnesota Power recommends rewording item 1.14 as follows: "Transmission Operator functions performed by primary or backup Control Centers that remotely control two or more BES Cyber Systems with a Medium Impact Rating, or one or more BES Cyber Systems with a High Impact Rating." Minnesota Power believes that this approach will provide a better sense of a control center’s true impact on the Bulk Electric System. Item 2.7: Minnesota Power recommends rewording item 2.7 as follows: "Transmission Operator functions performed by primary or backup Control Centers that remotely control one or more BES Cyber Systems with a Medium Impact Rating, which are not included in Section 1." Minnesota Power believes that this approach will provide a better sense of a control center’s true impact on the Bulk Electric System. Section 2 Additions: Minnesota Power recommends adding the following items under section 2, Medium Impact Rating, for consistency with the proposed Item 1.4: "Generation Facilities designated as Blackstart Resources in the Transmission Operator’s restoration plan that directly support the start up of a Generation Facility with aggregate rated capabilities as described in Part 2.1 above, not included in Section 1." Minnesota Power believes that this approach will provide a better sense of a facility’s true impact on the Bulk Electric System, resulting in High, Medium, and Low Impact Ratings that adequately address system reliability in a practical manner.</p>
The Empire District Electric Company	Yes	<p>Item 1.4 Item 1.4 uniformly identifies all BES Cyber Systems associated with a Generation Facility designated as a Blackstart Resource in the Transmission Operator’s restoration plan as having a High Impact Rating with regards to the Bulk Electric System. Albeit on a smaller scale, this appears to be the same “one size fits all” approach of the current standards that the SDT is working so diligently to address. In reality, all Blackstart Resources do not carry the same importance to even the utility itself, let alone to the Bulk Electric System. Therefore, we believe there should be a hierarchy for Blackstart Resources, similar to nearly all other elements being considered, categorizing their associated BES Cyber Systems as High, Medium, or Low Impact. A regional study performed by the regional entities would be an excellent approach to determine this. To implement this approach, we believe it is imperative to consider the Blackstart Resource’s actual role in the restoration plan, not just its simple inclusion. A 10 MW Blackstart Resource that directly supports</p>

Organization	Yes or No	Question 7 Comment
		<p>restoration of a large generating facility is much more important to the Bulk Electric System than a 10 MW Blackstart Resource that simply supplies localized load during an outage. Therefore, we would propose judging the relative importance of a Blackstart Resource by the relative importance of the facilities it directly supports. We would recommend rewording item #1.4 as follows, leveraging the existing language of Item #1.8: "Generation Facilities designated as Blackstart Resources in the Transmission Operator's restoration plan that directly support the start up of a Generation Facility with aggregate rated capabilities as described in Part 1.1 above." Since item #1.6 is also related to system restoration, we would recommend rewording it as follows for consistency in approach: "Facilities required by the Transmission Operator's restoration plan to directly support a primary Cranking Path for a Generation Facility with aggregate rated capabilities as described in Part 1.1 above." We would also recommend adding the following items under section 2, Medium Impact Rating: o "Generation Facilities designated as Blackstart Resources in the Transmission Operator's restoration plan that directly support the start up of a Generation Facility with aggregate rated capabilities as described in Part 2.1 above." o "Facilities required by the Transmission Operator's restoration plan to directly support a primary Cranking Path for a Generation Facility with aggregate rated capabilities as described in Part 2.1 above." We believe this approach should provide a better sense of a facility's true impact on the Bulk Electric System, resulting in High, Medium, and Low Impact Ratings that adequately address system reliability in a practical manner. Item 1.5 We need to clarify the meaning of "Transmission lines". If a 300 kV substation has a terminal connected to a 345/115 kV transformer, which then feeds a 115 kV transmission line leaving the facility, does this constitute a 115 kV or 345 kV "Transmission line" within the context of this item? For this example, we would interpret this to be a 115 kV line, so it would not be included in the Transmission line count for the substation bright line. We also believe the bright line should take higher voltages in to consideration. A substation with three 765 kV lines would not be High Impact, but a substation with four 345 kV lines would be. We propose additional criteria of two or more 500 kV lines, or simply changing the High Impact criteria to mirror that of the Medium Impact (item 2.6), calling out "Transmission Facilities operated at 500 kV or higher..."</p>
Lincoln Electric System	Yes	<p>LES supports the comments submitted by the MRO NERC Standards Review Subcommittee (MRO NSRS), which address the current structure of Attachment II as proposed. However, LES believes a better overall approach would be applying Engineering studies to truly determine a facility's impact on the Bulk Electric System. We realize an Engineering study is not as simple as a "bright line" based metric. Unfortunately, the Bulk Electric System is not a simple system - it is actually very complex. So in order to properly assess the importance of the various facilities that make it up, LES feels a complex Engineering study is required.</p>
Luminant	Yes	<p>Medium Impact: an item for TO, TOP, GO, GOP Functions performed at primary or backup control centers has been left off of attachment 2. This was in the previous posting as item 2.6 "Control Centers and backup Control Centers controlling transmission ..."</p>

