

Comment/Theme/Summary	Response
<p>The SDT should also consider making this minimum time delay greater than 0.1 sec. A suggested minimum time delay around 0.5 to 1.0 seconds would be more appropriate. This will allow for better ride-through of somewhat prolonged, slower swings. It will also better coordinate with the minimum time delay for UFLS actuation. (At least in SERC, a minimum time delay of 6 cycles [0.1 sec] is required per UFLS standard PRC-006-SERC-02.) A longer time delay in the suggested range will have no adverse impact on system operation or equipment damage.</p>	<p>Disposition: the SDT has the discretion to modify the standard in the manner to cover this comment. Making the proposed changes to the SAR is not necessary and could potentially be overly prescriptive.</p>
<p>RMS should be used as a practical matter in terms of the typical instrumentation available for calibration of the equipment involved. We would also suggest that distinguishing between “fundamental frequency RMS” and “True RMS” (i.e. all frequency components) is unnecessary from a practical perspective. In the vast majority of cases, fundamental frequency is the very dominant component. Recognizing that inverters themselves can create a significant level of harmonics, if this is considered by the SDT as important, the ride-through value(s) selected for the curves/equations should be modified to accommodate either without the need to make special instrument accommodations to determine one or the other.</p>	<p>Disposition: the SDT has the discretion to modify the standard in the manner to cover this comment. Making the proposed changes to the SAR is not necessary and could potentially be overly prescriptive.</p>
<p>· The Generator Owner and/or manufacturer of the equipment should convert their phase voltage measurements to positive-sequence values. We propose that the term ‘positive-sequence’ be added as follows: “ If RMS, clarify that the RMS signal pertains to positive-sequence to the fundamental frequency RMS signal rather than the true RMS signal.</p>	<p>Disposition: the SDT has the discretion to modify the standard in the manner to cover this comment. Making the proposed changes to the SAR is not necessary and could potentially be overly prescriptive.</p>
<p>The use of momentary cessation within the “No Trip” zone of PRC-024-2 should be disallowed. If it happens, it should be reported as an equipment limitation per Requirement R3. Since the momentary cessation is an integral part of the basic inverter design, the SDT should consider working with the NERC Inverter-Based Resource Performance Task Force (IRPTF) to incorporate some explanation in PRC-024 regarding the different considerations for inverter-based generation resources as compared to synchronous generation resources. The Rationale section of PRC-024 might be a good place for such explanation.</p>	<p>Disposition: the SDT has the discretion to modify the standard in the manner to cover this comment. Making the proposed changes to the SAR is not necessary and could potentially be overly prescriptive.</p>
<p>Reliability standards should be technology neutral. The project scope should be limited to removing ambiguity from the standard. Technical Rationale documents and/or Compliance Implementation Guidance documents could be written if the drafting team determines that further explanation is needed for inverter-based generation.</p>	<p>SAR as written provides the SDT the latitude necessary to encompass all existing and future technologies. I agree with the commenter that the SDT can author other documents such as Implementation Guidance to provide more specific details regarding specific technologies (IBR and older wind turbines).</p>
<p>revisions to PRC-024 should accommodate a wide view when considering Inverter Based Resources (IBR), and take care not to consider IBRs singularly within a narrow focus, which may inadvertently omit something with an equally large system impact.</p>	<p>SAR as written provides the SDT the latitude necessary to encompass all existing and future technologies. I agree with the commenter that the SDT can author other documents such as Implementation Guidance to provide more specific details regarding specific technologies (IBR and older wind turbines).</p>

