Distribution Code Consultation Response Proforma

DCRP/PC/18/02: Implementation of the EU Network Code Requirements for Generators

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Stakeholders are invited to respond to this consultation, expressing their views or providing any further evidence on any of the matters contained within the consultation document. Stakeholders are invited to supply the rationale for their responses to the set questions.

Please send your responses and comments by **17:00 on 01 February 2018** to dcode@energynetworks.org and please title your email 'Consultation Response DCRP/PC/18/03 RfG'. Please note that any responses received after the deadline may not receive due consideration by the DNOs.

Any queries on the content of the consultation pro-forma should be addressed to DCode Administrator on 020 7706 5124, or to dcode@energynetworks.org

Respondent	*Andrew Hood*
Company Name	Western Power Distribution
No. of DCode Stakeholders Represented	
Stakeholders represented	*Western Power Distribution*
Role of Respondent	*Distributor*
We intend to publish the consultation responses on the DCode website. Do you agree to this response being published on the DCode website? [Y/N]	Yes

	Question	Response

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Q1	Comments are welcome on any part of the draft Distribution Code, G98 and G99. Please comment in the manner that is most convenient to you. Specific word templates are available in the consultation pack for making detailed drafting comments on, but please do not feel constrained to use them.	Comments are provided in the template, below
Q2	Do you have any general comments on how effectively the RfG requirements have been incorporated into GB documents and is there any aspect that needs modifying before final publication?	-
Q3	Are there any comments on the G99 drafting points that are listed in section 2.3.3 above?	Please see the detailed comments on G98 and G99, below
Q4	Do you have any comments on the draft common application form included in the consultation pack, or on the envisaged connexion and compliance assessment process?	-
Q5	Please indicate (ASAP, ie before the closing date of 01/02/18 if possible) if you have any views relating to the logic or re-ordering etc of the forms in G99's annexes	It is unclear whether generators rated above 50kW may be type tested. The forms do not seem to apply to asynchronous non-inverter type generators. Further detailed comments are provided on specific G98 and G99 below.
Q6	Guidance Note 3 in the Distribution Code relating to Stirling engines had expired. It is proposed to extend this now until the RfG is effective from 18/05/19.	

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Please provide comments relating to the specific technical content of the **Distribution Code**

Page No	Line No	Clause/ Subclause	Paragraph Figure/ Table	Type of comment (General/ Technical/Editorial)	COMMENTS	Proposed change	OBSERVATIONS OF THE SECRETARIAT on each comment submitted
G98 p8	149-152	2.9	1	T	What do out of scope generators need to comply with?	Out of scope generators shall comply with EREC G99	
G98 p10	191	3.1	1	E	BS7671 - Should the edition number be specified? This will become out of date quickly.	Omit edition number	
G98 p11	242	3.1	15	E	IEC 60909-1 – Should the edition number be specified?	Omit edition number	
G98 p11	245	3.1	16	E	IEC 62282-3-2 – Should the edition number be specified?	Omit edition number	
G98 p11	259	3.2	2	E	G5 – should the issue number be specified? This document is currently being modified.	Omit issue number	
G98 p13	308	4	(a)	T	The “area typically served by a single Low Voltage feeder circuit” is ambiguous	Replace with “the area served by a single Low Voltage feeder circuit”	
G98 p14	347	4		T	Droop – the words do not make sense to me. The “change in frequency” is not referred to as “nominal frequency”. The change in Active Power is not “referred to as Registered Capacity”.	Use the definition in G99	
G98 p15	381	4		T	LFSM-O – No definition has been provided	Provide definition	

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G99 p8	22	2.1	2	T	This statement seems to contradict the Forward which allows generators to be connected under G99 prior to 17th May 2019.	Re-word to allow generators to be connected to G99 in advance of 17th May 2019	
G99 p8/9	39	2.3		G	Some <16A generators are out of scope of G98. What are the requirements for these generators?	Please clarify	
G99 p11	102	3.2		E	BS7671 - Should the edition number be specified?	Omit edition number	
G99 p11	135	3.2		T	BS EN 60044-1 has been superseded by BS EN 81869-2	Please update	
G99 p12	183	3.3		E	G12 - should the issue number be removed?	Omit issue number	
G99 P13				G	A definition for Rapid Voltage Change (in accordance with P28/2) should be added	Add the P28/2 definition for Rapid Voltage Change.	