Organization	Yes or No	Question 7 Comment
Nuclear Energy Institute	Yes	Need to clarify the expectations for a multi unit generation site. For example: Under what conditions would a site containing two separate 900 MW generators be considered "Medium Impact Rating" because the total site would now be greater than 1000 MW? Similarly, when would a site that had three separate 900 MW generators be considered "High Impact Rating" because the total site would now be greater than 2000 MW?
NextEra Energy Corporate Compliance	Yes	NextEra finds that a catch-all for Low impact is a fatal flaw. There should be some threshold that is justified for low. For example, a proper minimum criteria for LOW impact BES Cyber Systems could be: Cyber Systems that control BES level facilities that meet one of the following: 1) three or more transmission circuits operated at 100 kV or above not covered in Section 1 or 2, 2) two or more transmission circuits and two or more autotransformer with a secondary voltage 100kV or above, 3) two or more transmission circuits and generation capacity at the site of greater than 1000MW. Alternatively, a NO IMPACT category may be added which eliminates subjectivity in which BES Cyber components need to be reviewed. Single point buses representing looped load serving type stations cannot produce results worse than single contingency which must be operated to at all times. An additional item that should be specifically covered is the use of remote access for transmission and / or generation control locations and their applicability to the High, Medium, Low and/or No impact criteria. The term "affect operations" can be subjective and can be open to interpretation. NextEra suggests changing the 15 minute requirement to "in real time (instantaneous). For example, closed loop control, which does not allow time for human intervention." NextEra also recommends adding the word "both" prior to monitor and control. NextEra would also like to know what does 1.1.1 of section D mean? This is unclear. A suggestion would be eliminating or providing a specific definition.
Pacific Gas & Electric Company	Yes	Not all blackstart resources should necessarily be considered high impact. Suggest revising 1.4 as follows: Generation Facilities designated as Blackstart Resources and explicitly listed as essential to the restoration of the BES in the Transmission Operator's restoration plan.
Northeast Utilities	Yes	NU is concerned with some of the impact criteria in Attachment II related to generation facilities. To base impact on "bright line" Facility Rating thresholds, i.e., MW, kV, MVAR, etc., could lead to mis-categorization and ultimately unprotected cyber systems. These thresholds do not take into consideration regional differences in configuration and load flows. Therefore, it is our suggestion that categorization could be based on the results of a regional engineering study, similar to what is currently required in the TPL Standards. This study could be conducted by the regional Planning Authority(s) or an independent third party and approved by the Regional Entity. The results of the study would identify the contingencies that have the potential to cause levels of impact to the BES.
Matrikon Inc.	Yes	Please describe how the 15-minute time horizon would fit into Attachment 2. Is the intent for the 15-minute

Organization	Yes or No	Question 7 Comment
		horizon to provide a level of realism to determination of impact? To bring in more BES Cyber systems that could have indirect impact, or an escape clause if effects don't occur within 15 minutes?
USACE HQ	Yes	Please read answer to question 4.
BGE	Yes	Provide additional clarification of "automatic aggregate". For instance, does automatic mean an application that is kicked off without human intervention or does automatic mean after an operator hits a button? Suggest adding the word "instantaneous" before load shedding to clarify. Additional clarification on 1.14 (What is meant by "functions")
Southwestern Power Administration	Yes	Rather than numerous bright line requirements that may or may not actually have a significant effect on the BES, depending on the surrounding topology, operating procedures, or configuration of a particular Responsible Entity, a better approach may be to include performance/results-based criteria in Attachment II. However, if the current approach is forwarded, I would suggest the following improvements: 1.4. Generation Facilities designated as Primary Blackstart Resources in the entity's restoration plan. 1.7 Transmission Facilities, including Flexible AC Transmission Systems (FACTS), that, if destroyed, degraded, misused or otherwise rendered unavailable, would violate one or more Interconnection Reliability Operating Limits (IROLs). 1.10 Special Protection Systems (SPS), Remedial Action Schemes (RAS) or automated switching systems that operate BES Elements that if destroyed, degraded, or misused, would violate one or more Interconnection Reliability Operating Limits (IROLs). 1.11. Delete. Is this not a Control Center issue? 1.12. Control Centers that perform the Reliability Coordinator functions. 1.13. Control Centers that perform the Balancing Authority functions for 4,000 MW or more in Eastern and Western Interconnections and 2,000 MW or more in the Texas and Quebec Interconnections. 1.14. Control Centers that perform the Transmission Operator functions for a Facility with a High Impact Rating. 2.4. Transmission Facilities that, if destroyed, degraded, misused or otherwise rendered unavailable, would violate one or more System Operating Limits (SOLs) 2.7. Control Centers that perform the Transmission Operator for a Facility with a Medium Impact Rating, not included in Section 1. 2.8. Control Centers that perform the Balancing Authority functions for 2,000 MW or more in the Eastern and Western Interconnections and 1,000 MW or more in the Texas and Quebec Interconnections, not included in Section 1.
Southern California Edison Company	Yes	SCE believes Attachment II should be modified to account for only the capacity that can be controlled by qualifying systems. As currently written, Attachment II defines the amount of generation under control as the rated capacity of the resource. This is not accurate for some systems which can only control the resource between certain points (e.g. minimum operational output [Pmin] and maximum operational output [Pmax]). This could drastically overstate the impact of the cyber system on the BES. For example, suppose that a cyber system controlled a generating resource with maximum capacity of 2,000 MW. According to