<p>The SAR appears to address the majority of the solar inverter issues observed in the Blue Cut and Canyon 2 disturbances. The SAR does not, however, appear to address specific issues observed with voltage ride-through tolerances of wind generation that have been observed in ERCOT. One specific issue that has been observed in ERCOT, as well as the 2016 South Australia blackout, is wind turbine voltage ride through settings for multiple disturbances. Turbine manufacturers will set their voltage ride-through settings to disconnect or reduce turbine output if a specified number of voltage disturbances occur within a given time frame, even if the individual disturbances are within the ride-through curve. This issue was documented by NERC Events Analysis in Lesson Learned LL20170701.</p>	<p>IRPTF discussed the multiple ride-through issue, and the start, stop, reset clarification is the attempt to address. Addressed in detailed description, Item 5 - SAR modified accordingly.</p>
<p>The SAR should not restrict the SDT from offering alternative solutions to what is proposed in the details of the SAR and in the GAPS whitepaper. An alternative solution for consideration would be to increase the ride-through time and have inverter-based units stay connected for longer periods. Please consider rewording the details contained in the SAR to allow for the problems to be addressed but not be read as the “only” way the issue can be addressed by the SDT.</p>	<p>Disposition: the SDT has the discretion to modify the standard in the manner to cover this comment. Making the proposed changes to the SAR would be additionally prescriptive.</p>
<p>The NSRF understands this is applicable to Generator Owners but does not understand the opening statement of: “...equipment manufacturers clearly understand the intent of the standard, so their plants respond to grid disturbances in a manner that contributes to the reliable operation of the bulk power system “. This does not assure that all new inverter type devices (and currently in-service inverter devices) will come from the manufacture meeting the soon to be created criteria of the new PRC-024 Standard. The SAR should also contain what Entities should do if they cannot meet this Standard based on Manufacture guidance. The current PRC-024-2 R1, bullet three gives Entities guidance on this based on equipment limitations. The NSRF recommends that this statement is maintained within the updated PRC-024.</p>	<p>No change to the SAR is required. The sentence the NSRF references is from the Reliability Guideline. The standard is already applicable to GOs and already addresses what the GO should do in the circumstance described. The NSRF is asking that this statement be maintained as-is in the revised standard. The SDT should have the latitude to change the language if it can be improved or leave as-is.</p>
<p>PRC-024 footnote 1 is unclear should be clarified to include only electrical protective devices and clearly exclude non-electrical protective devices. We recommend that this be added to the SAR, for review.</p> <p>Plant Distributed Control Systems (DCS) [i.e., collector systems] should be clarified that they are not in-scope. DCS systems weren’t clearly addressed in past NERC standards including PRC-005 and PRC-024. The BES definition, Inclusion, I4, part A and B is the only source that collector systems are not in-scope. The NSRF recommends that this be addressed and could be accomplished by a simple foot note.</p>	<p>No changes to the SAR - BES definition adequately addresses this issue.</p>

<p>WEC Energy Group supports efforts to clean and clarify the standard and agrees that current standard language is synchronous generator-centric language. However, it is WEC's opinion that introducing terms that describe inverter's form of operation (e.g. momentary cessation, partial tripping, etc.) could potentially create more confusion in standard interpretation. Unless term applies to all dispersed power producing resources, it should be stated what type of dispersed power producing resources the term applies to.</p>	<p>RecomDisposition: mendation: the SDT may propose defined terms during drafting if necessary; therefore, it is not necessary element of the SAR</p>
<p>Exelon Nuclear would like the SDT to clarify that PRC-024 is applicable only to generator frequency and generator voltage protective relays that respond to electrical quantities and directly or through lockout relays trip the generator. Footnote 1, or a different mechanism could be used to clarify that the voltage and frequency limits are not applicable to a generating plant's auxiliary equipment protection systems that could result in a generator trip (either directly or via tripping signals).</p>	<p>The issue raised does not accomplish the objective of the SAR's intent.</p>
<p>Hydro-Quebec has had an issue since 2009 with the LVRT curve. The technical requirements for the connection of generating stations to the Hydro-Quebec Transmission System (Grid Code), as adopted by the Regulator in Quebec, show a LVRT curve that is different from what PRC-024-2 requires (attachment 2). The LVRT requirement reflects the specific needs to ensure reliability of the Quebec Interconnection, taking into account the conventional and non-conventional generation. The LVRT curve was established in response to FERC Order No. 661-A issued on December 12, 2005, which considered the integration of wind generation. Thus, Hydro-Quebec requests to add this item into this SAR for PRC-024-2.</p>	<p>The SAR gives the latitude to address this issue.</p>
<p>In finalizing the SAR, consider benefits to clarity of including a discussion of the frequency bands associated with other NERC standards, for example PRC-006-3 R3. The PRC-006-3 requirement includes a frequency bandwidth less than 60.7 and greater than 59.3 (Eastern Interconnection), while PRC-024 includes a continuous operation bandwidth greater than 59.5 and less than 60.5 (Eastern Interconnection). Although the bandwidths associated with the two standards may address different underlying concerns, clarifying language in PRC-024, could eliminate confusion across the industry with regards to the differences.</p> <p>The SAR may also want to consider potential impacts on traditional generation (as opposed to solar, wind, battery storage, etc.), if the requirements of PRC-024 are revised to be overly specific.</p>	<p>Recommendation: the difference between the PRC-006 and PRC-024 differ by design. No changes necessary to the SAR</p>
<p>Overall, we support this scope item because we agree that operation outside of the "No Trip" zone should not be interpreted as a must trip zone. However, we do not agree with footnote 2 because it adds confusion to the scope and recommend that it be struck from the SAR. Additionally, we suggest consideration be given to removing the use of quotes and capitalization with regards to the term "May Trip," in order to provide the SDT with the necessary latitude to select the best language to define this region.</p>	<p>SAR modified accordingly</p>