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Please provide comments relating to the specific technical content of **EREC G98**

Page No	Line No	Clause/ Subclause	Paragraph Figure/ Table	Type of comment (General/ Technical/Editorial)	COMMENTS	Proposed change	OBSERVATIONS OF THE SECRETARIAT on each comment submitted
G99 p21	539	4.1		T	Step Voltage Change – the definition from P28/2 should be used	Replace definition with the P28/2 version.	
G99 P23	618	4.1?		E	Should the following section (Examples) have a dedicated clause number and title?	Consider creating a section called "4.2 Examples of Power Generating Module Types"	
G99 p25	646	4.1?	Fig 4.3 a)?	E	Diagram does not have a reference or title	Add reference / title	
G99 p25	652	4.1?	Fig 4.3 b)?	E	Diagram does not have a reference or title	Add reference / title	
G99 p35	882	6.1.5.2	Fig 6.2	E	Existing generator should be commissioned to G98 or G99	Correct Figure	
G99 p43	1067	6.4.1.4		T	The DNO will almost certainly need additional information to assess the power quality impact of HV connected generators rated below 300kW and non-type tested LV generators rated below 50kW.	Remove the final paragraph of 6.4.1.4	

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Page No	Line No	Clause/ Subclause	Paragraph Figure/ Table	Type of comment (General/ Technical/Editorial)	COMMENTS	Proposed change	OBSERVATIONS OF THE SECRETARIAT on each comment submitted
G99 p49	1323	7.5.2	2nd sentence	G	"this will result in voltage rises of a 6th of those created by a single phase connected Power Generating Module". The preceding statement is not necessarily correct. The relative voltage rise will depend on a number of factors including the network configuration, the location, magnitude and phasing/ balancing of other load / connections and the relative impedance of the phase conductors and neutral conductors.	"this is likely to result in significantly lower voltage rises than those created by a single phase connected Power Generating Module"	
G99 p50	1368 and 1370	7.7.1		G	The use of "Generator" suggests that Voltage Management Units are only applicable to Generator installations	Replace Generator with Customer	
G99 p51	1372	7.7.2		G	As previous comment	Replace Generator with Customer	
G99 p57	1490	78.3.1		E	The term "ESI" is no longer used. Normally the document issue number is omitted	"EREC G12"	
G99 p65	1700	9.3		E	Should this section be moved under the Power Quality section?	Consider moving to the power quality section.	
G99 p65	9.3	1700	9.3	G	The new version of P28, P28/2, specifies planning levels and compatibility levels for step voltage change and rapid voltage change	Change title to Step Voltage Change and Rapid Voltage Change	
G99 p65	9.3.1	1701		G	"Step Voltage Change"	Replace with Step Voltage Change and Rapid voltage Change	

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G99 p65	9.3.2	1707		G	The limits in P28/2 are not "typical". Also "Step Voltage Change" should be replaced by "Step Voltage Change and Rapid Voltage Change"	Remove "typical" Replace with "Step Voltage Change" with "Step Voltage Change and Rapid voltage Change"	
G99 p65	9.3.3	1710		G	This phenomenon is captured by the term Rapid Voltage Change	Replace "is not easily captured by the definition of Step Voltage Change used in this document" with: "is captured by the term Rapid Voltage Change"	
G99 p65	9.3.4	1715		G	Requirements for transformer energisation are now explicitly covered by P28/2.	"Requirements for the energisation of transformers are defined in EREC P28"	
G99 p66	1772	9.4.4.1	1st sentence	T	P29 does not set Distribution Network compatibility levels for voltage unbalance. The scope of P29 states "The limits relate specifically to the voltage un-balance attributable to the proposed new load and are not intended to be applied as generalised network limits"	Amend the first sentence accordingly.	