Organization	Yes or No	Question 7 Comment
		attachment II, this would then categorize as “high impact rating”. However, suppose further that the system can only control the unit between its Pmin and Pmax which are 1,500 and 2,000 respectively. This would place the system in a “low impact rating” according to the attachment. For that reason, SCE believes that Attachment II should be modified to account for only the capacity that can be controlled by the system.
San Diego Gas and Electric Co.	Yes	SDG&E recommends aiming for a limitation of scope related to those assets that are truly high and medium impact categorizations. Some of the high and medium items could have “BES outage” or reliability implications but may not necessarily result in instability of the BES. We recommend having consistency in the application of the assets included in the impact categories to the BES as a whole.
Constellation Energy Control and Dispatch, LLC	Yes	See answer to Question 4.
Constellation Energy Commodities Group Inc.	Yes	See answer to Question 4. Please clarify the intended treatment of a Generation Management System (“GMS”). Attachment II implies that capacity monitored by a GMS system would be aggregated to determine its impact categorization. However, to be consistent with the intention to protect connections that truly impact the BES net real power capability should only be aggregated within a balancing authority.
MWDSC	Yes	See comments for question 4 above.
Wolverine Power	Yes	See comments listed for 1.a
Dynergy Inc.	Yes	Show examples of how the identification and categorization and tie-in to Attachment II would work. Also, for 1.1, either increase the net MW rating or add an annual capacity factor to a generating unit to account for old units at a site that no longer run because no longer economical. These types of facilities should not have to meet High category requirements if they no longer run. Also, for 1.3 add more detail. Explain pre-designated. Assigned by who? Explain Wide Area reliability impacts.
WECC	Yes	Similar to our previous comment, if Attachment 1 is expanded to include in scope reliability coordination functions critical to reliable operation of the BES outside of 15 minutes the impact levels need to be updated. While many functions of a Reliability Coordinator are critical and should be an high impact, not all functions of reliability coordination should be made high impact. For instance, Coordinated Outage systems while important to the reliability of the BES and should be in scope, should best be classified as a low-impact BES Cyber System. The considerations for identification and categorization has been elevated to a high level such that BES Cyber Systems and not individual devices are identified based on their specific functionality. It is suggested that if BES Cyber Systems are to be identified and categorized there be some inclusion and

Organization	Yes or No	Question 7 Comment
		<p>development of a process to granulate these systems down to their individual component level. Further, the quantitative qualification bar has been set to level that precludes most BES Cyber Systems from reaching identification as a high or even medium level of impact. Taking into account. If a BES Cyber System can impact reliability a baseline set of security controls should be established that creates tracking for all assets, accountability for access to these assets, and physical and electronic protection for these assets. Specific Line Item Comments (1.1) The standard, as drafted, seemingly excludes all generation but large dams, large mine-based coal plant and nuclear plants? (1.1) The developed sentence structure lends itself to multiple interpretations and will prove to be difficult to audit consistently. (1.1) Is the term aggregated defined as geographically co-located, common substation, common communication paths, etc? (1.6) What about redundant paths? There is no requirement to identify and document multiple paths. (1.6) A reference to EOP-008 would also be appropriate.</p>
Con Edison of New York	Yes	<p>Specific comments on the Categorization: The impact categories should be linked to the reliability Standard functions in Attachment I. Therefore, the High, Medium and Low ratings should reference specific Standards whenever possible.</p> <ul style="list-style-type: none"> o 1.1: This requirement should be broken down into two requirements. One should refer to BAL-002 and reserves needed to be compliant. The second should be any generation facility with a common BES Cyber System greater than 2,000 MW. o 1.2: This should be linked to the function of “controlling voltages”. Two other concerns; first - shunt reactors and capacitors are not included and second - there needs to be a technical basis for a Reactive Power capability limit. o 1.3: Suggest moving to “Low” category since reliability must run equipment is frequently a local congestion or voltage control situation. This would not qualify for a “High” impact rating. o 1.4: Black start resources should only be designated as a High Impact Rating if they are the only resource in the TOP’s restoration plan. If the TOP has multiple restoration resources and procedures, the resources should be a Medium Impact Rating. Reference this to EOP standards. o 1.5: OK o 1.6: This item should be included in item 1.4 o 1.7: FACTS devices are used to control voltage and power flow. o 1.8: This should be included in requirement 1.1 o 1.9: OK o 1.10: Refer to PRC standards o 1.11: A basis for the 300 MW or greater UFLS system should be provided. o 1.12, 1.13, and 1.14 address Control Centers and should be aggregated into one requirement based on RC functions, BA functions, TOP functions and TO functions. In addition, there may be a conflict between a Control Centers with a “Low Impact Rating” and a single substation with a “High Impact Rating”. The DT should consider addressing this conflict where the “BES Cyber Security Components” on one side of a device (e.g. breakers) is a “high impact” while the command signal will be a “low impact” device. <p>General comment on criteria for categorization: Overall, the high, medium, and low levels do not properly meet the needs of the BES. The DT should be looking at what the system does and determining its ability to impact the BES rating rather than the impacted equipment. For example, SCADA systems should be High whether they are on the 138 kV or 345 kV. Wide scale damage can be done with access to the SCADA system, however only local issues can occur with access into a single non-networked microprocessor relay. Alarm panels and</p>

