

March 18 – 19 PUPRA Interconnection Workshop

TECHNICAL INTERCONNECTION REQUIREMENTS – DAY ONE

CONCERNED PARTY	SPECIFIC CONCERN	FUTURE ACTION (if any)
Mid American	The utility need access to a disconnect switch regardless of DG size, but also indicated their view may change depending on IBEW's position	Propose language
Black Hills Power (BHP)	Tier 1 has no disconnect requirements BUT 2, 3 & 4 do. It is possible that a 30 amp project is not restricted to tier 1. INCONSISTENT	Wordsmith at a minimum to clear up the inconsistency
MDU	Draw-out type circuit breaker Draw-out may not be safe due to arch flash hazard – specifically a 480V meter pull. Individuals at the scene may need special equipment and training that may not be readily available. With isolation device, need not have load breaker device because load break already established. Recommends that requirements for disconnect remain an option to allow for leeway.	Language clarification. Propose language
Otter Tail and Tom Hurd	Would like to see more diagrams or tables to clarify	Tom Basso warned that the entire context is important that pictures may not encompass the entire scope of 1547. Is it possible for this request to fall within the rule making parameters? Specify: 1) how diagrams or pictures can be used within SD Rules? 2) alternate

		ways to use visual aids?
MDU	15% threshold issue	Propose language or other solution.
Xcel	The rule does not clearly adopt 1547 as the standard. Additionally, 1547 is not the end-all...there are exceptions. Even though there may be a “check the box” application, it is important to understand that there may be additional circumstances that require additional study. It may not be appropriate to completely limit analysis to 1547. The utility needs an “out” if the proposal is dangerous or otherwise.....	Xcel will submit language
MDU	If a conflict exists between the PUC and IEEE 1547 the rule should specify which controls.	Is a conflict really possible if the PUC adopts IEEE? Is page 11 6.1 and 6.2 enough or do we need more language? MDU propose language if necessary
MDU	Telemetry language is too specific. The rules should not be specific to technology or protocol because of changing technology.	Are there common protocols so developers don’t have to design units that communicate in 5 different languages? Oregon is too prescriptive – what makes sense in SD? Propose language.
BHP	Cost Causer Issue. System wide expense OR causer pays.	To be addressed specifically in “fees” section.
BHP	The threshold is currently 3 mw...small generators are not subject to highly technical requirements. 3 mw is too high. May want to look at aggregate.	Propose language indicating aggregate.
Charles Brown	Utility infrastructure issue. What if utility must upgrade equipment who pays? The simple answer is the	Is this just a judgment call in a rate or simply a policy in general not necessarily appropriate in the

	customer...but what if the utility and other customers benefit? I believe MISO standards require both parties to share the cost of system upgrades when involving sales of power to a utility. Distributed generators sell power to a utility and the same standards should apply.	interconnection rules? Additionally, is this the type of issue that is best addressed through the dispute resolution process?
Dawn Ottman	Are we taking advantage of our renewable energy potential...will these rules help make that possible?	N/A

SCOPE OF RULES – DAY TWO

JURISDICTION		
Xcel	JURISDICTION – should be strict up to 10 mw. Above 10 mw should allow more flexibility – no need to put a cap at 20 mw. Don't want to end up with holes in jurisdiction. FERC jurisdiction has a variety of exemptions and jurisdiction complications. Don't want to create any jurisdiction holes	Clarify language – propose language
MidAmerican	Parallel operation definition. Curtailment generation – currently have interconnections in co-generation. Seems inappropriate to require these people to put what they are already doing in a contract.	Should there be an exemption for interconnection under existing tariffs? Does 2.1.3 solve this issue? If not, propose language.
TIERS		

MDU	15% is difficult...how firm is 15%	Even if 15% not enough...do the other criteria capture the concerns. Need to look at all screens collectively. Is additional language necessary?
Xcel	If you pass the screen, it may still be unsafe. The utility must be able to study a project more if necessary. The utility needs an out for extraordinary circumstances	The utility has the right to disconnect in the contract as well as look at line loading – is this enough of a safeguard?
	FORMS – early in the rules it indicated a contract will be drafted by the utility...BUT, in reality the contracts are required. INCONSISTENT	Wordsmith for consistency.
<u>TIER III specifically</u>		
Xcel	Significant concern – A consumer may pass screens but other issues are still present. The utility needs an out if it determines a project to be unsafe...etc....	Suggestion that the utility do additional tests at its own expense unless a problem is discovered and then the customer must pay for it. Additional thought or consideration for this suggestion? Propose language?
Xcel	Is Tier 3 a necessary tier if these types of project usually warrant additional testing, thus bumping them into a tier 4?	Does 12.2 cover this...it gives the utility an out doesn't it? The contract prevents adverse impacts to the utility...is this enough protection and transparent enough?
<u>TRANSMISSION LINE DEFINITION</u>		
MDU	Need better definition of transmission line. 41.6 kV is when transmission lines begin and goes tough MISO – anything at that level is	