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Please provide comments relating to the specific technical content of **EREC G99**

Page No	Line No	Clause/ Subclause	Paragraph Figure/ Table	Type of comment (General/ Technical/Editorial)	COMMENTS	Proposed change	OBSERVATIONS OF THE SECRETARIAT on each comment submitted
G99 p66	1774	9.4.4.1	2nd sentence	T	P29 does not provide network limits	"Power Generating Modules should be specified, designed and operated so as to perform satisfactorily under the local network unbalance conditions.	
G99 p66	1775	9.4.4.1	3rd sentence	T	LV voltage unbalance can be substantially higher than the values quoted (due to single phase connections and unbalanced 3 phase and split phase loads). Values at 11kV and 6.6kV may also be substantially higher than 1% where the local network includes sections of HV single phase line or cables	Add caveats	
G99 p67	1781	9.4.5		E	Should this be clause 9.4.4.2?	Renumber?	
G99 p67	1781	9.4.5		T	This clause does not align with 4.3 of EREC P29.	Clarify that these values apply at the point of common coupling in respect of the unbalance caused by the proposed load	
G99 p67	1789	9.4.5.2		G	This doesn't seem to have anything to do with un-balance.	Should this be included in the protection section?	
G99 p74	2049	10.1.1		G	A 2 stage approach is only used for over voltage and under frequency	Remove the second sentence.	
G99 p77	2194	10.3.6		T	BSEN 60044 (Instrument Transformers) has been superseded by BSEN 61869	Update reference	

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G99 p84	2442	10.6.7.1	Table 10.1	T	Should LoM protection for Type Tested generation align with G59/3-3?	Change to 1.0Hz/s time delay 0.5s	
G99 p88	2580	10.6.17		G	In what sense are the functions organised, ranked or prioritised? What is this trying to achieve	Please clarify	
G99 p96	2685	11.1.3.1		E	Is the binary output provided by the DNO?	"By default the DNO logic interface will the form of a"	
G99 p98	2750	11.2.4.2		G	What impact does the inconsistent power input have?	Please explain	
G99 p98	2762	11.2.5.1 a)		G	The paragraph seems to be contradictory. If the droop must be a minimum of 10% (i.e. a 2% reduction in Active Power for each 0.1Hz above 50.4Hz) how can a Generator design their Generating Module with a Droop as low as 2% (i.e. a 0.4% change for each 0.1Hz above 50.4Hz)	Please clarify	
G99 p98	2768	11.2.5.1 b)		G	What is deemed to be an acceptable justification?	Please clarify	
G99 p99	2787	11.2.5.3		G	When does the Generator return the output to "not less than the Minimum Generation"? Is this on request of the DNO or NETSO?	Please clarify	

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G99 P100	2822	11.4.4		T	The statement is not necessarily correct. Circulating current schemes do not necessarily require power flow (or reactive power flow) in the forward direction	"schemes employed by the DNO often assume.." "..AVC referenced to the low voltage side may not operate correctly ..."	
G100 p101	2859	12.1.3.4		G	Reactive Power may also be controlled/specified	Consider adding a requirement for a 4-20mA signal for Reactive Power	
G100 p101	2862	12.1.3.5		G	Add Reactive Power option	Replace "Active Power" with "Active Power and Reactive Power	
G100 p103	2919	12.2.4.2		G	What impact does the inconsistent power input have?	Please explain	
G100 p103	2931	12.2.5.1 a)		G	The paragraph seems to be contradictory. If the droop must be a minimum of 10% (i.e. a 2% reduction in Active Power for each 0.1Hz above 50.4Hz) how can a Generator design their Generating Module with a Droop as low as 2% (i.e. a 0.4% change for each 0.1Hz above 50.4Hz)	Please clarify	
G99 p103		12.2.5.1 b)		G	Does this mean that an initial delay above 2s is acceptable? What is deemed to be an acceptable justification?	Please clarify	
G99 p104	2957	12.2.5.3		G	When does the Generator return the output to "not less than the Minimum Generation"? Is this on request of the DNO or NETSO?	Please clarify	