Organization	Yes or No	Question 7 Comment
		<p>other microprocessor that do not have direct impact should also be at lower level. Items that set levels should be a medium level. Basis for criteria for categorization is needed: Attachment II to CIP-010 contains a number of what appear to be administratively determined “bright lines.” Please provide both the detailed rationale supporting each “bright line” and a specific quantification of the reliability benefits resulting from its implementation. In responding to this question, please focus more on the technical, reliability-related rationale and improvements for each “bright line” selected, rather than on the source of any particular number. Reference any white papers, studies, expert opinion, or other documentation relied upon and supporting the “bright lines” selected. For example, in Attachment II category High Impact for item 1.11, please explain why 300 MW was selected. We are not so much interested in any reference to a 300 MW EOP-004 DOE reporting requirement, as we are in the specific criticality of the 300 MW level to BES reliability, e.g., 300 MW represents a large (>10%) percent of area load, or in the case of inadvertent actuation would cause an uncontrolled system instability(ies) and cascading, or in the event of a failure-to-actuate would cause the Interconnection UFLS program not to return frequency to nominal within the program required time period. What if for a given entity 300 MWs is not a significant percentage of local load, or inadvertent actuation would not cause uncontrolled instability and cascading, or failure-to-actuate would not prevent the return of frequency to normal within the required time period? Why rate such aggregate automatic load shedding “High” rather than “Medium” or “Low?” Are there any Interconnection-wide studies which would support this 300MW “bright line” value? Please provide any reference(s).</p>
Allegheny Energy Supply	Yes	<p>Suggested revision for 1.2: Synchronous condensers, static VAR compensators, capacitor banks and other Facilities not associated with Generation Facilities, singularly or in combination (if using a shared BES Cyber System), with aggregate rated net Reactive Power capability of 1,000 MVAR or more. The Standard needs a definition of Blackstart Resources that addresses, or modify the language in 1.4 to clarify, that only Blackstart Resources identified as essential to initial restoration of the BES in the TOP restoration plan are intended as High Impact.</p>
Allegheny Power	Yes	<p>Suggested revision for 1.2: Synchronous condensers, static VAR compensators, capacitor banks and other Facilities not associated with Generation Facilities, singularly or in combination (if using a shared BES Cyber System), with aggregate rated net Reactive Power capability of 1,000 MVAR or more. Clarification is needed for the term “primary Cranking Path” (CIP-010-1 Attachment II item 1.6). Cranking Path is a NERC defined term, however, “primary Cranking Path” is not defined. Item 1.3 includes all generating facilities designated as Blackstart Resources in the Transmission Operator’s restoration plan. Most larger entities submit multiple plans with multiple blackstart units and cranking paths. Protecting all blackstart units may divert finite resources from (better) protecting more valuable facilities. Moreover, it is not appropriate to create a perverse incentive for system owners and operators to reduce the current flexibility and diversity of multiple blackstart units and cranking paths by requiring a level of protection that is not proportional to the level of impact to</p>

Organization	Yes or No	Question 7 Comment
		<p>restoration of the BES. Draft definition of “primary Cranking Path”: “Cranking Path and facilities included in the Transmission Operator’s restoration plan as the preferred path and facilities for restoring the BES system to a stable condition with sufficient generation capacity synchronized to complete the full restoration of native load”. Regarding 1.7, we recommend striking “Flexible AC Transmission Systems (FACTS)” because it would be included within Transmission Facilities. Although capitalized, it does not appear in the NERC Glossary of terms. The Standard needs a definition of Blackstart Resources that addresses, or modify the language in 1.4 to clarify, that only Blackstart Resources identified as essential to initial restoration of the BES in the TOP restoration plan are intended as High Impact. Under Frequency Load Shed systems under a common control system.</p>
EEI	Yes	<p>Suggested revision for 1.2: Synchronous condensers, static VAR compensators, capacitor banks and other Facilities not associated with Generation Facilities, singularly or in combination (if using a shared BES Cyber System), with aggregate rated net Reactive Power capability of 1,000 MVAR or more. Clarification is needed for the term “primary Cranking Path” (CIP-010-1 Attachment II item 1.6). Cranking Path is a NERC defined term, however, “primary Cranking Path” is not defined. Item 1.4 includes all generating facilities designated as Blackstart Resources in the Transmission Operator’s restoration plan. As a result, the drafting team should consider whether to combine Items 1.4 and 1.6. Moreover, most larger entities submit multiple plans with multiple blackstart units and cranking paths. Protecting all blackstart units may divert finite resources from providing additional protections for more valuable facilities. Moreover, this may create incentives for system owners and operators to reduce the current flexibility and diversity of multiple blackstart units and cranking paths by requiring a level of protection that is not proportional to the level of impact to restoration of the BES. It is not appropriate to expand the definition of blackstart to include full restoration of native load, that would essentially include all or most of the BES. The objective here is to prioritize, and augment security for the elements needed to begin system restoration. EEI suggests the following definition of “primary Cranking Path”: “Cranking Path and facilities included in the Transmission Operator’s restoration plan as the preferred path and facilities for initial system restoration”. In addition, the drafting team should modify the wording to only include units designated on a seasonal or annual basis. Regarding 1.7, EEI recommends striking “Flexible AC Transmission Systems (FACTS)” because it would be included within Transmission Facilities. Although capitalized, it does not appear in the NERC Glossary of terms. Suggest Adding: 1.15 Control Centers including Generation Control Centers. Also, we suggest that the drafting team place the highest impact facilities earlier (e.g. 1.1) on the list. The Standard needs a definition of Blackstart Resources that addresses, or modify the language in 1.4 to clarify, that only Blackstart Resources identified as essential to initial restoration of the BES in the TOP restoration plan are intended as High Impact. EEI suggests that 1.11 in Attachment II be revised as follows: “BES Elements that perform automatic aggregate load shedding of 300 MW or more under a common control system.”]</p>