	MISO jurisdiction.	
Xcel	SD law for taxation considers transmission at 34 kV – should be consistent	
MDU	Anything above 34.5 kV has to do with equipment...anything above that level change in hardware	Suggest changing transmission definition to greater than or equal to 34.5 kV
<u>QUEUE PROCESS</u>		
Xcel	QUEUE POSITIONS – should distribution and transmission be in the same queue	This could get messy -need not wait until federal queue is dismissed....Does the rule need to be more specific?
<u>TIMELINES</u>		
MDU	Time lines should be increased. Level 4 should be longer because less familiar applications	
BHP	(initial review for completeness) 2, 3 and 4 should be the same. Tier 1 could be shorter than 2, 3, and 4.	
Xcel	5 days too short	
BHP	Need more than 5 days – what about customer time frame obligations.	
Northwestern Energy	The rules should not be drafted for future utility staff capabilities. The rules must be drafted for what utilities can do now. Rule changes are an option in the future if necessary. Five days is not long enough.	
Xcel	What about separating a receipt response from the actual review.	
MDU	It is possible in 90% of the time to get it done in less than 5 days. Concern is with the other 10 %. Only one person on staff that will	

	review these applications.	
MidAmerican	To force small time frames is another cross-subsidy that requires other customers to pick up the tab at the expense at other customers.	
BHP	Although there may be a way for the customer and the utility to negotiate outside the limits regarding time...the utility wants transparency. Does not want the utility to always to have to ask for more time. Defeats the purpose of the rules.	
Charles Brown	Does not see any harm in longer timeframes so long as they are not abusive. A longer known time frame is better than constantly changing times.	
<u>FEES</u>		
Xcel	Tier 1 should be something other than \$0	
	\$50 – 100 is reasonable and what other states are doing. Prefers graduated fee scale. The caps are too low for level 4. If into the 10 – 20 mw range....require substantial study and cost for the biggest tier 4 projects.	
BHP	There are always administrative costs. To not charge anything is unfair. It is not fair to make other customers pay for services that are above and beyond basic services.	
	This type of work will require specialized people...and not the normal utility people. Costs are a	

	concern	
MidAmerican	Consistency among jurisdictions is important.	
<u>ENGINEERING CHARGES</u>		
Xcel	\$100/hr will not get a consultant	Extra cost recovery availability for consultants?
MidAmerican	Cost issue	Could the \$100/hr limit be for internal costs only...and then extra costs are paid by the applicant.
	Why is this cap needed? There is a complaint process if the utility abuses its position.	
NorthWestern Energy	Consultants cost \$150 – \$250/hr in Montana. \$100/hr not going to cut it.	
Xcel	The cap for large projects is restrictive. These types of projects may require facility upgrades or other large improvements. When dealing with up to 20 mw facilities may need to spend millions. The utility should not be left holding the bag. \$10,000 is not sufficient and neither is the deposit	
	If the customer can make more than the 25%, then there is a good chance the project will get finished. If he can't make the deposit...then he is probably on shaky financial ground and the project may not actually go through. The rate payer should not have to pay for that. The applicant should provide some assurance.	
	The applicant should agree ahead of time that he is willing to pay the costs	Propose language

Charles Brown	The concern is smaller DG facilities. They are small and need not be lumped in with larger facilities. They have nothing in common. There should be a graduated scale where cost is based on capacity. He does not want a new tier...rather wants additional costing limits. The cap should be based on kw. Suggest (3) levels: 0-10kW, 10-100kW, over100kW	
Dave Staub	There should be some justification for what is done in the hourly rate.	The rule seems to cover this. Do we need any additional language?
MDU	Cap on study is not reasonable...it will cost much more.	
MidAmerican	Wants to see facility upgrade similar to line extensions already in the tariff. The customer pays portion before construction begins. The utility is kept whole. Why should the entire risk be transferred to the utility? What if the project is not completed? Should there be other forms of guarantee such as bonds, letter of credit, etc.	
Charles Brown	There are big differences between line extensions and upgrades. Not apples to apples. The DG is putting power back in that the utility sells at retail. The utility is a beneficiary of the upgrade.	
<u>EXTERNAL DISCONNECT SWITCH</u>		
Xcel	Must be restricted on voltage – not apply at the	

	480 volt level.	
	Need specific language regarding self contained.	
BHP	30 amp breaker exception – concerned with no disconnect switch for tier 1	Suggest that all tiers 25 kw or below and inverter based don't need the disconnect switch. The disconnect has to be readily accessible according to National Electric code.
	This is a safety issue...too high. If below 10 for all tiers it is workable. Regardless of inverter based no go above 10.	
Xcel	The household meter is not on DG only...don't want to pull meter for whole house.	Redraft paragraph to make distribution isolation for PV vs. entire facility and then a limit under 2 different fact patterns.
<u>INSURANCE REQUIREMENTS</u>		
Xcel	Want insurance	Propose language if something above what is currently in the rules are needed. Perhaps more specific tiers for insurance are needed.
BHP	Want insurance requirements	
MidAmerican	Current policy is a staggered amount depending on size. Not aware of any pushback.	
Charles Brown	Sees no problem with having insurance requirements.	
Otter Tail	Something for each tier.	
<u>REPORTING AND RECORD KEEPING</u>		
	Staff intends to redraft this section for review	
Xcel	Way too much	
MidAmerican	Way too much. What will staff do with it. If you need the info we will provide it	
<u>TEMP</u>		

<u>DISCONNECT</u>		
Xcel	We should not have to wait for something to negatively affect the system before we can disconnect. This should not be the primary way to deal with the problem.	
<u>TERM AND DEFAULT</u>		
MidAmerican	What about if the customer is overdue on regular utility bills and is still connected...is one related to the other? There could essentially be 2 terms of disconnect. The obligation to pay should exceed the right to interconnect.	
<u>SINGLE PHASE ISSUE</u>		
Xcel	Without proper planning, a single phase could be overloaded, causing balancing issues	Suggest changing tier 1 max from 25 kW to 10 kW
<u>OTHER</u>		
FERC process	May not be the thing to base decisions off. The Midwest utilities were not represented at those meetings.	
11.3.4 and 11.3.6	FERC jurisdictional issue	Word smith. If FERC on same circuit...then FERC jurisdictional.
Notification process	When taking a DG out. Must provide notice to all DG – impractical.	