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G99 p108	3062	12.3.4c)		E	Should this clause be numbered as 12.3.5 as it seems to be relevant to the whole of 12.3	Renumber as 12.3.5	
G99 P109	3105	12.4.5		T	The statement is not necessarily correct. Circulating current schemes do not necessarily require power flow (or reactive power flow) in the forward direction	"schemes employed by the DNO often assume.." "..AVC referenced to the low voltage side may not operate correctly ..."	
G99 p110	3145	12.6.2a)	1st sentence	E	Figure 12.5a) and 12.5b) show the requirements for reactive current injection but the term "reactive" is not used within 12.6.2.	Please clarify	
G99 p110	3152	12.6.2a)	3rd sentence	E	The example uses MW / MVA when the requirement is to inject reactive current. 1.05MVA would only be applicable for a 3 phase voltage depression.	Use values of current rather than MW / MVA for the example: If the voltage is 11kV, 1MW equates to 52.49A per phase. Since the generator can produce 1MW over the 0.95 lag to 0.95 lead power factor range its rated current is 52.49A / 0.95 = 55.25A. The required reactive current injection is therefore based on a value of 55.25A per phase (as modified by Figure 12.5(a) and 12.5(b)	

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G99 p110	3156	12.6.2a)	Final sentence		Should the reactive current injection be in proportion or inverse proportion to the retained voltage (see also clause 12.6.2b) The sentence also seems to be ambiguous. For example, if the retained voltage is 0.3pu, at a time of 60mS should the injected current be 0.65x0.3 = 0.195pu or 0.65pu?	Please clarify Please clarify	
G99 p111	3161	12.6.2a)	Figure 12.5a)	G	What is meant by "blocking permitted". See also comment on 12.6.2 c) "Blocking" is only used where the generator demonstrates that this is required to prevent transient over-voltage excursions (12.6.2c)). This should made clear.	Please clarify Please add note to Fig 12.5a).	
G99 P111	3165	12.6.2.a)	Figure 12.5.a)	T	How does the control scheme know whether the voltage depression will last for less than 140mS or not (before 140mS has elapsed) and hence whether to apply blocking from 80mS onwards, or not (assuming the voltage has recovered to ≥0.85 pu)	Please clarify.	
G99 p111	3165	12.6.2a)	Figure 12.5b)	G	What is meant by "blocking permitted". See also comment on 12.6.2 c) "Blocking" is only used where the generator demonstrates that this is required to prevent transient over-voltage excursions (12.6.2c)). This should made clear.	Please clarify Please add note to Fig, 12.5b) to make this clear.	

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Page No	Line No	Clause/ Subclause	Paragraph Figure/ Table	Type of comment (General/ Technical/Editorial)	COMMENTS	Proposed change	OBSERVATIONS OF THE SECRETARIAT on each comment submitted
G99 p112	3169	12.6.2b)	1st sentence	T	How will the injected current remain in phase with the change in voltage, given that Figure 12.5.a) and 12.5.b) specify reactive current? Should the current be proportional to the change in voltage? This seems to contradict 12.6.2a).	Please clarify Please clarify	
G99 p112	3171	12.6.2b)	2nd sentence	T	This sentence suggests the injected current is not entirely reactive (except for a retained voltage of zero). If this is correct this seems to contradict Fig 12.5a) and 12.5b). The sentence states that the reactive component of current will fall in inverse proportion to the retained voltage. Does this means that for a retained voltage of zero the injected current will be a maximum (presumably the value derived from Fig 12.5a) and b). If the retained voltage is 0.75pu the injected current will be 0.25 x the value derived from Figure 12.5a) and b). Note this seems to contradict 12.6.2a). In the above example, after 60mS the injected current for a retained voltage of 0.75pu would be 0.65 x 0.25 = 0.1635pu. In this case should the injected value be 0.1635 or 0.65 (i.e. above the shaded area)?	Please clarify. Please clarify. An example would help Please clarify. Again, an example would help.	