Organization	Yes or No	Question 7 Comment
APPA Task Force	Yes	<p>The APPA Task Force commends the drafting team on their work on CIP-010-1. We appreciate the team's consideration of our Task Force comments from the previous informal comment period. We feel it is especially important for entities to have the option of categorizing the impact level based on the Contingency Reserve or total of reserve sharing obligations as stated in 1.1. However, we are concerned with the "bright line" Facility Rating thresholds, i.e., MW, kV, MVAR, etc. These thresholds do not have a basis from industry experience and could be challenged by entities or regulators. We are concerned that having chosen these numbers without empirical data supporting them, the numbers can easily be changed without the supporting empirical data. It is our recommendation that these numbers be evaluated more closely. At a minimum, the thresholds should be quantified to show what percentage of generation and transmission facilities would be designated under each Impact Rating. Florida Municipal Power Association (FMPA) provided some suggested alternative calculation methods for the Impact Categorization of Attachment II. We provide them here for the drafting team's discussion in evaluating the bright line thresholds.</p> <p>FMPA Comments: Categorization could be based on the results of a regional engineering study, similar to what is currently required in the TPL Standards. This study could be conducted by the regional Planning Authority(s) or an independent third party and approved by the Regional Entity. The results of the study would identify the contingencies that have the potential to cause the following levels of impact to the BES:</p> <ul style="list-style-type: none"> o High (has the potential to cause an Adverse Reliability Impact) o Medium (has the potential to require planned/controlled loss of load) o Low impact (has no potential to cause loss of load) <p>Make changes to existing criteria: 1.1, 1.8, 1.11 and 1.13 ought to be combined into a single supply-demand mismatch metric. Also, in 1.1, 2000 MW is arbitrary and in 1.13 4000 MW is arbitrary. And in 1.11, 300 MW is arbitrary and seems to coincide with DOE reporting requirements associated with EOP-004 which has nothing to do with BES Reliability. FMPA suggests: "Facilities, singularly or in combination (if a singular BES Cyber System that affects multiple Facilities) or Control Centers that if destroyed, degraded, misused, or otherwise rendered unavailable, can cause a supply-demand mismatch exceeding the largest value, for the 12 months preceding the categorization, of the Contingency Reserve or total of reserve sharing obligations for the Reserve Sharing Group. Such language addresses situations where a DC tie line may be the largest loss of source contingency for a region that is left as a gap in the existing definition, clarifies whether winter or summer generator capabilities are to be used, and used reliability related metrics instead of arbitrary targets. Similarly, the 1000 MW of 2.1 is arbitrary. A more appropriate metric would be the lowest expected value for a single contingency loss of source in the Reliability Coordinator area. For instance, assuming a 7% average forced outage rate for generators, using a metric of the second largest loss of source contingency in the Reliability Coordinator area for a supply-demand mismatch metric would give a greater than 99% confidence that the largest loss of source contingency at any given time is greater than that metric. Since the system is always operated to the worst case single contingency at any moment, then, we would be quite confident in using the metric of the second largest loss of source contingency for Medium Impact. Hence, FMPA suggests that 2.1, 2.5 and 2.8 be combined using similar language to that which FMPA suggests for 1.1 using the second</p>

Organization	Yes or No	Question 7 Comment
		<p>largest loss of source contingency in place of the reserve sharing obligation used in 1.1. that is: "Facilities, singularly or in combination (if a singular BES Cyber System that affects multiple Facilities) or Control Centers that can cause a supply-demand mismatch exceeding the second largest loss of source contingency in the Reliability Coordinator Area." In 1.2, the 1000 MVARs is arbitrary. Additionally 1.2, 1.3, 1.7 and 1.10 ought to be combined using the same concept of exceeding IROLs. FMPA suggests: "Transmission Facilities, active compensation devices (such as synchronous condensers and SVCs), reliability must-run generation, or Special Protection Systems, that, if destroyed, degraded, misused, or otherwise rendered unavailable, results in exceeding an IROL and/or an Adverse Reliability Impact." Similarly, the 500 MVAR in 2.2 is arbitrary. FMPA suggests combining 2.2 with 2.3 and 2.5 in a similar fashion: "Transmission Facilities, active compensation devices (such as synchronous condensers and SVCs), reliability must-run generation, or Special Protection Systems, that, if destroyed, degraded, misused, or otherwise rendered unavailable, results in exceeding a SOL." Radial Facilities serving only load should not be included in 1.5 or 2.4. The term "Facilities" in these bullets is misused; a substation is NOT a Facility, but rather an interconnection point for multiple Facilities. Large auto-transformers and GSUs should not be excluded from the count. And, the distinction between the Interconnects is arbitrary and meaningless. We suggest: "1.5 Transmission substations or switching stations with four or more Transmission Facilities operated at 300 kV or higher (for transformers, both primary or secondary winding > 300 kV, or a GSU of a registered generator)." By using the term Facilities, which by definition is a "... single BES Element", we also exclude radial serving only load since that those Elements are not Facilities. 2.4 would then be identical except using the 200 kV metric instead of 300 kV. In 2.6, the distinction between the Interconnects is arbitrary and meaningless. The 300 kV metric should be used for all Interconnects. 1.14 is ambiguous. Is a tapped substation included in the count? Or a station on the end of a radial line? FMPA suggests associated the count of substations with 1.5, i.e.: "Transmission Operator functions performed by primary or backup Control Centers that remotely control two or more Transmission substations or switching stations identified in 1.5, or functionality that remotely controls a BES Cyber System with a High Impact Rating." End of FMPA comments. The APPA Task Force also supports the proposal by the MRO-NERC Standards Review Subcommittee (MRO-NSRS) in their comments on Item 1.4 and 1.6 to assign the impact rating of blackstart units and cranking path relative to assigned impact rating of the generating facilities it directly supports. We feel that inclusion of all blackstart resources in the High Impact Rating will waste limited resources protecting facilities which are not in support of High Impact generation. MRO-NSRS proposal: High Impact: 1.4 "Generation Facilities designated as Blackstart Resources in the Transmission Operator's restoration plan that directly support the start up of a Generation Facility with aggregate rated capabilities as described in Part 1.1 above." 1.6 "Facilities required by the Transmission Operator's restoration plan to directly support a primary Cranking Path for a Generation Facility with aggregate rated capabilities as described in Part 1.1 above." Medium Impact: 2.X "Generation Facilities designated as Blackstart Resources in the Transmission Operator's restoration plan that directly support the start up of a Generation Facility with aggregate rated capabilities as described in Part 2.1 above, not included in Section 1." 2.X "Facilities required by the Transmission Operator's restoration plan to directly support a primary Cranking Path for a Generation</p>