While we generally agree with the scope, the bullet “a” for the project scope should be modified to reflect that the region outside the trip curve should reflect equipment limitations and not simply be a “May Trip” zone. Generators should provide grid support during disturbances until equipment limitations are reached. Bullet “a” should be modified as reflected below.

The proposed scope of this project is as follows:
Update the PRC-024-2 ride-through curves to specify that the area outside the “No Trip” zone is an “Equipment Limitation” “May Trip” zone, so that it is not erroneously interpreted as a “Must Trip” zone and define that region to have generators set to allow ride-through until an equipment limitation is reached (Redlines and strikethroughs cannot be shown in this text box - please to the attachment word file for clarity)

Disposition: the SDT has the discretion to modify the standard in the manner to cover this comment. Making the proposed changes to the SAR would be additionally prescriptive.

We believe that the wording found footnote 1 is adequate and sufficient to indicate that the voltage and frequency protective equipment application is neither required to be installed or activated due to the requirements of this standard. Note the wording of the footnote reads "Each Generator Owner is not required to have frequency or voltage protective relaying (...) installed or activated on its unit.

Recommendation: while these assertions may be relevant, there is no need to modify the SAR based off them.

While Xcel Energy generally supports the scope outlined in the SAR, we do have some concern regarding applicability to our traditional equipment.
Page 5 of the Gaps White paper states: "Similarly, frequency trip settings for generation resources should be set as wide as possible while still ensuring equipment protection and personnel safety to support BPS reliability. This aligns with the intent of PRC- 024-2. One possible solution could be to change the requirement such that relay settings be set based on equipment limitations but no narrower than the “No-Trip” zones."
In regards to this statement, we do not have unit-specific frequency limits or unit-specific V/Hz damage curves in some instances. We have generally set our relays per long-standing, general OEM recommendation or by coordinating with equipment type and typical V/Hz damage curves provided by IEEE, EPRI, CIGRE, etc. Our concern if this is changed in the standard, is use of general OEM recommendations and industry typical equipment damage curves and if this would be sufficient to show compliance/due diligence with setting relays “as wide as possible”. We would like to make sure that none of the recommended changes for inverter-based generation would be detrimental to conventional generators or inconsistent with the burdens placed on conventional generators by the standard.

Recommendation: while these assertions may be relevant, there is no need to modify the SAR based off them.