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Page No	Line No	Clause/ Subclause	Paragraph Figure/ Table	Type of comment (General/ Technical/Editorial)	COMMENTS	Proposed change	OBSERVATIONS OF THE SECRETARIAT on each comment submitted
G99 p112	3174	12.6.2b)	3rd sentence	T	The voltage generated by the injected current will depend on the phase angle of the injected current and the impedance into which it is injected. This requirement seems to conflict with the first sentence of this clause and with Figure 12.5a) and 12.5b) which require i) the injected current to be in phase with the change in voltage and ii) which specify reactive current, respectively.	Please clarify	
G99 p112	3181	12.6.2.c)	1st sentence	T	The term “block” is not the same as “reduce the current injection”. The sentence seems to assume that the initial voltage depression is below 0.85pu, but clause 12.6.2a) requires current injection for retained voltages below 0.9pu.	Please clarify. Possibly use “reduction of current injection” instead of “block”. See also the key for Fig12.5.a) and Fig12.5b) Clarify the requirement for voltage depressions between 0.9 and 0.85pu where “blocking” is required.	
G99 p113	3229	13.1.3.4		G	Reactive Power may also be controlled/specified	Consider adding a requirement for a 4-20mA signal for Reactive Power	
G99 P113	3232	13.1.3.5		G	Add Reactive Power option	Consider replacing “Active Power” with ”Active Power and Reactive Power	
G99 P113	3236	13.1.3.6		G	Add Reactive Power option	Consider replacing “Active Power” with ”Active Power and Reactive Power	
G100 p115	13.2.4.2	13.2.4.2		G	What impact does the inconsistent power input have?	Please explain	

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G100 p115	3302	13.2.5.1 a)		G	The paragraph seems to contradict itself. If the droop must be a minimum of 10% (i.e. a 2% reduction in Active Power for each 0.1Hz above 50.4Hz) how can a Generator design their Generating Module with a Droop as low as 2% (i.e. a 0.4% change for each 0.1Hz above 50.4Hz)	Please clarify	
G99 p115	3312	13.2.5.1 c)		G	What is deemed to be an acceptable justification?	Please clarify	
G99 p116	3326	13.2.5.3		G	When does the Generator return the output to “not less than the Minimum Generation”? Is this on request of the DNO or NETSO?	Please clarify	
G99 p116	3337	13.2.6.1 a)		G	The paragraph seems to be contradictory. If a droop of 10% (min.) is required how can a drop of 3 to 5% be acceptable	Please clarify	
G99 p116	3351	13.2.6.2 b)		G	What is deemed to be an acceptable justification?	Please clarify	
G99 p121	3446	13.2.7.3 d)		G	What is deemed to be an acceptable reason for extending the response time?	Please clarify	

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Please provide comments relating to the specific technical content and usability of the **Standard Application Form**