Organization	Yes or No	Question 7 Comment
		Facility with aggregate rated capabilities as described in Part 2.1 above, not included in Section 1.”
US Bureau of Reclamation	Yes	The criteria defined in this and several previous requirements are based around BES Cyber Systems, which under the definition of BES (per the WECC Glossary) does not include all power system assets. Therefore, there appears to be a category of Cyber Assets that do not presently require any protection measures (i.e., they might control a powerplant feeding a radial load or be associated with a system of less than 100kV. The classification "Low" will potentially include those systems which do not have an impact. It is counterintuitive to classify a system as low when it has No Impact. The Team should develop a description of "Low" similar to that which was provided for "High" and "Medium". Then the Drafting Team could issue a statement that systems not classified as "High", "Medium", or "Low" would be classified as "No Impact".
Dominion Resources Services, Inc.	Yes	The criteria for categorization of Low Impact systems is too broad and uses the terminology “can affect” which the SDT has appropriately recognized is ambiguous. The following alternate wording is proposed: “All other BES Cyber Systems not categorized as having a High or Medium Impact rating that are required for the reliable operation of the BES.”
Southern Company	Yes	The definition of “pre-designated as Reliability must run” in Attachment II, 1.3 is unclear and cannot be implemented with existing practices in some utilities. For utilities who designate units as must run on a day-ahead basis in some cases, a valuable practice, every unit in the fleet would have to be classified as high impact. The wording should be changed to only include units designated on a seasonal or annual basis. In addition, a definition of “must run” should be provided or referenced from elsewhere in NERC documentation. The wording in 1.3 also creates a new requirement that all “must run” units be classified as to whether they have Wide Area impact, which is not currently required. Are there actually any “must run” units (or any units, for that matter) that have Wide Area impact? Because Blackstart Resources are included in Cranking Paths, 1.4 is redundant in light of 1.6 and should be removed. Alternatively, 1.4 should be limited to primary Blackstart Resources to match 1.6. In 1.4, consideration should be given to reducing the impact level for situations where multiple Blackstart Resources are available. Universally search for “effect” and replace with “adverse effect”. In 1.6, replace “support” with “is part of”. In 1.7, delete the phrase “including Flexible AC Transmission Systems (FACTS). This is redundant as it is referenced again in the following sentence.
Constellation Power Source Generation	Yes	The final sentence in 1.1 needs to be rewritten, as it’s extremely confusing. A suggestion would be to simply add the 2,000 MW bright-line at the end of the first sentence. It would read “Generation Facilities, singularly or in combination (if a singular BES Cyber System that affects multiple generation Facilities), whose aggregate rated net Real Power capability exceeds the largest value, for the 12 months preceding the categorization, of the Contingency Reserve, total of reserve sharing obligations for the Reserve Sharing Group, or 2000 MW (if no Contingency Reserve or total of reserve sharing obligations for the Reserve Sharing Group is

Organization	Yes or No	Question 7 Comment
		<p>established).” Is it the intent of the SDT for the MOD10 data to be the data used in this criteria? If so, that data changes seasonally, so a seasonal review would be needed, especially for units who are on the thresholds of the high/medium/low criteria. A suggestion would be to use nameplate data as that is a fixed rating that will not change. 1.4 and 1.6 should be combined together, as they are referring to similar items. The combined High Impact Rating should read “Generation, Transmission, and other Facilities required to support a primary Cranking Path used in a Transmission Operator’s restoration plan per EOP-005.” However, 1.4 and 1.6, either combined or separate, still penalize generation entities that own numerous black start facilities within a single Balancing Authority’s footprint. Generation entities in the aforementioned situation have already invested a lot to ensure the reliability of the BES, but under CIP-010 they will be forced to invest even more. A suggestion would be for the TOP to designate a percentage of the black starts as High, and the rest as medium or low depending on their MW size. Another suggestion would be for the TOP to specifically designate certain black start units as high, and the rest are classified based on their MVA size, with the caveat that the TOP should not designate all black start units as high to avoid liability.</p>
Dairyland Power Cooperative	Yes	<p>The impact ranking for blackstart should be equivalent to the highest impact of all transmission and control center systems. If an entity has only low or medium impact systems other than blackstart, a high impact for blackstart is not appropriate. 1.2 and 2.2 specify 1000 MVAR and 500 MVAR, respectively for categorizing reactive power facilities. Since reactive power problems are localized in general, these numbers seem to be high. It is difficult to set global criteria on reactive power as it is network dependent. I would advise about 50% of the proposed level to be more conservative.</p>
Duke Energy	Yes	<p>The quantities identified on Attachment II appear arbitrary, and need an engineering basis. We suggest an approach based upon Violation Risk Factor language, such that for the High Impact Rating, the qualifier should be whether or not the BES Cyber System could directly cause or contribute to Bulk Power System instability, separation, or a cascading sequence of failures, or could place the Bulk Power System at an unacceptable risk of instability, separation, or cascading failures. For the Medium Impact Rating, the qualifier should be whether or not the BES Cyber System could directly affect the electrical state or the capability of the Bulk Power System, or the ability to effectively monitor and control the Bulk Power System, but is unlikely to lead to Bulk Power System instability, separation, or cascading failures. Need to clarify the expectations for a multi unit generation site. For example: Under what conditions would a site containing two separate 900 MW generators be considered "Medium Impact Rating" because the total site would now be greater than 1000 MW? Similarly, when would a site that had three separate 900 MW generators be considered "High Impact Rating" because the total site would now be greater than 2000 MW? o CIP10-1.4: We have many small sites (hydro’s) listed in our Blackstart plan because they are available. They are not essential to our plan, but because they are available, we list them. Under this guidance, we would be required to include them as “High Impact”, when in reality they are ‘Low’. The wording should be revised to reflect that only those</p>