<p>Instantaneous sampling of frequency by IBRs was a contributing factor in the Blue Cut Fire and we understand that manufacturers of IBRs have already addressed this issue. (See 900 MW Fault Induced Solar Photovoltaic Resource Interruption Disturbance Report (i.e., Canyon 2 Report), Key Findings 1 on page iv). The SDT should limit their work on this item to clarifying that frequency should not be calculated instantaneously to define trip parameters. We recommend changing “and ensure” to “to ensure” and adding “to define the trip parameters” to the end of item b. We believe that the scope of this SAR should steer clear of defining technology specifications. Organizations such as the IEEE are more effective and efficient venues for developing such specifications for how frequency is to be measured because their process would allow the manufacturers and the industry to work through these issues. This is similar to when relay manufacturers began developing microprocessor relays for the Industry. Relay manufacturers worked with appropriate standards making organizations such as the IEEE, which worked with industry and manufacturers to develop products that met the needs of the industry.</p>	<p>Recommendation: make redline changes accordingly.</p>
<p>The Off Nominal Frequency Capability Curve is drawn on a semi-log graph which makes it impossible to show the zero time stamp. The table of values provides this clarification. We agree that inaccurate frequency measurements should not be used in protection trip equations.</p>	<p>Recommendation: the SAR provides the latitude for the SDT to address these comments.</p>
<p>EEL supports clarifications to the Voltage Ride-Through Curve Clarifications for Curve Details 1, 3 and 5; however, encourages NERC to do this in a technology-neutral manner rather than providing IBR specifications.</p>	<p>Recommendation: the SAR provides the latitude for the SDT to address these comments.</p>
<p>The voltage ride-through time duration curve is plotted in per unit voltage, so the specific voltage chosen to be evaluated may be either RMS or crest values.</p>	<p>Recommendation: the SAR provides the latitude for the SDT to address these comments.</p>
<p>Regarding Item d and the reference to “individual” generating units, the objective is to cover or “consider” the largest and smallest impedances in the voltage drop calculations. We recommend striking the “individual” generating unit reference and state, “...the Generator Owner needs to consider the largest and smallest impedances in its voltage drop calculations”. This should meet the reliability object without forcing entities to show voltage drop calculations for each wind turbine or solar inverter for zero defect compliance audits.</p>	<p>SAR modified accordingly</p>
<p>Development of Implementation Guidance is an option of every Standards Drafting project and / or team, the Company believes the reference in the SAR is unnecessary and be removed.</p>	<p>SAR modified accordingly</p>

EEl recommends that item "d" be removed from the SAR scope. It is unclear why the requirements would need to be reinforced or clarified further since the language contained in Requirement R2 is clear that generator voltage protective relay settings are to be set so that generator voltage relays do not trip as a result of defined voltage excursions at the Point of Interconnection. We are unaware of any ongoing compliance concerns or confusion on this point and are concerned that this scope item may lead to prescriptive language in an attempt to address specific resource types or site configurations, which will move the standard away from a results-based standard. If during the development process for this standard the SDT determines that new Implementation Guidance is needed, based on their modifications to PRC-024-2; we would support such actions but do not believe this needs to be in the SAR language.

SAR modified accordingly

With respect to part d of the Project Scope portion of the SAR, the following portion appears to be outside the scope of the existing standard, which is protection, not voltage settings:

“... and clarify further that the Generator Owner needs to consider this when developing the voltage settings for individual generating units (this pertains to both synchronous and inverter-based resources). If possible, provide either Implementation Guidance or example calculations within the standard for dispersed power producing (inverter-based) resources.”

SAR modified accordingly

The SDT should clearly state the scope of protective devices or relays. Is the scope protective relays only or is it protective devices in addition to relays?

The MRO NSRF recommends that SDT clarify item e in the SAR to align with the PRC-024 reliability objective and the current NERC Protection System definition. Item e from:

Clarify if the voltage and frequency protective functions within an inverter control system that trip the inverter are subject to the requirements of PRC-024-2.3 to:

Clarify the PRC-024 scope is to identify and set frequency and voltage protective relays or protective devices that respond to electrical quantities and directly trip the generator

Recommendation: the SAR provides the latitude for the SDT to address these comments.

EEl supports the concept that generator voltage and frequency protection within an inverter control system, regardless of where it resides, should do so in conformance with PRC-024. We support the SAR's position that there is a lack of clarity in the language of the currently enforceable version of PRC-024, noting that the intent is to limit this Reliability Standard to generator frequency and generator voltage protective relays but there is no clear acknowledgement or guidance related to generator trips that could result from a generating plant's auxiliary equipment protection systems (either directly or via tripping signals). We suggest modifying this SAR scope item to: "Clarify that the PRC-024 reliability objective is to identify and set generator frequency and generator voltage protective relays or other protective devices that respond to electrical quantities and directly trip the generator."

Recommendation: the SAR provides the latitude for the SDT to address these comments.