Page No	Line No	Clause/ Subclause	Paragraph Figure/ Table	Type of comment (General/ Technical/Editorial)	COMMENTS	Proposed change	OBSERVATIONS OF THE SECRETARIAT on each comment submitted
G99 p128	3644	13.4.7		T	The statement is not necessarily correct. Circulating current schemes do not necessarily require power flow (or reactive power flow) in the forward direction	"schemes employed by the DNO often assume.." "..AVC referenced to the low voltage side may not operate correctly ..."	
G99 p131	3717	13.6.2a)	1st sentence	E	Figure 13.14.a) and 12.14.b) show the requirements for reactive current injection but the term "reactive" is not used.	Please clarify	
G99 p131	3723	13.6.2a)	3rd sentence	G	The example uses MW / MVA when the requirement is to inject reactive current. 10.53MVA would only be applicable for a 3 phase voltage depression.	Use values of current rather than MW / MVA for the example: If the voltage is 33kV, 10MW equates to 174.95A per phase. Since the generator can produce 10MW over the 0.95 lag to 0.95 lead power factor range its rated current is 174.959A / 0.95 = 184.16A. The required reactive current injection is therefore based on a value of 184.16A per phase (as modified by Figure 13.14.(a) and 13.14.(b)	
G99 p132	3727	13.6.2a)	Final sentence	G	Should the reactive current injection be in proportion or inverse proportion to the retained voltage (see also clause 13.6.2b) The sentence also seems to be ambiguous. For example, if the retained voltage is 0.3pu, at a time of 60mS should the injected current be 0.65x0.3 = 0.195pu or 0.65pu?	Please clarify Please clarify	

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G99 p132	3732	13.6.2a)	Figure 13.14a)	G	What is meant by "blocking permitted". See also comment on 13.6.2 c) "Blocking" is only used where the generator demonstrates that this is required to prevent transient over-voltage excursions (13.6.2c)). This should made clear in the diagram.	Please clarify Please add note to Fig 13.14.a).	
G99 P132	3732	13.6.2.a)	Figure 13.14.a)	T	How does the control scheme know whether the voltage depression will last for less than 140mS or not (before 140mS has elapsed) and hence whether to apply blocking from 80mS onwards, or not (assuming the voltage has recovered to ≥0.85 pu)	Please clarify.	
G99 p132	3737	13.6.2a)	Figure 12.5b)	G	What is meant by "blocking permitted". See also comment on 13.6.2 c) "Blocking" is only used where the generator demonstrates that this is required to prevent transient over-voltage excursions (13.6.2c)). This should made clear in the diagram	Please clarify Please add note to Fig, 13.14.b) make this clear.	
G99 p133	3740	13.6.2b)	1st sentence	T	How will the injected current remain in phase with the change in voltage, given that Figure 13.14.a) and 13.14.b) specify reactive current? Should the current be proportional to the change in voltage? This seems to contradict 13.6.2a).	Please clarify Please clarify	

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G99 p133	3742	13.6.2b)	2nd sentence	T	This sentence suggests the injected current is not entirely reactive (except for a retained voltage of zero). If this is correct this seems to contradict Fig 13.14.a) and 13.14.b). The sentence states that the reactive component of current will fall in inverse proportion to the retained voltage. Does this means that for a retained voltage of zero the injected current will be a maximum (presumably the value derived from Fig 13.14.a) and b). If the retained voltage is 0.75pu the injected current will be 0.25 x the value derived from Figure 13.14.a) and b). Note this seems to contradict 13.6.2a). In the above example, after 60mS the injected current for a retained voltage of 0.75pu would be 0.65 x 0.25 = 0.1635pu. In this case should the injected value be 0.1635 or 0.65 (i.e. above the shaded area)?	Please clarify. Please clarify. An example would help Please clarify. Again, an example would help.	
G99 p133	3745	13.6.2b)	3rd sentence	T	The voltage generated by the injected current will depend on the phase angle of the injected current and the impedance into which it is injected. This requirement seems to conflict with the first sentence of this clause and with Figure 13.14.a) and 13.14.b) which require i) the injected current to be in phase with the change in voltage and ii) which specify reactive current, respectively.	Please clarify	