Organization	Yes or No	Question 7 Comment
		<p>sites “REQUIRED” for Blackstart be secured under 1.4</p> <ul style="list-style-type: none"> o CIP10-1.6: We need a defined and clear understanding of what is intended in the use of the term “Cranking Path” as it relates to CIP and EOP-005. What is being sought under this requirement? The term is loosely defined in the glossary, and how it is interpreted by the industry may vary greatly from how it is intended by regulators. o Under our current understanding of the term, we would see minimal increase in sites added to our “High” list. However if we impose a severe interpretation, we could see an exponential increase to our ‘High’ list. o CIP10-1.7 & 2.5: The word ‘Misuse’ should be removed or very strictly defined. It is too vague to have meaning. o CIP10-1.11: Need a clear and functional definition of ‘Element’ for the industry to understand the intent of the requirement. Current glossary definition is poor at best. Also, revise 2.6. as follows: Transmission Facilities operated at 300 kV or higher, which have 2 or more 300kV or above lines, in the Eastern and Western Interconnections or operated at 200 kV or higher in Texas and Quebec Interconnections not included in Section 1.
Bonneville Power Administration	Yes	<p>The sixth line in 1.1 begins with the words “Generation Facilities.” Generation Facilities is not a defined term in the April 20, 2010, Glossary of Terms Used in NERC Reliability Standards. Since this phrase is not used at the beginning of a sentence, it should be “generation Facilities.” There is the same problem at the beginning of the second line in 1.2. That should also be changed to be “generation Facilities.” The first line in 1.7 contains the phrase “Flexible AC Transmission Systems (FACTS).” That phrase is not defined in the April 20, 2010, Glossary of Terms Used in NERC Reliability Standards. Aren’t all capitalized terms used in Standards supposed to be defined? Or does FACTS have a generally accepted definition in the industry? CIP-010-1 - Attachment III Impact Categorization of BES Cyber Systems High Impact Rating (H) Each BES Cyber System that can affect operations for: 1.1. Generation Facilities, etc. “can affect operations” does not relate to impact. We suggest it be reworded: “If the BES systems can change operation by the following amounts they will be in the HIGH CATEGORY:- Generation - 4,000 MW- trip or reduce output of “MUST RUN” generators to below their MUST RUN amount.- Transmission - de-energize at least 4 lines above 300 kV- MVAR support - change MVAR by 1,000 MVAR</p>
US Army Corps of Engineers, Omaha District	Yes	<p>The word “affect” in the first sentence is somewhat ambiguous and does not fit the intent of all of the subsequent paragraphs (1.4 & 1.6). Paragraph 1.3 defines wide area impacts. Paragraph 1.4 should be limited to BES Cyber Systems that are required to energize a Blackstart Resource listed in the TO’s system restoration plan per the GO’s written restoration plan. As written it appears to apply to any BES Cyber System that merely affects the Blackstart asset and that all BES at such a facility would be High Impact which could have a chilling effect on an entity’s willingness to provide Blackstart resources. Paragraph 1.6 should be limited to BES Cyber Systems required to operate or support equipment in the primary cranking path. Again this would appear to apply to all BES Cyber Systems at such a facility merely because the facility was part of the cranking path regardless of their impact on system restoration. Paragraph 1.10 defines impact beyond the local area.</p>