<p>Since the standard pertains to the voltage and frequency protective functions which directly trip the plant and are applied to the individual generating unit, we agree that voltage and frequency protection functions applied uniformly within each inverter controller, when acting together to emulate a single protection element for the entire plant, should be included in the scope of the existing PRC-024. While the parenthetical elements found in footnote 1 of the existing standard were addressing the multi-function microprocessor based protective relays and the microprocessor-based excitation control systems with protection elements that replicated the digital protective relays, we believe that it applies to inverter-based protection elements set commonly across a plant for tripping. Further, the notion of what is meant by "tripping" needs to be clarified to be the shutdown action performed by the protection system which requires manual intervention for restarting the plant (reset, reclose, re-sync, etc.) The pause and automatic restart control function performed at many inverter-based generating stations is a control feature rather than a protection system feature. Automatic restarts are not advisable for any protection system operation without manual intervention and investigation.</p>	<p>Recommendation: the SAR provides the latitude for the SDT to address these comments.</p>
<p>The Company supports the SAR in adding a definition of momentary cessation to mitigate confusion within the compliance arena, the Company believes this to be necessary.</p>	<p>The SAR DT thanks you for your support.</p>
<p>While EEI member companies have varied views on this issue, we agree that there are reliability benefits to providing language in PRC-024 that state that momentary cessation (a control function) is an unacceptable response during system disturbances within the "No Trip" zone as defined within PRC-024. While we recognize that this mode of operation can be a useful response for resources connected at a distribution level, those resources are generally excluded from consideration due to the BES definition exclusion rules. We also recommend that the second sentence under this scope item be struck from the SAR since all BES resources should be held to the same standard in a technology neutral manner. EEI sees benefit in defining momentary cessation, within the Glossary of Terms, if the SDT decides to utilize this term within revisions to PRC-024. However, we do not believe that the last sentence in this scope item is necessary for the SAR Scope. Although the sentence includes "may need," it is understood that the SDT has flexibility to determine whether momentary cessation should be defined and whether guidance should be provided.</p>	<p>SAR modified accordingly</p>
<p>The Company does not have a predetermined point of view regarding the need for additional Implementation Guidance. On the other hand, it may very well be necessary. Development of Implementation Guidance is an option of every Standards Drafting project and / or team, the Company believes the reference in the SAR is unnecessary and be removed.</p>	<p>SAR modified accordingly</p>

<p>EEl recommends that this scope item be removed from the SAR Scope because we do not believe that compliance treatment for specific non-compliance violations is an appropriate element of a NERC Reliability Standard. We also believe that it is clear that all BES resources, regardless of type or technology, at a plant site should operate in line with the frequency and voltage requirements as set forth in this Reliability Standard (i.e., do not trip within the “No Trip” zone), unless there are known regulatory or equipment limitations. In those cases, the equipment limitations are to be reported to the Planning Coordinator and Transmission Coordinator per Requirement R3. For this reason, we do not believe that this scope item is needed. The SDT may decide that implementation guidance may be appropriate to help address compliance questions; however, we do not believe that Implementation Guidance should be a SAR Scope item because it is understood that this is an option for all SDTs.</p>	<p>Item g removed</p>
<p>Owners of power conversion equipment used for power generation whose control functionality does not have the capability to be set up to eliminate momentary cessation should be provided the documentation option provided in Requirement R3 of PRC-024-2. This could be clarified as permissible through modification of the existing footnote 5 by "not excluding the limitations that are cause by the setting capability of the control system."</p>	<p>Item g removed</p>
<p>While NV Energy agrees that the region outside of the “No Trip” zone should not be interpreted as a must trip zone, we do not think that the SAR should predetermine what this region should be called and agree that the SDT should be given latitude to determine how best to address this concern. We are also concerned with the heavy emphasis on one type of resource (i.e., IBRs) within the SAR rather than addressing ambiguities affecting all resources and resource owners currently contained within PRC-024-2. While we understand the current concerns relate to IBRs, trying to resolve all misunderstandings by technology type within a Reliability Standard is not consistent with a technology neutral approach. We support the statements made by the Essential Reliability Task Force that recognized “that ERSs are technology neutral and must be provided regardless of the resource mix composition for a given operating area or Balancing Area (BA).” (see ERSTF – Concept Paper on ERS that Characterizes BPS Reliability October 2014, page vi). From this perspective, we believe that PRC-024 should address current concerns and ambiguities broadly without focusing on specific technologies but be inclusive of considerations for IBRs.</p>	<p>The SAR DT has the discretion to modify the SAR and establish a scope of work for the proposed project that accommodates these comments.</p>
<p>The region outside the trip curve should reflect equipment limitations only and not simply be a “May Trip” zone. Generators should provide grid support during disturbances until equipment limitations are reached. We propose that the detailed description clarifies that for inverters not yet installed, momentary cessation should be completely prohibited in the ‘No Trip’ zone. For inverters already installed, the only time momentary cessation can be used in the ‘No Trip’ zone is, if it has been reported as an equipment limitation as per Requirement R3.</p>	<p>The SAR DT has the discretion to modify the SAR and establish a scope of work for the proposed project that accommodates these comments.</p>