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G99 p133	3181	13.6.2.c)	1st sentence	T	The term "block" is not the same as "reduce the current injection". The sentence seems to assume that the initial voltage depression is below 0.85pu, but clause 13.6.2a) requires current injection for retained voltages below 0.9pu.	Please clarify. Possibly use "reduction of current injection" instead of "block". See also the key for Fig13.14..a) and Fig13.14.b) Clarify the requirement for voltage depressions between 0.9 and 0.85pu where "blocking" is required.	
G99 p142	4063	15.3.1.a)		G	I believe BS7671 is applicable to LV installations only	", the Electricity Safety Quality and Continuity Regulations 2002 and the Electricity at Work Regulations 1989"	
G99 p143	4117	15.4.1	1st para.	G	Do these tests need to be carried out on site?	".. on site protection commissioning tests are required.."	
G99 p146	4206	16.1.3		G	It appears that asynchronous generators (other than inverter connected) cannot be Type Tested. Is this the intention?	Address, if necessary.	
G99 p417	4220	16.1.3	Fig. 16-1	G	Asynchronous non-inverter generators are excluded from 16.1.3 but are referenced in Figure 16-1	Address this anomaly	
G99 p170	5075	22.1		G	What are the requirements for asynchronous non inverter type generators?	Address, as necessary	
G99 p171	5078	22.2		G	What are the requirements for asynchronous non inverter type generators?	Address, as necessary	
G99 p175	5084	Annex A		E	It is not clear that Annex A is dedicated to Type A.	Change title to "Annex A – Type A Generators"	

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G99 p175	5091	A.0		G	5. Compliance – what are the requirements for asynchronous non inverter type generators?	Address, as necessary	
G99 p178	4999	A.2		G	The document seems to allow generators rated above 50kW to be type tested or partially type tested. Why is it assumed that they a <50kW?	Consider removing the “assumed to be <50kW” statement. See also the comment on A7.2 below.	
G99 P178	5002	A.2		G	Asynchronous non-inverter generators are not mentioned in 16.1.3 or on the forms themselves	Amend this sentence or alternatively widen the scope of 16.1.3 and the A2-3 form.	
G99 p179	5008	A2	Fig A.2.1	G	See comments on Fig 16-1	See comments on Fig 16-1	
G99 p196	5022	A2	Form A2-3	G	Should this form also be applicable to asynchronous non-inverter generators?	Consider making this form applicable to asynchronous non-inverter generators.	
G99 P203	5024	A2	Form A2-3	T	For >50kW generators the Vector Shift stability requirements should be +/-50 degrees. (i.e. in accordance with G59/3-3 and A2-4)	Include additional section for >50kW generators	
G99 P204	5024	A2	Form A2-3	T	For >50kW generators the RoCoF stability requirements should be +/-0.95Hz/s (in accordance with G59/3-3 and A2-4)	Include additional section for >50kW generators	
G99 p226	5262	A7.1.1		T	BSEN 60044 (Instrument Transformers) has been superseded by BSEN 61869	Update reference	

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G99 p230	5452	A7.1.2.6		T	Vector shift and RoCoF stability tests are required. See A2-3 (and A2-4). In the case of >50KW generators the stability tests specified in A2-4 should be completed (i.e. +/-50 degrees and +/-0.95Hz/s)	Please add requirements for these tests.	
G99 p234	5609	A7.2		G	Section A7.2 only applies to <50kW synchronous power generating modules. Can >50kW synchronous power generating modules be type tested?	Please clarify in A7.2 and elsewhere in the document (e.g. A2). If necessary include specify additional type test requirements for >50kW synchronous power generating units	
G99 p234	5626	A7.2.1		T	BSEN 60044 (Instrument Transformers) has been superseded by BSEN 61869	Update reference	
G99 p239	5856	A7.2.2.6		T	Vector shift and RoCoF stability tests are required. See A2-1 (and A2-4)	Please include details of these stability tests.	
G99 p245	6060	Annex B		E	It is not clear that Annex B is dedicated to Type B generators.	Change title to “Annex B – Type B Generators”	
G99 p283	6622	Annex C		E	It is not clear that Annex C is dedicated to Type C and Type D generators.	Change title to “Annex B – Type C and D Generators”	

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