Consideration of Comments on Project 2008-06 — Draft CIP-010-1 Question 7

Organization	Yes or No	Question 7 Comment
Midwest ISO	Yes	There is no documentation for the justification of the selection of the various thresholds. Justification of these thresholds should be documented and defended.
SRW Cogeneration Limited Partnership	Yes	There needs to be a category for "no impact". We are a small Cogen plant that does not even sell firm power to the grid. In essence, we are a steam plant that happens to generate electricity. We have no "Critical Assets" as defined by CIP-002. There needs to be an equivalent level for that in CIP-010. If there needs to be a system study performed by the RC to support a "no impact" rating, that's fine. And if a facility is found to be "no impact", then that facility should be exempt from the majority of further CIP requirements, just like today where CIP-004 thru CIP-009 do not apply to facilities with no Critical Assets/Cyber Assets and only R2 of CIP-003 applies.
Covanta Energy	Yes	There still needs to be some allowance to fewer mandatory requirements associated with smaller generators.... those in the 20-50 MW range (which are unmonitored) who typically have to notify their TOP/BA that they are on the system or off the system (or reduced load if applicable).
Pepco Holdings, Inc. - Affiliates	Yes	We agree with EEI's comments.
We Energies	Yes	We Energies agrees with EEI Suggested revision for 1.2:Synchronous condensers, static VAR compensators, capacitor banks and other Facilities not associated with Generation Facilities, singularly or in combination (if using a shared BES Cyber System), with aggregate rated net Reactive Power capability of 1,000 MVAR or more.We Energies agrees with EEI comments Clarification is needed for the term "primary Cranking Path" (CIP-010-1 Attachment II item 1.6). Cranking Path is a NERC defined term, however, "primary Cranking Path" is not defined. Item 1.3 includes all generating facilities designated as Blackstart Resources in the Transmission Operator's restoration plan. Most larger entities submit multiple plans with multiple blackstart units and cranking paths. Protecting all blackstart units may divert finite resources from (better) protecting more valuable facilities. Moreover, it is not appropriate to create a perverse incentive for system owners and operators to reduce the current flexibility and diversity of multiple blackstart units and cranking paths by requiring a level of protection that is not proportional to the level of impact to restoration of the BES.It is not appropriate to expand the definition of blackstart to include full restoration of native load, that would essentially include all or most of the BES. The objective here is to prioritize, and augment security for the elements needed to begin system restoration.Proposed definition of "primary Cranking Path": "Cranking Path and facilities included in the Transmission Operator's restoration plan as the preferred path and facilities for initial system restoration".Regarding 1.7, we recommend striking "Flexible AC Transmission Systems (FACTS)" because it would be included within Transmission Facilities. Although capitalized, it does not

Organization	Yes or No	Question 7 Comment
		<p>appear in the NERC Glossary of terms. We Energies agrees with EEI. Suggest Adding: 1.15 Control Centers including Generation Control Centers. Also, we suggest that the drafting team place the highest impact facilities earlier (e.g. 1.1) on the list. The Standard needs a definition of Blackstart Resources that addresses, or modify the language in 1.4 to clarify, that only Blackstart Resources identified as essential to initial restoration of the BES in the TOP restoration plan are intended as High Impact. Under Frequency Load Shed systems under a common control system.</p>
Ameren	Yes	<p>We generally agree with the criteria used to identify “High” impact facilities, but believe that the item 1.5 criterion should be expanded to include EHV transformers, and not limited to 4 EHV lines. However, there are too many EHV facilities in item 2.6 that would be classified as “Medium” impact, but should be classified as “Low” impact. It is suggested that EHV facilities with three or less EHV lines and transformers should be considered as “Low” impact, as they likely have little impact on the BES. The use of TPL performance standards would confirm that many of these facilities have a “Low” impact. For 1.1 the 4th sentence should be reworded to say "total obligations for the entire Reserve Sharing Group." 1.3 needs clarification of what a "reliability must run" unit is. Also, clarify 1.4 if it refers to the actual black start unit, or the entire plant in which the black start unit resides. Last, clarify 1.6 on what magnitude of support is required by the facility. Currently this could apply to any Transmission or Generation Sub-system in the path. Performance criteria, such as the loss of 300 MW of system load to qualify for “High” impact or 100 MW of system load to qualify for “Medium” impact, should also be applied to the EHV facilities identified in items 1.7 and 2.6.</p>
GTC & GSOC	Yes	<p>We recommend that Attachment II be organized to more clearly indicate which items apply to which type of assets. In the case of Control Centers, it appears the primary applicable item in the High Impact category are 1.12, 1.13 and 1.14, but several other items could be misconstrued to apply as well, which could lead to those control centers being inadvertently given a High designation.</p>
CenterPoint Energy	Yes	<p>While it appears the SDT put a lot of effort in the development of Attachment II, the criteria to be used is arbitrary, is too prescriptive, does not allow for studies or analysis to determine whether or not the loss, compromise, or mis-use of an identified facility would have an impact on the reliable operation of the BES and, in some cases, appears inconsistent. For example; 1.5 Transmission Facilities with four or more Transmission lines operated at 300kV or higher in the Eastern or Western Interconnections or operated at 200kV or higher in the Texas or Quebec Interconnections would require any and all facilities meeting this criteria to be categorized as High Impact without any basis for this rating. Determining a facility’s impact to an electric transmission system involves more analysis than counting the number of transmission lines operated at or above a threshold voltage level; 1.14 Transmission Operator functions is based on the number of substations a control center may be able to remotely control. The previous criterion, 1.13 Balancing Authority functions, is based on the mega-watt amount the Control Center operates. Neither offers a basis for either the</p>

Organization	Yes or No	Question 7 Comment
		<p>number of substations or the mega-watt amount under the operation of the Control Center. While CenterPoint Energy would find Attachment II useful as a guide or systems to be considered it is apparent the SDT meant this to be a requirement and therefore CenterPoint Energy does not agree with Attachment II and suggests it be deleted.</p>
Verizon Business	Yes	<p>1) Attachment II, Item 1.1 regarding Generation Facilities – Suggest removing any reference to “Contingency Reserve” or “Reserve Sharing Group.” Specifically, any Generation Facility, singularly or in combination with aggregate higher than 2,000 MW should be included as a High Impact Rating. Reference to the “Contingency Reserve” (etc.) comments can result in incorrect or inconsistent declaration of a generation asset being a High or Medium impact.</p> <p>2. What is the status of OSI Layer 3 definition raised in the FAQs of March 2006? For the definition above and for CIP-002 earlier versions, OSI Layer 2 was not included; however, the inference above is that it now is included. This and any other questions from FAQ for CIP-002 should be addressed in the standard.</p>