<p>1. OK with adding “May Trip” labels to the curves. However, the description states: “This will enhance reliability since the generator owner, operator, developer, and equipment manufacturer will understand that the inverter protective trip settings should be based on equipment capability...” We believe that a lot of legacy generators use settings based on “best industry practices” and not necessarily actual generator capability, and any requirement or even implication that these must be set based on generator capability could result in excessive burden attempting to determine what the actual settings should be and we believe this is outside the scope of this standard.</p>	<p>Recommendation: the SDT has the discretion to modify the standard in the manner to cover this comment. Making the proposed changes to the SAR is not necessary and could potentially be overly prescriptive.</p>
<p>We agree that the deliverables outlined in the Detailed Description section support the identified Project Scope. While inverter based resources appear to be the primary focus for the revisions, we request that the potential for scope creep be closely monitored as it relates to Item 1 in the detailed description. Specifically, the language noting that inverter protective trip settings should be based on equipment capability is cause for concern. It would be overly burdensome if this issue results in traditional generation needing to conduct capability testing or produce studies to demonstrate that their trip settings are based on equipment capability.</p>	<p>Recommendation: the SDT has the discretion to modify the standard in the manner to cover this comment. Making the proposed changes to the SAR is not necessary and could potentially be overly prescriptive.</p>
<p>The NSRF also recommends the last sentence in Item 1 of the Detailed Description be removed in order to avoid scope creep and ensure application of the standard as originally intended.</p>	<p>SAR modified accordingly</p>
<p>While NV Energy agrees that frequency cannot and should not be measured or calculated using instantaneously sampled values, clarifications may be useful to manufacturers who have less familiarity with the methods used by the industry to measure frequency. Additionally, while adding clarification may be useful, we suggest care be given to ensure those clarifications being considered do not extend into areas that might be better suited to guidelines and technical standards (such as produced by the IEEE) rather than what would be appropriate to a Reliability Standard. Moreover, issues related to this concern, as described in the Blue Cut Fire Report, were resolved by IBR manufacturers and the industry as a result of the NERC Alerts and confirmed by the Canyon 2 Report. (see our comments to Question 1, Item b)</p>	<p>Recommendation: the SDT has the discretion to modify the standard in the manner to cover this comment. Making the proposed changes to the SAR is not necessary and could potentially be overly prescriptive.</p>
<p>The Generator Owner and/or manufacturer of the equipment should convert their phase voltage measurements to positive-sequence values. We propose that the term ‘positive-sequence’ be added as follows: “If RMS, clarify that the RMS signal pertains to positive-sequence to the fundamental frequency RMS signal rather than the true RMS signal.</p>	<p>Recommendation: the SDT has the discretion to modify the standard in the manner to cover this comment. Making the proposed changes to the SAR is not necessary and could potentially be overly prescriptive.</p>
<p>WEC Disagrees. Consider the impact of this requirement on electromechanical protective relays as they have no filtering capabilities.</p>	<p>Clarificaions Made</p>
<p>It is not clear what is meant by start, stop, and reset under Item 5 on page 5 of SAR. Please clarify what is meant by each position.</p>	<p>Clarificaions Made</p>

Technical issue #6 on page 6 of the SAR may also need to be expanded to include other types of voltage and frequency control systems within a wind turbine, specifically “smart crowbar” protective functions which can trip a turbine during transient voltage conditions. Texas RE requests the SAR include these issues.

The SAR as written is not technologically bias or prescriptivek SDT has the latitude to proceed in the best manner.

Please consider rewording the details contained in the SAR to allow for the problems to be addressed but not be read as the “only” way the issue can be addressed by the SDT.

The SAR as written is not technologically bias or prescriptivek SDT has the latitude to proceed in the best manner.

Reliability Standards should be technology neutral. The detailed description should be limited to removing ambiguity from the standard. Technical Rationale documents and/or compliance Implementation Guidance documents could be written if the drafting team determines that further explanation is needed for inverter-based generation.

The SAR as written is technologically bias or prescriptive so that the SDT has the latitude to proceed in the best manner.